

The Center for Biodiversity at Joseph Pines Preserve

Philip Sheridan, Ph.D.
Director and President
Meadowview Biological Research Station
8390 Fredericksburg Tnpk.
Woodford, VA 22580
804-633-4336
meadowview@pitcherplant.org
www.pitcherplant.org

Table of Contents

Amount requested.....	4
Brief description of the history and mission of the agency.....	4
Description of the project, statement of need, timeframe for completion and how it supports the mission of the agency.....	5
Executive Summary	5
Objectives	5
Needs being addressed	6
Plan of Action and time frame	6
Project budget.....	8
Detailed estimate of post-completion operating costs and a plan to sustain these additional expenses.....	8
Specific ways the Donors will be recognized.....	9
Location of Work	9
Education Center for Biodiversity	10
Testimonial.....	11
Need.....	11
Workshops offered at the Center for Biodiversity	16
Hydrological benefits.....	17
15,000 in 15 Years	19
Consistency with comprehensive plans and strategic conservation efforts	19
Pitchers for the Public! Why are Pitcher Plants Important?	22
How the Project’s Success will be determined, measured, and communicated	23
Detailed Narrative of Joseph Pines Preserve.....	24
Introduction and History to date	24
Project Justification and Significance	31
Restoring Biodiversity and Preventing Extinction	31
Target Species	33
Project Staff, Organization, Management and Responsibility.....	35
Board Members.....	35
The Interns.....	38
High School and Graduate Students.....	39
The Volunteers.....	39
Contractor and Professional Services	39

Literature Cited.....	39
Appendices	41
Schwartz Property contract	41
Details of Schwartz property	55
Letters of Support for the Project.....	57
IRS Determination letter	63
Attachments	66
Board list and contact information	66
Financial statements	66
Current operating budget	66
Meadowview 2013 Fall Newsletter	66

Amount requested: \$224,000

Brief description of the history and mission of the agency

Meadowview is a world-renowned research station with a mission of preserving and restoring rare pitcher plant habitats, and associated ecosystems, in Maryland and Virginia. The organization was founded in 1995 and has attracted local, regional, national, and international support for its efforts. Meadowview is a grass-roots environmental organization that has developed and sustained itself largely through the development of a unique business model: a conservation organization supported by sales of ornamental pitcher plant cultivars and novel native wetland plants. This business model has been successful in funding the organization to date but efforts are now underway to develop an endowment to support operations in the future. Meadowview also has a fifteen-year history of working with local elementary, middle, high school and college students. Our mission is accomplished through a unique five-step process of discovery, propagation, research, reintroduction, and education. Long-range goals are being met through the development of a preserve system for Virginia's endangered longleaf pine/ pitcher plant ecosystem. Two preserves have been developed in Virginia: the Central Virginia Preserve in Caroline County and the Joseph Pines Preserve in Sussex County. The Central VA Preserve is protecting the northern-most pitcher plant bog in Virginia with state threatened species while the Joseph Pines Preserve is re-assembling the indigenous biodiversity of the endangered Virginia longleaf pine/pitcher plant ecosystem. Support for these land conservation efforts has been obtained from the Virginia Dept. of Environmental Quality, Virginia Dept. of Forestry, Virginia Land Conservation Foundation, Community Foundation of the Rappahannock River Region, International Carnivorous Plant Society, and worldwide members of the organization.

Description of the project, statement of need, timeframe for completion and how it supports the mission of the agency

Executive Summary

An education and biodiversity center will be established on a 51 acre parcel adjacent to Meadowview's 232 acre Joseph Pines Preserve. The education and biodiversity center will support the conservation, protection, and restoration of the endangered longleaf pine/pitcher plant ecosystem in Virginia. The preserve is now in conservation easement with Virginia Department of Forestry. The education and biodiversity center will train students and the general public about the need and value of rare plant and animal conservation, support ongoing scientific research and restoration efforts at the Joseph Pines Preserve, and demonstrate how a sustainable lifestyle can support habitat restoration. Purchase of the education center property is part of a conservation plan to acquire almost 2000 contiguous acres and provide one of the largest and best managed examples of a longleaf pine ecosystem in a multi-state area. This property represents the northern limit of the known range of the longleaf pine ecosystem. Habitat restoration has included mechanical clearing, chemical site treatments, prescribed fire, and controlled reintroductions of at least 18 indigenous rare plant taxa (including one federally endangered species). Habitat is also provided for one federally endangered bird species (red-cockaded woodpecker), one state threatened bird species (Bachman's sparrow), and one endangered fish species (black-banded sunfish). Meadowview also proposes to improve water quality on the 51 acre property which is at the headwaters of the Nottoway River. Water quality will be improved by cessation of grazing activities, implementation of an enhanced 300 foot wetland buffer on Joseph Swamp, restoration of vegetation on a fish pond and outflow stream, and conversion of 25 acres of pasture to longleaf pine seed orchard forest to assist DOF restoration efforts.

Objectives

The objectives of this project are to provide an education and biodiversity center in an existing 4300 sq. ft. house and to improve water quality on the Nottoway River. The education center will provide the facilities for intern, student, volunteer, staff, and visitor lodging (currently lacking from the existing Joseph Pines Preserve). The property is a particularly good value since the price has been reduced \$180,000 from 2009 to its current contract sale price of \$449,000. Water quality will be improved by cessation of grazing activities, implementation of an enhanced 300 foot wetland buffer on Joseph Swamp, restoration of vegetation on a fish pond and outflow stream, and conversion of 25 acres of pasture to longleaf pine seed orchard forest. Specifically, the project will:

- Provide an education and biodiversity center to educate the public about rare plant conservation and provide the facilities to enable regional habitat restoration through an on-site rare plant nursery.
- Develop a native Virginia longleaf pine seed orchard in collaboration with the Virginia Department of Forestry to assist in regional restoration efforts.

- Propagate 18 rare plant species as part of an integrated longleaf pine-pitcher plant ecosystem restoration.
- Enlarge the Joseph Pines Preserve by 51 acres towards our goal of acquiring additional land to connect with both Cherry Orchard Preserve and DGIF's Game Lake to form a total managed longleaf pine/pitcher plant ecosystem preserve and wildlife corridor of over 2000 acres.
- Provide an outside laboratory for research on various aspects of the longleaf pine/pitcher plant ecosystem.
- Help meet Virginia Governor Bob McDonnell's goal of conserving 400,000 acres by January 2014
- Provide optimal conditions for recreational hunting by creating and maintaining habitat conducive to deer, turkey, quail, rabbit and other game animals.
- Provide opportunities for primitive camping, hiking, bird watching, nature walks, photography, and other recreational activities.

Needs being addressed

Educational

- Addresses need for environmental education facility identified by the Virginia Outdoor Plan (see MSIC letter of support in Appendix)
- Hands-on training in ecological restoration
- Research

Environmental and Ecological

- Rare, threatened, and endangered species conservation and restoration
- Groundwater preservation and enhancement
- Longleaf pine seed orchard in collaboration with VDOF to meet state longleaf pine seedling shortage (see DOF letter of support in appendix)
- Appropriate scope and scale of preserve size to ensure long-term success
- Recreation
- State land conservation objectives

Community Needs

- Provide facilities for Meadowview staff working on-site
- Provide southern Virginia headquarters for Meadowview
- Provide facilities for rare plant propagation

Plan of Action and time frame

Time is of the essence to purchase the 51 acre tract (Schwartz tract). Our contract to purchase the property has been extended to December 2013, with additional extensions allowed, but other potential buyers are showing interest in the property. Our contract is contingent on grant funding but has a kick-out clause if another party puts a contract on

the property and has assets to purchase the real estate. Once funding has been approved, we anticipate settlement by the summer of 2014.

It is worth pointing out that Meadowview raised over \$128,000 of private money in nine years to buy the core 100 acres of Joseph Pines Preserve and over \$20,000 in two years to purchase the 3 acres of the Central VA Preserve. That success has led us to obtain additional state funding to expand both preserves. As previously discussed, our contract to purchase the 51 acre property is contingent on grant or donor funding. We're covering the loan for the Joseph Pines Preserve expansion through member donations (One of our board members, Jim Robinson, is donating \$1000/month to cover most of the preserve note and the rest of the payment is coming from member donations). Meadowview can cover settlement costs in this project but we need foundation support to leverage additional donations or grants to purchase the property. Our assets lie in our ability to restore and manage this unique ecosystem but we need foundation support to add this valuable property to our portfolio. We have already submitted this proposal to the Elms Foundation in Franklin, VA, the Beirne Carter Foundation, Waste Management Foundation, the Mary Morton Parsons Foundation, and the Virginia Dept. of Environmental Quality. In addition, we have contacted the Cameron Foundation in Petersburg, VA and they are interested in our work in Sussex County (one of their target counties). We will be applying to the Cameron Foundation in their next grant round in January 2014. A matching grant from donors or foundations will provide tremendous motivation for other Virginia foundations (particularly the Cameron Foundation), agencies, and private donors to support the project. Here are three scenarios in which donors or foundations can play a role in successfully funding this project as a matching foundation. We do not consider scenarios 1 or 2 debt reduction. However, if for some reason a foundation views these scenarios as debt reduction, than consider scenario 3 as our proposed method of funding the project.

1. The Virginia Dept. of Environmental Quality approves our loan for \$449,000 and two foundations support the note as guarantor(s) for ten years at 0.25% interest.
2. The Virginia Dept. of Environmental Quality approves a one year bridge loan for \$449,000 and two matching foundations pay off the note in four quarterly payments.
3. Two or more Virginia foundations, or donors, provide matching funds and settlement occurs in 2014.

Financing for the Clean Water Revolving loan fund of the Virginia Dept. of Environmental Quality is provided by the Virginia Resources Authority (VRA). Our loan last year from VRA was 0.25%, an incredibly low rate of interest. Our loan application to DEQ for this project (\$449,000) is likely to be approved in October and could provide critical bridge financing, or longer term financing, depending on which foundations decide to fund the project and how. Our big sell to Virginia or national foundations with the DEQ loan is not only the great value of the project goals as outlined in this proposal, but the very attractive financing provided by Virginia Resources Authority (0.25% interest over ten years). It makes business sense for a foundation to act as grantor in

this purchase since they will be able to keep their assets in high yield investments while paying a nominal interest rate on the annual payments for a very worthy project (scenario 1, annual note ca. \$45K).

We anticipate the education center will be providing the first courses in year one with full course offerings at year five. Seed orchard development and rare plant nursery build-out will take five years. Meadowview is competent to do courses, nursery build-out, and restoration work because these are activities currently performed by the organization at our headquarters in Caroline County. A conservation easement will be donated on the 51 acre property to the Virginia Department of Forestry at closing.

Project budget

The Center for Biodiversity at Joseph Pines Preserve Project Budget Proposal	
<i>Budget Line Item Description</i>	<i>Dollar Amount</i>
Acquisition cost	\$448,000
Legal cost	\$1500
Appraisal cost	\$3000
Title Insurance cost	\$1000
Environmental Audit	\$1900
Earnest money	\$1000
	\$
	\$
	\$
TOTAL PROJECT COST	\$456,400

Detailed estimate of post-completion operating costs and a plan to sustain these additional expenses

The average monthly operating costs of the education center are currently \$300/month for gas and electricity (see Appendix, Details of Schwartz house). These costs would be supported by the operating funds of Meadowview. Expenses for construction of rare plant propagation beds (\$2000) and climate controlled poly tunnel greenhouse (\$10,000) would also be paid for with operating funds over the five year build-out. Electrical expenses for these operations are expected to increase by about \$50/month.

High-speed broadband internet is essential to the functions of the center and this is expected to cost \$79/month with the Hughes network. Internet expenses will be paid for with operating funds. Our proposed installation of an outside (gasifier) wood furnace and hot water solar panels (range of \$15,000 - \$30,000 depending on make and model of wood furnace and panels) will be paid for either by bank loan or grant funding. The outside gasifier wood furnace and hot water solar panels will eliminate the operating propane cost, reducing average monthly utility costs by \$150.00. We think the existing operating costs (propane and electric) by the Schwartz couple are conservative and the savings by installing the wood furnace will be larger due to the greater usage of the center.

Specific ways the Donors will be recognized

The Donors will be recognized for their gift in several ways.

- 1) The education campus could be named after major donors. A prominent sign will be installed at the entrance to the facility with said name on the sign. This is major, long-lasting recognition of the largesse of a donor(s).
- 2) A press release will be prepared and submitted to local, regional, and national media highlighting the effort that the foundation is supporting at Joseph Pines and the value of that work.
- 3) The donation will be written about in our international newsletter with over 300 members.
- 4) Donors will be acknowledged in scientific papers and reports produced by the center.
- 5) We welcome any other suggestions to recognize donor philanthropy.

Location of Work

The project is located in Sussex and Prince George Counties, Virginia, about 5 miles north-west of the town of Waverly.



Figure 1. Location of project.

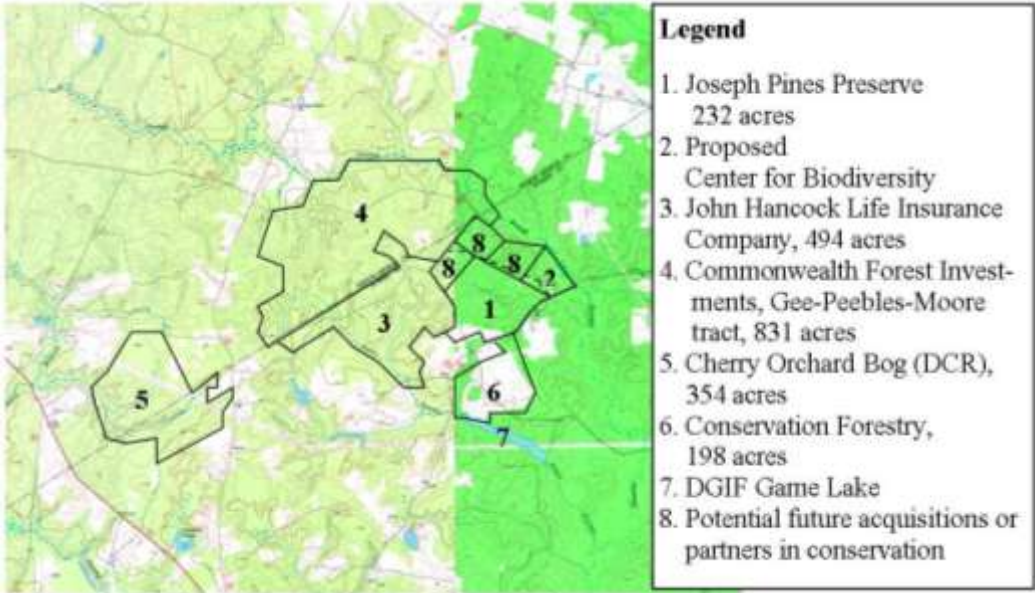


Figure 2. Joseph Pines Preserve Grand Plan.

Education Center for Biodiversity



Figure 3. Mentoring home school students at Meadowview headquarters in Caroline County.

Testimonial

“Dr. Sheridan -

Thank you so much for an amazing field trip for the REACH group last week! I have to be honest, I expected a somewhat dull experience and hadn't even realized your facility was there, let alone so local and so crucial. I was SO wrong! You used wonderful examples to meet the kids (Fig. 1) where their previous experience is - you involved them, not giving up asking questions when they were quiet or stumped. The dissection of the pitcher plants and feeding the flytraps were intriguing! You consistently passed around samples and engaged all of our senses, moving the group frequently enough and to enough differing landscapes that a high level of interest was inevitable. These are the kind of field trips that make lesson planning easy for a homeschool parent. We are so grateful that you spent such quality time with us!

Laura Martinsen
Homeschool Parent”

Need

The Virginia Outdoor Plan specifically identifies a need for an education center in the region where the Joseph Pines Preserve is located (see below “Facilities for nature study” under consistency with comprehensive plan...). We now have a sales contract (Appendix) on a 51 acre property contiguous with the Joseph Pines Preserve that has a high quality 4300 square foot house that can serve as an education center (Fig. 4). This use is permissible under existing zoning for the property. The house was built in 1996 with high quality construction materials and contains rooms suitable for meetings and workshops as well as providing accommodations for up to 15 staff or volunteers. The site also includes an acre stocked fish pond and a 30' x 60' garage and carport.



Figure 4. House on 51 acres as proposed education center.

Most of the property has been converted to pasture (Fig 5) and thus provides an excellent substrate to install a native Virginia longleaf pine seed orchard, seedling nursery, poly tunnel, and rare plant propagation beds (Fig. 6). There are many reasons to have nursery and horticultural operations at the education center. First, production of indigenous rare plants on-site provides the most efficient and effective way to deliver the plants for restoration at Joseph Pines Preserve. Second, nursery operations are a vital component of the educational process and allow on-site student and volunteer horticultural effort. Third, a dedicated facility of indigenous plant propagation greatly diminishes the chance for alien, non-native plant invasion of plugs and the possibility of genetically polluting the Joseph Pines Preserve.



Figure 5. Pasture land for longleaf pine seed orchard at proposed education and biodiversity center.

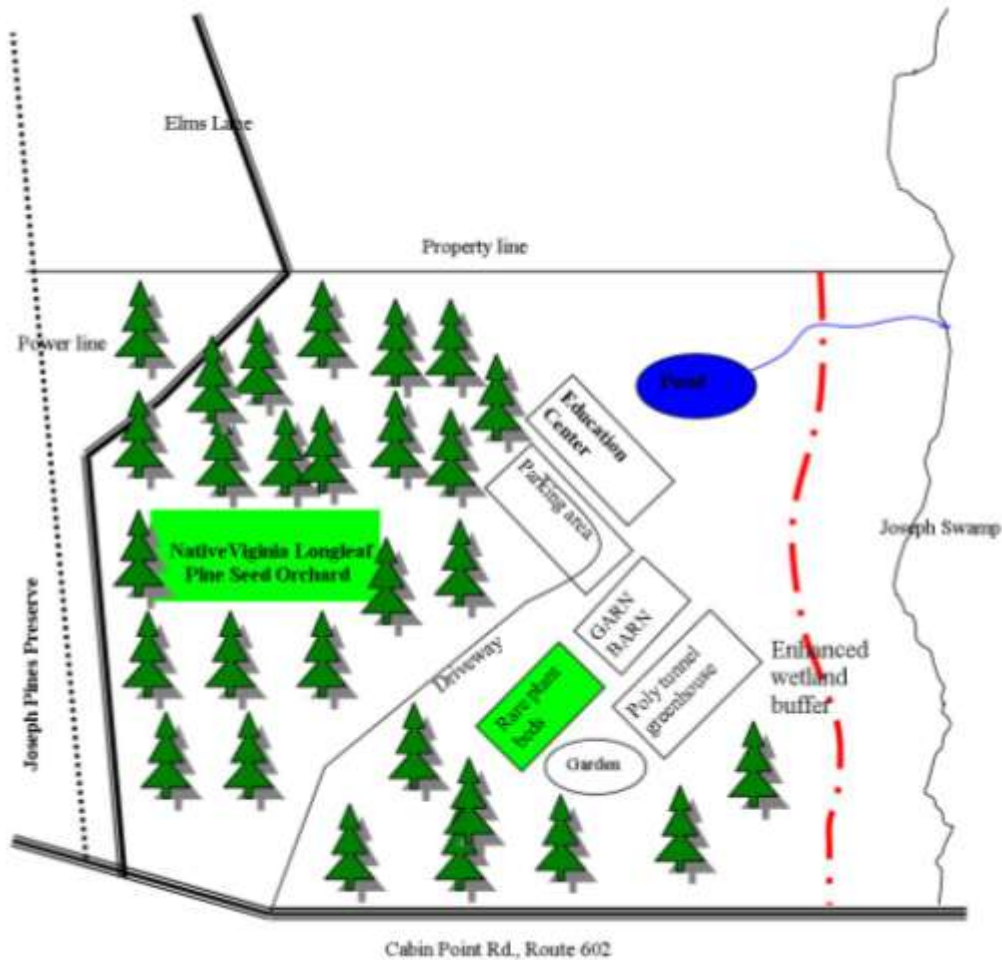


Figure 6. Proposed land use at education and biodiversity center.

Heating of the education center and greenhouse would be provided by a gasifier wood heating system (such as GARN, Portage and Main wood furnace, or Central Boiler E-classic) to eliminate, or greatly reduce, the existing use of propane fossil fuel. The proposed gasifier is a certified EPA Phase II wood heating system and provides a clean burning, efficient, and virtually smoke-free way to heat structures (greenhouse, house, domestic hot water). We have experience with old-style outdoor wood furnaces and the gasifier wood furnace is a vastly superior product since it uses half the fuel and produces much lower emissions. In either case, outside wood furnaces use a renewable fuel (wood) that is part of the carbon cycle and do not produce a net increase in global greenhouse gases. A gasifier wood furnace allows the education and biodiversity center to showcase innovative ways to replace fossil fuels in an intelligent, sustainable manner. An outside wood furnace will also decrease operating costs by eliminating the use of propane fuel. Wood fuel is abundant at the Joseph Pines Preserve and is a renewable by-product of habitat restoration efforts.

A wood gasifier is not the only way in which Meadowview would strive to highlight sustainability at the education center (Figs. 7 & 8). Since we work with rare plant conservation our corporate ethos has been to practice sustainability to lessen our impact on the environment. Our plans for the education center include mandatory recycling and efforts to install solar water heaters, and solar and wind electrical generation. A vegetable garden would be included to provide food for students and interns working on-site and to process organic vegetable waste from the compost bins. Similar efforts are already in-place at our operations center in Caroline County, VA. All of these activities, including educational tours of the center and preserve and workshops (see below) would be part of daily operations by Meadowview staff.



Figure 7. Outside wood furnace and hot water solar panels provide domestic hot water and heat facilities at Meadowview.



Figure 8. The intern vegetable garden at Meadowview provides delicious and nutritious food in a sustainable way.

The Education Center for Biodiversity at Joseph Pines would be totally unique in Virginia. The dedicated on-site propagation effort of indigenous flora for local and regional restoration, combined with the outdoor educational facilities, staff, and large longleaf pine/pitcher plant preserve would provide an incredible benefit to the public. We are competent to perform the functions of an education center and nursery since similar work already occurs at our headquarter operations center in Caroline County, VA.

Workshops offered at the Center for Biodiversity

The main education point of the Center for Biodiversity is a direct, hands-on educational experience with a unique ecosystem. We recognize that lack of transportation funds and the rural location may limit many school groups from visiting. Therefore, life science and STEM disciplines (Science, Technology, Engineering, Math) would be integrated with technology via the broadband Hughes network to provide outreach to local and national educational systems. One way to do this would be to have monitoring or measurements of biological processes updated on an interactive website with teacher and student access. This would allow them to use the data in their class exercises. Teachers would find this particularly useful for the “warm up” period of class (where the kids practice on a problem or some data to get their minds engaged and ready for the class period).

A tangible gap exists in Middle and High School science and math curriculum for graphing. There is state focus on this area because graphing scores are so low. The

Center for Biodiversity provides an opportunity to work on educational aspects that could promote this type of data analysis using plant growth, soil nutrient manipulations, and plant demographics with independent and dependent variables and simple cause/effect scenarios. Many of these courses also have practical application for the general public and to environmental science practitioners. Here is an initial list of workshops which we can offer to the public.

- Basic botany
- Edible wild plants of southeastern Virginia
- Restoring longleaf pine/pitcher plant ecosystems in Virginia
- Sustainable lifestyle in the modern era – biomass, solar, and wind power
- Heirloom crops and you
- How to balance your fish pond while getting something to eat
- Rare plant propagation and restoration
- Identifying wetland soils and hydrology

Hydrological benefits

Our restoration methods involve converting a low diversity, dense loblolly pine/hardwood forest to a species rich savanna dominated by longleaf pine. This phase change in ecosystem produces tangible, positive results in groundwater hydrology through the reduction of evapotranspiration rates. Our graduate student research has found that a 25% reduction in evapotranspiration occurs after this phase change, equivalent to a savings of 3.9 million gallons of water on a 24 acre watershed (McLeod et al. 2012, Sheridan et al., 2013). The implications of this research are that as we continue to acquire more land, and proceed with restoration, there will be a significant hydrological benefit to the area. The projected, restored 2000 acre preserve could potentially be saving and storing several hundred million gallons of water over existing land use in an area where future water supplies may be limited and needed.

Specific water quality improvements on the 51 acre Schwartz tract include cessation of grazing activities, implementation of an enhanced 300 foot wetland buffer on Joseph Swamp, restoration of vegetation on a fish pond and outflow stream (Figs. 9 & 10), and conversion of 25 acres of pasture to longleaf pine seed orchard forest.



Figure 9. Fish pond that would receive edge re-vegetation and wetland buffer to improve water quality.



Figure 10. Outflow from fish pond bordering Joseph Swamp and under pasture.

15,000 in 15 Years

In November 2012, a group of state, federal, and non-profit organizations formed a state coordination team known as the Virginia Longleaf Pine Cooperators. The group decided that a reasonable objective was the planting of 15,000 acres of longleaf pine in Virginia in 15 years. The goal of expanding the Joseph Pines Preserve to almost 2000 acres, and planting most of those acres in Virginia longleaf pine, would have a significant impact in achieving this objective.

Consistency with comprehensive plans and strategic conservation efforts

Our proposal also meets the **Forest Lands Criteria** found in the **Virginia Land Conservation Foundation** manual in the following ways.

1. The land is in an area where there is a high potential for land use changes or conversions that threaten the retention of forestland. The Joseph Pines Preserve is located on Cabin Point Road, route 602, in Sussex County, Virginia approximately 5 miles n/w of the town of Waverly. The Waste Management Atlantic Waste Disposal Landfill and Sussex 1 and 2 maximum security prisons are within 4 miles of the preserve and are either on the same road or intersecting roads. Large chunks of forest and agricultural land are being permanently converted to residential development. There has been tremendous development pressure and land conversion on Cabin Point Road (route 602) which fronts the Joseph Pines Preserve. Land pressure has come from the need for housing employees of Sussex 1 and 2 prisons, retirees fleeing Virginia Beach for relatively inexpensive rural land, DOD employees at an expanding Fort Lee seeking housing, and an expanding population in Prince George County seeking affordable land and housing. The proposed preserve will help to blunt this development trend in a rural area and protect a significant ecologic and hydrologic resource.
2. Joseph Pines Preserve will protect primary and secondary headwater streams feeding the Nottoway River. The Nottoway River is listed on the state 303(d) list. In addition, the total proposed preserve of almost 2000 acres will provide significant groundwater recharge and aquifer preservation for anticipated future development.
3. The property is suitable for long-term research, special landowner demonstration opportunities, and conservation education. All of these activities have been performed on our original 101 acre property and we are expanding those activities on all properties acquired as part of the preserve. We hosted the 2007

Longleaf Pine Restoration Conference at the Airfield 4-H Center with DOF and Joseph Pines Preserve was an important field trip site demonstrating longleaf pine restoration. Several graduate students have performed ecological and hydrological research on the preserve and we expect more of this type of basic research.

4. The property is within an area (Cabin Point Road) identified in the local Sussex County comprehensive plan as important for open space, agricultural/forestall, and biological preservation and recognized by the board of supervisors in Sussex County in a resolution dated May 18, 2006.
5. The preserve provides vegetated buffers on all streams on the property. Enhanced 300 foot wetland buffers will be proscribed on the borders of Joseph Swamp on the 51 acre tract.
6. The property has the potential to protect and/or restore:
 - a. threatened and endangered species of fauna and flora as listed in this proposal
 - b. unique habitat for threatened and endangered species
 - c. provides the opportunity to restore diminishing native tree species (longleaf, shortleaf, and pond pine)

Furthermore, this property is strategic since it fits within a larger conservation plan of protecting and restoring the longleaf pine ecosystem in Virginia. The only site for the red-cockaded woodpecker (a denizen of longleaf pine forests) is within nine miles of Joseph Pines at Piney Grove Preserve while DCR's high diversity Cherry Orchard Preserve is within two miles (a site originally identified by Meadowview biologists and brought to the attention of DCR employees for purchase).

In addition, this proposal meets a specific recreational and resource conservation need identified in the *Virginia Outdoors Plan* (VOP) and local comprehensive plan. The local comprehensive plan recognizes the importance of seepage bogs (pitcher plant wetlands) and sand-hill (longleaf pine) ecosystems in section V111-1 – V111-4 and natural systems in X-24 – X-25. The plan also states in section X-3 – X-4 that the road the proposed project is on (Cabin Point) “should be encouraged to remain basically agricultural in nature”. Since much development has occurred on Cabin Point Road our proposal helps meets the land conservation objectives identified in the Sussex County comprehensive plan.

Page 326, item 12, of 2002 VOP and page 19 of PDC 19 VOP draft 2007 state: “The Nottoway River and its environs in Sussex County offer an ideal location for various woodland and water-oriented recreational activities.” Our proposed property for conservation drains into the Nottoway River.

Page 134 of 2002 VOP recommends: “statewide representation on protected lands for all natural community types and rare species; assist public and private land managers and owners with the management and/or restoration of natural heritage resources on their properties.” Also, pg. 441 in the wetland chapter addresses the need for restoration of non-tidal wetlands. We are actively engaged in protecting and restoring the imperiled longleaf pine/pitcher plant ecosystem on our original 101 acre property and are continuing those activities on the expanded preserve. These properties include non-tidal wetlands and relict longleaf pine/pitcher plant ecosystems in need of restoration.

The 2007 VOP draft states a need for “Facilities for nature study” on page 2 of PDC 19. Page 4 of PDC 19 (2007 VOP draft) states “**Specific land conservation recommendations for Crater include:** Address the need for local and regional programs to promote conservation and the connection of conservation lands for wildlife and water quality.” Our organization provides “facilities for nature study” on the Joseph Pines Preserve through tours and educational and research programs (Fig. 11). The proposed Center for Biodiversity would not only fill a critical need but allow us to greatly expand our educational and outreach programs in this area.



Figure 11. Educational longleaf pine workshop at Joseph Pines Preserve co-hosted with the Longleaf Alliance.

Page 16 of PDC 19 in VOP 2007 draft states “**26. Establish a natural area preserve** in Prince George County to **restore pine flatwoods and coastal plain depression pond communities.**” The John Hancock Fuqua tract and Commonwealth Investments Gee-Peebles-Moore tract are in Prince George County and have the pine flatwoods and coastal plain depression pond communities specified in the VOP plan. An important part of our restoration program on Joseph Pines includes the reintroduction of the sun-facing coneflower *Rudbeckia heliopsisidis*, found only in this type of community in

Virginia. Our reintroduction of this plant has been funded by the U.S. Fish and Wildlife Service under the Private Stewardship Grant.

In addition to the intrinsic open-space values of our project, the Joseph Pines Preserve provides significant benefits in the following areas: historic resources; natural heritage resources (rare, threatened, or endangered species and significant natural communities); forestland; wildlife habitat protection and/or management; recreation/parks.

Historic resources - Historic turpentine stumps are found on the property which date to at least 1840 and reflect the start of the turpentine industry in America. Old sawdust piles date to the 1920's when timber was cut on-site and at least one old house site (mid 1800's – no structure) is on the property awaiting investigation. A few native-American artifacts have also been found such as scrapers, spear points, and pottery fragments.

Natural heritage resources - Old turpentine stumps demonstrate the historic presence of the rare longleaf pine ecosystem on this property and rare species continue to appear as we continue our restoration. Three indigenous state rare plant taxa have been discovered on the property (*Ludwigia hirtella* G5S1, *Lilium pyrophilum* G2S1, *Asclepias rubra* G4G5S2), and three watch list species (*Carex collinsii* G4S3, *Drosera brevifolia* G5S3, and *Juncus longii* G3QS3?). Reintroduction efforts are adding 18 rare plant taxa from native Virginia populations.

Forestland - We are restoring the rare longleaf pine ecosystem in Virginia. This forest type has been identified by the Virginia Dept. of Forestry, as well as state and federal agencies, as an imperiled ecosystem for restoration. Continued management of non-longleaf pine forest resources under our Forest Stewardship Plan will provide pulp and fiber to the Commonwealth of Virginia for years to come.

Wildlife habitat protection and management - Our management of the Joseph Pines Preserve has greatly improved habitat for Northern bobwhite quail. There is also an abundance of habitat for deer and turkey and the general nature of the property is conducive to wildlife habitat protection and management.

Recreation/parks - The Joseph Pines Preserve allows passive recreation on a controlled basis.

Pitchers for the Public! Why are Pitcher Plants Important?

In 2011 Meadowview launched the “Pitchers for the Public!” campaign to highlight the need to preserve and restore Virginia pitcher plant bogs. The public has a right and need to see these beautiful and interesting plants within their native haunts. While pitcher plants are important to us, it is important to justify their importance and value to

underline the need for their preservation. Here are eight reasons why pitcher plants are important and why they should be protected at the Joseph Pines Preserve.

1. They are beautiful.
2. They bring limiting nutrients into their environment from their carnivorous habit.
3. They are valuable commercial plants.
4. They are early bloomers and nourish the first pollinators in bogs.
5. In many cases, they are state listed rare, threatened, or endangered species.
6. They are a model organism for study of complex ecosystems. The National Science Foundation has provided ongoing funding to a group of Harvard researchers to develop this model.
7. The pitcher plants are part of 0 order stream systems where water first emerges from the ground. Protection of this habitat, of which pitcher plants are a part, maintains high water quality.
8. The prime directive or precautionary principle. We shouldn't lose our biota or consciously allow components of an ecosystem to be lost forever. We sometimes don't know all the parts an organism plays in an ecosystem or how critical that part might be. In addition, there is the possibility of a future medical use of the plant. Some research has shown efficacy of pitcher plants compounds for the treatment of HPV, inflammation, and some skin cancers (see www.howdoitreatnaturally.com).

How the Project's Success will be determined, measured, and communicated

The project's success needs to be assayed in three separate but related arenas:

- Water quality
- Longleaf pine seed orchard and rare plant nursery
- Education Center

Project success can be determined and measured in the three areas as follows:

- Water quality
 1. Immediate cessation of grazing and removal of livestock
 2. Convert 25 acres of pasture to Virginia longleaf pine seed orchard within five years
 3. Apply 300 foot buffer on Joseph Pines Swamp edge
 4. Apply 100 foot buffer to 1 acre fish pond. Plant shrubs, sedges, grasses, and herbs on pond border within two years. Water quality improvement will be measured via standard water quality metrics (turbidity, ammonia, phosphate, etc.)
- Longleaf pine seed orchard and rare plant nursery
 1. Seed orchard installed and growing within five years on 25 acres of land

2. Poly tunnel greenhouse (20' x 60') installed and raising 18 rare plant species within two years
 3. Grow out beds (600 sq. ft) installed and raising rare plants within three years
- Education Center
 1. Wood gasifier heating system installed and working within five years
 2. Educational kiosk installed within 6 months
 3. Room accommodations for interns, volunteers, and eco-tourists on-line within 6 months
 4. Tourist group (students, plant societies, general public, etc.) visits tabulated by date and number of people. A target of 100 visitors the first year considered a success rising to 500/year in five years.
 5. Two workshops/courses conducted first year of operation with fifteen per year at five years.
 6. Interactive classroom established in year one, with class development complete at five years.

Project success will be communicated in our newsletter, peer reviewed publications, local, state, and national media, and electronic media such as FaceBook and YouTube.

Detailed Narrative of Joseph Pines Preserve

Introduction and History to date

Meadowview Biological Research Station is a non-profit IRS 501(c)(3) organization that was started in 1995 to preserve and restore the remaining fragments of Virginia's imperiled longleaf pine-pitcher plant ecosystem. We meet the conditions of the Virginia Conservation Easement Act since we are a charitable corporation which has been declared exempt from taxation pursuant to 26 U.S.C.A. § 501 (c) (3) and have maintained an office in Virginia for at least 5 years. In addition we have a mission statement pertaining to land conservation activities on both our web site and articles of incorporation as follows:

“Meadowview Biological Research Station (Meadowview) is an organization dedicated to preserving and restoring rare wetland plants and habitats on the coastal plain of Maryland and Virginia... Our goal is to preserve and restore a part of our natural bog heritage.” (Meadowview Articles of Incorporation, Amended and Restated, August 17, 2000).

“Our goal is to preserve and restore a part of our natural bog heritage by returning the endangered Yellow Pitcher Plant, *Sarracenia flava*, and the Purple Pitcher Plant,

Sarracenia purpurea, to their historic ranges in Virginia and Maryland utilizing an integrated ecosystem restoration approach...We also are developing a system of bog preserves in Maryland and Virginia which will guarantee the preservation of the unique ecosystems supporting the pitcher plant community.” (Meadowview web site goals at www.pitcherplant.org)

Our ten year goal was to establish a system of bog preserves in Maryland and Virginia that would guarantee the preservation of the unique pitcher plant ecosystem. Populations of rare plant species, as well as their important associates, continue to go extinct on unprotected land. While buying all of these remaining rare plant sites may be desirable, this goal is unrealistic from a financial, political (since some landowners may not want to sell), and biological point of view (some sites are degraded to the point that only a few rare plant elements are left). This goal was partially accomplished by the purchase of the 101 acre Joseph Pines Preserve in Sussex County, VA by Meadowview Biological Research Station in 2004.

The Joseph Pines Preserve is located in the gently rolling terrain of Sussex County, Virginia in the heart of the historic range of the longleaf pine-pitcher plant ecosystem. We started working in 1995 with the previous landowners, Brad and Marsha Whitehead, successfully reintroducing native Sussex County yellow pitcher plant and performing test plantings of longleaf pine. We planted one acre of native Virginia longleaf pine on the preserve and over 1200 native yellow pitcher plant from six populations (Fig. 12). In the past several years we have cleared (mechanical chipping of invasive hardwoods and pines), burned, and or chemically treated the entire 101 acres. Over 65 acres have been planted with almost 5000 native Virginia longleaf pine seedlings. Joseph Pines Preserve represents one of the largest plantings of native longleaf pine in Virginia! These seedlings were all raised in-house and collection of seed was performed by Meadowview biologists from native Virginia longleaf pine trees. Some of the longleaf pine from which we gathered cones have since been cut and thus Joseph Pines has unique longleaf pine genetic material no longer available in Virginia.



Figure 12. Virginia yellow pitcher plant in restored wet meadow at Joseph Pines Preserve.

The preserve is dedicated to protecting the entire remaining population of native Virginia yellow pitcher plant. For fifteen years Meadowview maintained six Virginia yellow pitcher plant populations in raised beds at the research facility in Caroline County, Virginia just south of Fredericksburg. During this period detailed studies were done on the reproductive biology of this native yellow pitcher plant stock. During the study four of the populations went extinct in the wild while we safeguarded and protected this valuable germplasm from loss. During the late winter and spring of 2003 trails were cut on the Joseph Pines Preserve and all the native yellow pitcher plant was moved from the research station and planted on the preserve. This large project involved a considerable amount of volunteer labor breaking apart the beds, dividing and cleaning the plants, transporting them to the preserve, and planting and flagging.

The preserve is also dedicated to capturing the entire Virginia longleaf pine (*Pinus palustris* Miller) genome by grafting, fascicle rooting, or seed propagation (Fig. 13). With less than 2000 native longleaf pine trees left in Virginia, capturing the entire genome of this economically and ecologically valuable tree species is entirely possible. Longleaf pine is an associate species of yellow pitcher plant and is a keystone species in fire maintained ecosystems. The preserve will perform the vital role of preserving rare components of the longleaf pine-pitcher plant ecosystem which are left in small, isolated, unprotected fragments in southern Virginia. Restoration efforts at the preserve will also provide habitat for rare animal taxa known from the area. Due to our extensive field work in southern Virginia we know where these fragmented populations exist and who the landowners are so as to obtain permission to collect divisions or seed.



Figure 13. Restored Virginia longleaf pine savanna at Joseph Pines Preserve.

The preserve will also be used for our ongoing educational and scientific endeavors. In brief, we are attempting to restore a property to its colonial pre-settlement condition while at the same time preserving rare biological diversity in Virginia. By gathering together fragments of an ecosystem at the limits of its range we will restore breeding populations and maintain genetic reservoirs for future restoration work. Without this effort we will continue to lose valuable genetic material and subsequently suffer a loss of diversity.

Many pitcher plant habitats have been lost in Virginia through drainage, development, fire exclusion, agricultural and silvicultural practices, urban expansion, or neglect. Most of the associate plants found in these unique ecosystems are threatened with extinction. The rarity of these habitats is further highlighted by the state rarity ranking of many of the plant and animal species found in these sites. Many of these species are extremely state rare in Virginia and reach the northern limit of their range in southeastern Virginia.

Less than 100 clumps of the yellow pitcher plant, *Sarracenia flava* L., remain in the wild in one natural site (Fig. 14) in southern Virginia (Sheridan and Karowe 2000). The yellow pitcher plant is a fascinating, carnivorous plant that attracts, captures, and digests insects. The plant evolved the carnivorous habit to compensate for the lack of nutrients in its native soil. The significance of these sites is further highlighted by the fact that southern Virginia is the northern limit for *S. flava* and the associated longleaf pine, *Pinus palustris* Miller, ecosystem (Fig. 15). The longleaf pine ecosystem has emergent properties that support the pitcher plant community. One of the major properties provided by longleaf pine is mediation of natural, lightning caused fires.

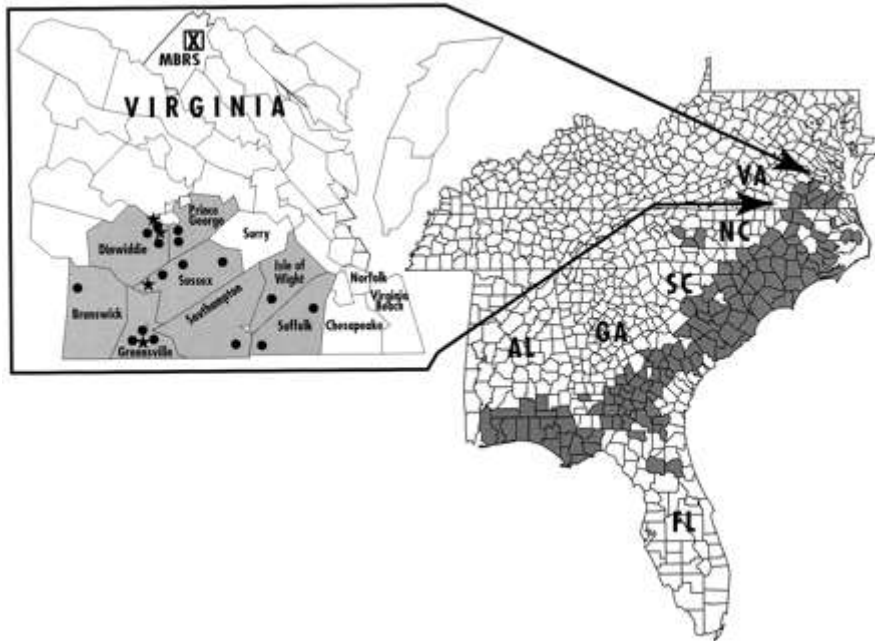


Figure 14. Historical distribution of *Sarracenia flava* in Virginia (Sheridan and Karowe 2000).

Longleaf pine needles are longer than other southern pines, provide a matrix of aerated fuel in the groundcover, and are both slower to decompose and have a higher resin content than other southeastern U.S. pine species. All of these factors come into play to provide the requisite frequent fire to maintain pitcher plant habitats in an early successional state. Longleaf pine is also a commercially valuable tree, disease and fire resistant, that produces high quality saw timber. Historically, longleaf pine provided invaluable naval stores (turpentine, tar, pitch) to the colonists in southeastern Virginia.

Unfortunately, four hundred years of settlement in Virginia has resulted in almost the complete destruction of native Virginia longleaf pine. Virginia longleaf pine covered 1.5 million acres at settlement but only 4432 trees remained on less than 800 acres based on a 1998 census by Meadowview Biological Research Station (Sheridan et al. 1999). Meadowview also determined that Virginia longleaf pine has greater fitness for in-state planting (Table 1, Sheridan et al. 1999) and that finding has been validated by researchers (Fig. 16) at the Virginia Dept. of Forestry (Creighton et al., 2009 and 2011). Within the past few years great effort has been made to restore longleaf pine in Virginia leading to a total of over 2000 acres planted with that tree (Sheridan et al., 2012).



Figure 15. Historical distribution of longleaf pine in Virginia.

Table 1. Relative Fitness of Longleaf Pine Co-planted in Virginia
 Source Survival x Height = Overall Fitness

Nansemond (Suffolk) Co. Virginia	1.0	1.0	1.0
-------------------------------------	-----	-----	-----

Table 1. Relative Fitness of Longleaf Pine Co-planted in Virginia
 Source Survival x Height = Overall Fitness

Rapides Parish Louisiana	0.97	0.96	0.93
Harrison Co Mississippi	0.90	0.95	0.86
Treutlen Co Georgia	0.85	1.0	0.85
Hillsborough Co. Florida	0.53	0.32	0.17

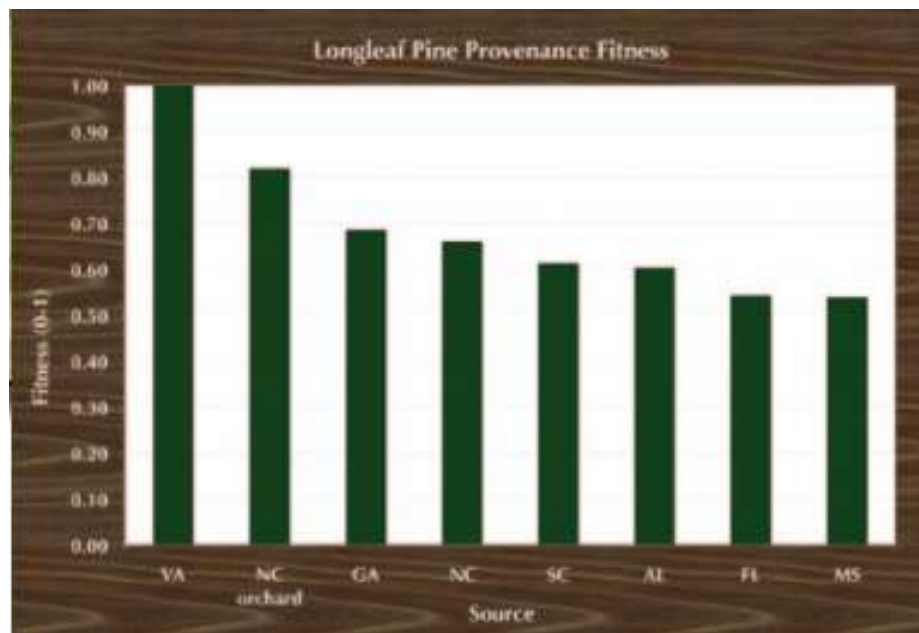


Figure 16. Relative fitness (avg. height, diameter, and survival) for longleaf pine across three locations (from Creighton et al., 2011).

There is currently no preserve in Virginia, other than Joseph Pines Preserve, for native Virginia longleaf pine **and** yellow pitcher plant because the intact, exemplary examples typically purchased by conservation organizations do not remain within the state. Many of the rare species normally found within the longleaf pine/pitcher plant ecosystem occur as isolated, fragmented populations on unprotected, private land in southeastern Virginia. We are obtaining divisions from these unprotected sites to both maintain genetic diversity and to restore this ecosystem on our preserve. By bringing together fragments of this ecosystem we will not only maintain genetic diversity but also restore breeding populations.

Our goal is to have a functioning longleaf pine-pitcher plant ecosystem at the Joseph Pines Preserve. We have successfully restored our core 101 acres by converting 65 acres to native Virginia longleaf pine habitat, performing regular understory burns on 29 acres of mature loblolly pine woods, and restoring 7 acres of sphagnum seepage bogs

with burning and mechanical clearing. We are more than half way through the reintroduction process of 18 indigenous rare plant taxa.

In 2012 we purchased the Posey and Conservation Forestry tracts with a \$145,000, 0.25% interest loan from the Virginia Resources Authority and a \$145,000 grant from the Virginia Clean Water Revolving Loan Fund Green Reserve Program from DEQ. We donated a conservation easement on our existing 101 acre property and the total 232 acre property was placed under conservation easement with the Virginia Department of Forestry. These recent acquisitions give us almost complete control of the watershed and add additional habitat types such as creek bottoms and cypress swamps, in addition to numerous sphagnous seepage bogs.

Our long term goal is to continue to expand the preserve through further purchases of adjoining land from John Hancock Life Insurance Company, Conservation Forestry, and Commonwealth Forests Investments to connect with both the Virginia Department of Conservation and Recreation's Cherry Orchard Preserve and DGIF's Game Lake so that a total preserve of over 2000 acres may eventually be created. Not only does our proposal provide significant water, air, and conservation benefits but our long term plan outlines a strategy to significantly expand and enhance the scope of our environmental and educational efforts. Meadowview is competent to handle this undertaking since we have the requisite field experience and understanding of the ecology of the respective species. We also have designed the preserve to ensure that hydrologic regimes are maintained in seeps and ecological processes are restored for species persistence and spread.

Project Justification and Significance

Restoring Biodiversity and Preventing Extinction

The longleaf pine/pitcher plant ecosystem in Virginia has suffered 400 years of degradation to the point that remaining examples are severely deficient in plant biodiversity. The best remaining examples of the longleaf pine/pitcher plant ecosystem in Virginia contain only ¼ the species historically found in the system (Sheridan 2010, Sheridan and Petzke 2013). Meadowview is attempting to restore this historic diversity at the Joseph Pines Preserve while at the same time preventing the extinction of critical plant populations. Preventing extinction of local plant populations that are part of the ecosystem is essential to both restoration efforts at Joseph Pines and regionally. Restoring biodiversity also potentially adds resistance and resilience to the ecosystem.

An essential method to restoring plant biodiversity is reintroduction. Our reintroduction policy and approach is consistent with written protocols of the Maryland Dept. of Natural Resources (1999) since they state reintroduction is:

"To establish a plant taxon that was recently lost from part of its historic range¹ or that enhances populations which remain within its historic range.

¹Historic range is defined as “in suitable habitat within the physiogeographic range of the taxa since the 1600s, **but not necessarily documented from the specific site.**”

The discovery of several rare wetland plant species at Joseph Pines which are known associates for pitcher plant wetlands also support our reintroduction strategy. We have compelling evidence (Sheridan, 2010) that segments of the pitcher plant community are selectively lost over time due to competition and succession and that some genera, notably *Sarracenia*, may be irretrievably lost and require reintroduction from local stocks to restore the ecosystem. We are now predicting the total extinction of all native Virginia pitcher plant populations no later than 2060 (Figs. 17 & 18). In fact, the extinction vortex is likely accelerating and total extinction is expected by 2030. These extirpations are occurring because of lowered ground water tables, lack of prescribed fire, land development, herbicide use, and other factors, or a combination of the these factors. These predictions highlight the need and urgency for the managed preserve at Joseph Pines. While native pitcher plant populations are being extirpated in southern Virginia, the reintroduced populations at Joseph Pines are flourishing and reproducing. These results are a strong testament to our good management and excellent hydrology.

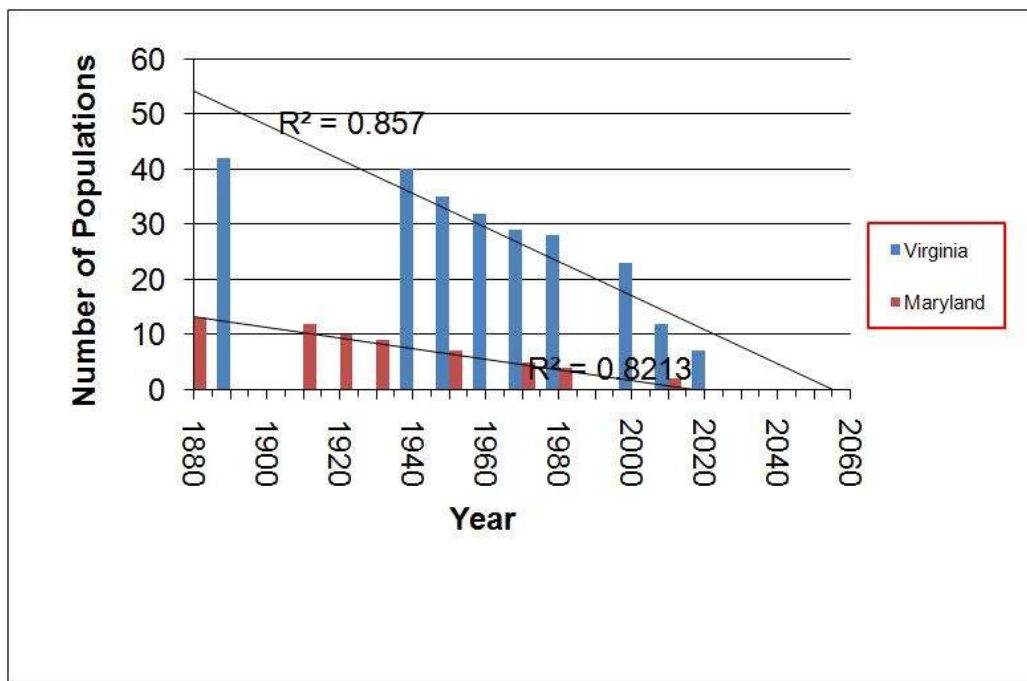


Figure 17. Regional extinction prediction for purple pitcher plant, *Sarracenia purpurea* L.

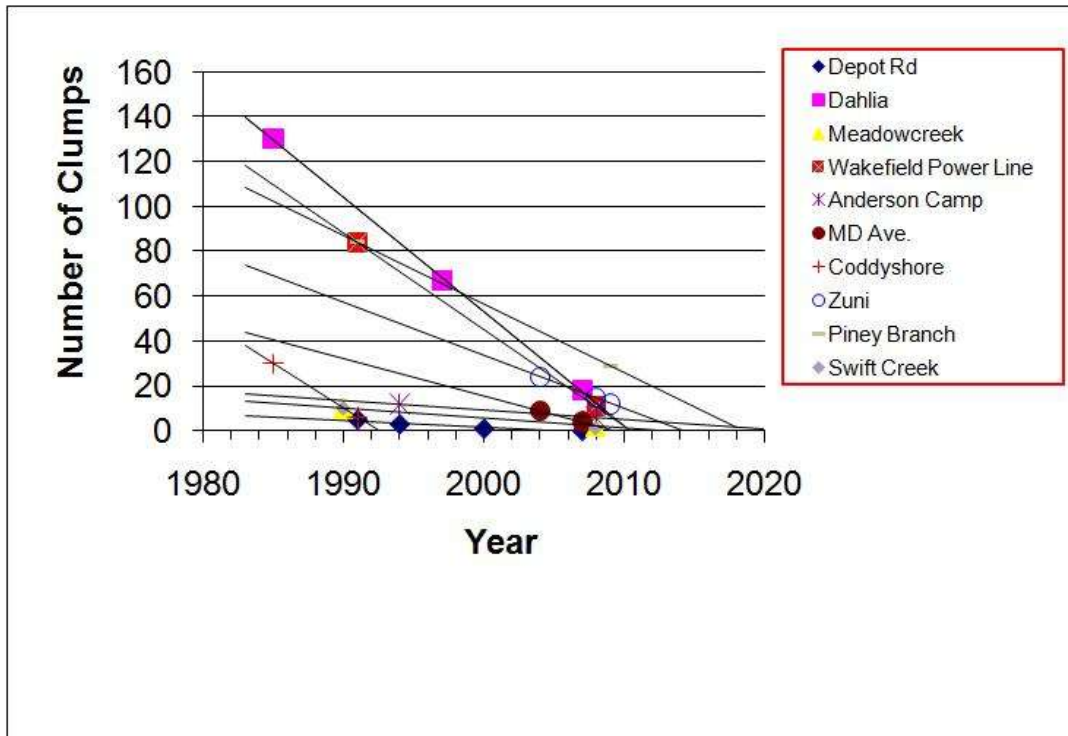


Figure 18. Local extinction prediction for Virginia populations of purple pitcher plant, *Sarracenia purpurea* L.

Target Species

In 2006 Meadowview received the Private Stewardship Grant from the U.S. Fish and Wildlife Service for the Joseph Pines Preserve. This grant allowed us to restore habitat and populations of one federally-listed and eighteen state-listed plant taxa (Table 2). In addition habitat was enhanced for one federally and state endangered bird, one state threatened bird, and one state endangered fish (Table 3). The U.S. Fish and Wildlife Grant was a follow-up to a previous EQIP grant from NRCS which allowed us to restore and plant 23 acres with native Virginia longleaf pine. Restoration efforts continue at Joseph Pines Preserve to reintroduce many of the rare species known to historically occur in Virginia pitcher plant bogs and associated uplands. The proposed education center (see below) and nursery will greatly facilitate this effort to restore biodiversity.

Table 2: Rare, Endangered and Threatened Plants of southeastern Virginia longleaf pine-pitcher plant ecosystem to be protected and restored at Joseph Pines Preserve

SCIENTIFIC NAME	COMMON NAME	Global Rank	State Rank	State Status	Federal Status
<i>Aletris aurea</i>	Golden colicroot	G5	S1		
<i>Cleistes divaricata</i>	Spreading pogonia	G4	S1		
<i>Ctenium aromaticum</i>	Toothache grass	G5	S1		
<i>Drosera capilaris</i>	Pink sundew	G5	S3		
<i>Eriocaulon decangulare</i>	Ten-angle pipewort	G5	S2		
<i>Helenium brevifolium</i>	Shortleaf sneezeweed	G3/G4	S2		
<i>Lachnocaulon anceps</i>	Bog-buttons	G5	S2		
<i>Pinus palustris</i>	Longleaf pine	G5?	S1		
<i>Plantanthera blephariglottis</i> var. <i>conspicua</i>	White fringed orchid	G4/G5T3T4	S1		
<i>Pseudolycopodiella caroliniana</i>	Slender clubmoss	G5	SH		
<i>Rudbeckia heliopsidis</i>	Sun-facing coneflower	G2	S1		
<i>Sabatia campanulata</i>	Slender marsh rose-pink	G5	S2		
<i>Sarracenia flava</i>	Yellow pitcher plan	G5?	S1		
<i>Sarracenia purpurea</i> ssp. <i>venosa</i>	Southern purple pitcher plant	G5T3T5	S2		
<i>Schwalbea americana</i>	Chaffseed	G2	SH		LE
<i>Tetragonatheca helianthoides</i>	Pineland square-head	G5	S1		
<i>Utricularia juncea</i>	Southern bladderwort	G5	S2		

<i>Zigadenus densus</i>	Dense-flowered camas	G5	S1		
-------------------------	----------------------	----	----	--	--

Table 3: Rare, Endangered and Threatened Animals for which habitat will be restored on Joseph Pines Preserve					
SCIENTIFIC NAME	COMMON NAME	Global Rank	State Rank	State Status	Federal Status
<i>Aimophila aestivalis</i>	Bachmans sparrow	G3	S1B	LT	
<i>Enneacanthus chaetodon</i>	Black-banded sunfish	G4	S1	LE	
<i>Picoides borealis</i>	Red-cockaded woodpecker	G3	S1	LE	LE

Global Rank: G1- Highly globally rare; G2-Globally rare; G3-Very rare and restricted range; G4-Apparently globally secure but may be quite rare in parts of its range; G5-Demonstrably secure globally but quite rare locally particularly at the periphery.

State Rank: S1- Critically Imperiled; S2-Imperiled; S3-Vulnerable; S4-Apparently Secure; S5-Secure: SH-Historical.

State Status - E- Endangered; T- Threatened; X- Endangered Extirpated

Federal Status - LT- Threatened, likely to become endangered in the near future

Project Staff, Organization, Management and Responsibility

Board Members

Meadowview has four members of the Board of Directors: Dr. Phil Sheridan, Dr. Robert Wright, Jim Robinson, and Mike Hammond. A fifth board member is currently being vetted. Each board member brings unique and complimentary talents to the organization. All board members contribute significantly to the organization in their own personal way. Most board members are of modest and humble financial means and their contributions are in their activities, talents, and works for the organization. Dr. Phil Sheridan, founder of the organization, works full time as a non-compensated President managing the considerable day to day affairs of the organization. He is able to do this, not because he is wealthy, but because he has a wife that supports the important work of Meadowview. Mrs. Sheridan was the anonymous matching donor in the Joseph Pines fund-raising campaign and gave over \$33,000 for preserve acquisition. Dr.

Sheridan also donated his house to Meadowview (appraised value \$62,000) to endow the organization with a corporate headquarters and provide facilities for rare plant propagation and nursery operations. Dr. Robert Wright provides oversight of state and federal regulations, in addition to his botanical contributions, as they pertain to Meadowview because he works at an environmental consulting firm. Jim Robinson has been a supporter of Meadowview since its inception and has provided considerable financial support for land acquisition (over \$50K), infrastructure upgrades (50% of the cost of wood furnace installation \$7K), and preserve management (\$7K). Mike Hammond is a recent addition to the board but has proved himself with his ten year volunteer record and considerable contributions in infrastructure upgrades and rare plant propagation. Remaining officer positions such as secretary, vice-president, and treasurer are either handled by the existing board of directors or co-handled with qualified professionals (e.g. accountant supervising treasurer duties).

Dr. Phil Sheridan

Dr. Sheridan (Fig. 19) is both the President and one of the Directors of Meadowview Biological Research Station. He has both a B.S. and M.S. from Virginia Commonwealth University where he did his research work on pitcher plant genetics and biochemistry. He has a Ph.D. in Ecological Sciences from Old Dominion University on the population biology and genetics of purple pitcher plant in Maryland and Virginia. He developed a reproductive model for longleaf pine at the Blackwater Ecologic Preserve and is an active member of the Virginia Academy of Sciences. He has been a driving force for longleaf pine and pitcher plant preservation in Virginia and has numerous, peer-reviewed papers on these and other subjects. Dr. Sheridan is also a Certified Prescribed Burn Manager with the Virginia Dept. of Forestry (certification # 710). Dr. Sheridan directs the day-to-day activities of Meadowview Biological Research Station and would be responsible for supervising the proposed project. Dr. Sheridan also has an extensive background in finance. He has ten years of experience in the savings bank industry including positions as assistant programmer, accounting clerk, bookkeeper, records manager, and supervisor in check processing. He also has several years of course work in Business Administration.



Figure 19. Dr. Phil Sheridan

Dr. Robert Wright

Dr. Wright (Fig. 20) is a public service naturalist, instructor, and well-published field ecologist with over 20 years experience in public, private, governmental, institutional and military environmental consulting markets. He is a director of Meadowview with a BS in Environmental Science from Lynchburg College, an M.S. in Environmental Science from Americus University, and a Ph.D. in Environmental Planning from Hamilton University. Dr. Wright focuses on integrated natural resource management, environmental planning and multi-disciplinary ecological studies. In addition to having multiple certifications and specialized training in other related disciplines, he has specialized expertise in regional, state, and local flora with specific graduate coursework and commercial and research project experience in the Southern Appalachian Highlands, Cumberland Plateau, and Ridge and Valley, with taxonomic research interests in several plant groups, contemporary and historical floristics, and rare, threatened and endangered species. Dr. Wright also has expertise and special training in wildlife habitat assessments, tree stand evaluations, wetland compensation site identification/inventory, wetland functional assessment, Best Management Practices compliance, impact avoidance and minimization analyses, coastal zone management coordination, hazardous material investigations, land use analyses, litigation and trial support experience, and extensive NEPA document (CE, EA, EIS) preparation experience. He uses these positions and his expertise to conduct vegetation inventories, Mid-Atlantic and Appalachian floristic studies, regional plant taxonomic problems, and regularly conducts advanced studies in threatened and endangered species surveys and management throughout the U.S. including Maine, Michigan, Ohio, Pennsylvania, New Jersey, Maryland, West Virginia, North and South Carolina, Texas, Georgia Florida, California, Nevada, and Arizona.

Dr. Wright is also a research associate at the Freer-Ramsey Herbarium at Lynchburg College (LYN), as listed in *Index Herbariorum*. He is also past President (2007) of the Virginia Academy of Science Botany Section, the Secretary-Treasurer of the Virginia Botanical Associates, Inc., a 501(c) 3 organization dedicated to the study of Virginia Flora and publisher of the *Digital Atlas of the Virginia Flora*, he sits on the Advisory Board of the Virginia Flora Foundation's Virginia Flora Project, and is a past (2003-2005) Board of Director at the Richmond Fire and Police Museum.



Figure 20. Dr. Robert Wright

Jim Robinson

Jim Robinson (Fig. 21) is a director of Meadowview and has studied and grown *Sarracenia* pitcher plants since the 7th grade. He received a B. A. in botany from Southern Ill. Univ. and worked in the nursery business for several years. After earning an M. S. in horticulture from Purdue University, Jim became Assistant Director of the Connecticut College Arboretum in the early 1980's. Jim worked under Director and world renowned ecologist Dr. William A. Niering. He eventually changed careers and



became a successful computer programmer with Household Finance until his retirement in 2001. In addition to his own home gardening, Jim has helped since 1990 with prairie and savanna restoration in the forest preserve near his home in suburban Chicago, Ill. Jim has been a member and contributor to Meadowview since its inception and has played a significant role in supporting the activities of the organization both from a financial and management standpoint.

Figure 21. Jim Robinson

Charles Michael Hammond

Mike Hammond (Fig. 22) is a U.S. Army veteran who served in the Peace Corps with a B.S. in Biology from Mennonite University in Harrisonburg, VA and significant graduate work at the University of Delaware in Entomology. He started volunteering at Meadowview in 2000 and has made major contributions to infrastructure because of his trade in carpentry. Mike has also played a big role in propagation and restoration



efforts. Because of Mike's background and combination of skills, he has been an excellent individual to discuss policies and strategies of Meadowview. As a result of this long vetting process, Mike has recently been inducted into the board of Meadowview.

Figure 22. Charles Michael Hammond.

The Interns

Meadowview initiated an intern program in 2009 to train the next generation of biologists as stewards of the preserve system we are creating. The interns are involved in almost all operational phases of the non-profit and typically receive college credit for their work and published papers of their research. The intern program continues to grow and had six students in 2012.

High School and Graduate Students

Both high school and graduate students are involved in research projects at Meadowview leading to peer-reviewed publications. Meadowview has had three graduate students successfully complete their research program from nationally accredited universities (Arvind Bhuta, 2006, Virginia Tech; Yann Rodenas, 2012, Ball State University; John McLeod, 2013, Old Dominion University)

The Volunteers

Meadowview is an all volunteer organization that has been able to successfully accomplish its goals since 1995 by effectively utilizing the talents of this noteworthy group of individuals. Volunteer crews typically last two years and are replaced with new volunteers through attrition or completion of service. In other cases, typically retirees, long-term volunteer service has been contributed by this talented group of individuals. Volunteers are supervised and trained by Meadowview director Phil Sheridan and have fulfilled duties such as brush clearing, repotting, seed sowing, seedling planting, and public education.

Contractor and Professional Services

While staff, interns, students, and volunteers fulfill a vital role to Meadowview there are simply some tasks that must be delegated to contractors (examples include prescribed fire, herbicide application, or mechanical clearing) or to professional companies for technical reasons (for example lawyers, accountants, appraisers, etc.).

Literature Cited

Creighton, J. W. Bowman, and B. Onesphore. 2009. Forest Research Review. Virginia Dept. of Forestry, Charlottesville, VA. Page 6.
<http://www.dof.virginia.gov/research/print/research-review-2009-04.pdf>

Creighton, J. W. Bowman, and B. Onesphore. 2011. Forest Research Review. Virginia Dept. of Forestry, Charlottesville, VA. Pp. 9-10.
<http://www.dof.virginia.gov/research/print/research-review-2011-05.pdf>

Maryland Dept. of Natural Resources. 1999. Guidelines for rare, threatened, and endangered plant reintroductions in Maryland. 9pp.

McLeod, J., G.R. Whittecar, and K.M. Dobbs. 2012. Hydrogeologic conditions that affect restored pitcher plant bogs, southeastern Virginia. Geological Society of America Abstracts with Programs 44: 59.

Sheridan, P. 2010. Ecological and genetic status of the purple pitcher plant, *Sarracenia purpurea* L., in Maryland and Virginia. Ph.D. dissertation. Old Dominion University. Norfolk, Virginia. 194 pp.

Sheridan, P. A. Petzke, and J. McLeod. 2013. Restoration of a longleaf pine/pitcher plant community in Virginia. 39th Annual Natural Areas Conference, Norfolk, Virginia. Oct. 9-12, 2012. Pg. 36.

Sheridan, P. M., A.R. Bhuta, and T. L. Eberhardt. 2012. Current trends for the planting of longleaf pine in Virginia; 2009-2010. In: Kush, J. comp., Longleaf through Time: Yesterday, Today, Tomorrow. Proceedings of the eighth longleaf alliance regional conference; October 12-15, 2010, Columbia, SC. Longleaf Alliance Report No. 16. P. 99.

Sheridan, P. and N. Penick. 2002. Highway rights-of-way as rare plant restoration habitat in coastal Virginia. In: The 7th International Symposium on Environmental Concerns in Rights-of-Way Management. J.W. Goodrich-Mahoney, D.F Mutrie, and C.A. Guild, eds. Elsevier Science, Oxford, England. Pp. 185-191.
<http://www.pitcherplant.org/papers/CALGARY.htm>

Sheridan, P., J. Scrivani, N. Penick, and A. Simpson. 1999. A census of longleaf pine in Virginia. In Kush, John S. comp. Longleaf pine: a forward look, proceedings of the second Longleaf Alliance Conference; 1998 November 17-19: Charleston, SC. Longleaf Alliance Report No. 4. Pp 154-162.
<http://www.pitcherplant.org/papers/LAC154.html>

Sheridan P. and D. Karowe. 2000. Inbreeding, outbreeding, and heterosis in *Sarracenia flava* (Sarraceniaceae) in Virginia. American Journal of Botany 87:1628-1633.
<http://www.amjbot.org/cgi/content/full/87/11/1628>

Appendices

Schwartz Property contract



**Central Virginia Regional MLS
Purchase Agreement**



This is a legally binding document for the purchase of real property. If not understood, seek competent advice before signing.
(Paragraphs marked with an asterisk * require a blank to be filled in or checked.)

*This Purchase Agreement is dated Feb 28, 2013, between Meadowview Biological Research Station ("Purchaser") and Al J. & Suzanne Schwartz ("Seller"). The parties acknowledge that RE/MAX Commonwealth ("Listing Broker") represents Seller, and RE/MAX Commonwealth ("Selling Broker") represents Purchaser.

* **1. REAL PROPERTY:** Purchaser agrees to buy and Seller agrees to sell the land, all improvements thereon, and appurtenances thereto belonging, located in the City/County of Sussex County, Virginia. Lot Block Section of The Elms Subdivision Tax Parcel # 000011479 Other The Elms Subd Cabin Pt PCL 3A and more commonly known as: 22857 Cabin Point Rd in Sussex County, VA together with the items of personal property described in paragraph 2 (the "Property").

* **2. PERSONAL PROPERTY INCLUDED:** Included with the sale of the above real estate (if located within said Property at the time of signing this Agreement, unless otherwise noted) are the shades, plantation shutters, blinds, curtain and drapery rods, screens and screen doors, storm windows and doors, light fixtures, wall to wall carpeting, garbage disposal, built-in range, built-in oven, built-in dishwasher, laundry tubs, attic fan, smoke and heat detectors, awnings, electrical wiring connections for appliances, ceiling fan(s), garage door opener(s) and remotes, mailbox and post, outbuildings and sheds, gas logs, fireplace inserts and all other items attached to the real estate and being a part thereof, including all shrubbery and plantings on the Property. Also included are the following items:
Detached Aluminum 30X60 Carport, R of driveway as you approach house

* **3. ADDENDA:** The following addenda are made a part of this Agreement:

- Lead-Based Paint Disclosure (required on all pre-1978 homes) Right of First Refusal Short Sale Addendum
 Disclosure of Brokerage Relationship to Unrepresented Party(ies) Other Property Disclosure

* **4. PURCHASE PRICE:** The Purchase Price of the Property is Four Hundred Forty-Nine Thousand Nine Hundred Dollars (\$ 449,900.00), which shall be paid to Seller at settlement, subject to the pro-rations described herein and/or from the following sources [check all applicable box(es)]:

This sale is not subject to financing. Purchaser shall pay all cash at closing by bank certified funds or bank wire.

- This sale is subject to financing. This is subject to Purchaser being able to obtain or assume a [select loan type]:
 Conventional; FHA; VA; VHDA or other _____ loan in an amount not less than _____% of the Purchase Price OR \$ _____ ("Loan Amount"), secured by a first deed of trust lien on the Property bearing interest at a [select one box]:
 fixed rate not exceeding _____% per year OR
 at an adjustable rate with an initial rate not to exceed _____% per year and a maximum rate not to exceed _____% during the term of the loan OR
 at the prevailing rate of interest at the time of settlement.

This loan shall be amortized over a term of _____ years and shall require not more than a total of _____ discount and origination points. (If this Agreement provides for the assumption of a loan, the parties acknowledge that the balance set forth above is approximate and that the principal amount to be assumed will be the outstanding principal balance on the date of settlement, and Purchaser shall assume all obligations of Seller under such loan with the exception of past due charges for which the Seller shall be liable). Purchaser shall pay the balance of the Purchase Price at settlement, less any deposit, loan amount and/or other credits set forth in this Agreement.

Other financing terms: _____



*This sale [select one]: is OR is not further subject to the Property's appraised value equaling or exceeding the Purchase Price, which value shall be determined by an appraiser selected by Purchaser's lender (if a cash purchase, the appraiser shall be selected by Purchaser). If the Purchase Price exceeds the appraised value, Purchaser shall either: (i) may proceed with consummation of this Agreement without regard to the amount of the appraised value, or (ii) make a written request to Seller within five (5) days of receipt of the appraisal for a reduction in the Purchase Price so long as the reduced Purchase Price is not lower than the appraised value, and provide Seller a copy of the appraisal (or lender verification of the appraised value). Seller shall then have five (5) days to respond to Purchaser's request for a reduction in the Purchase Price. If the parties are unable to agree upon a Purchase Price, then Purchaser may terminate this Agreement by written notice to Seller, and subject to the provisions of Paragraph 6, Purchaser's Deposit shall be refunded in full to Purchaser and neither party shall have any further obligation hereunder. For purposes of this paragraph, Purchaser is deemed to have received a copy of the appraisal when Purchaser is notified in writing of the appraised value of the Property. If Purchaser does not request a reduction in the Purchase Price within five (5) days after receipt of the appraisal, then this condition shall be deemed waived by Purchaser.

5. FINANCING: If this Agreement is conditioned upon Purchaser obtaining financing, Purchaser shall make written application for such loan within seven (7) days after this Agreement is fully executed by the parties and shall make diligent effort to secure a written loan commitment no later than 5:00 p.m. on the settlement date set forth in Paragraph 7. If, at the time of such loan application, Purchaser chooses not to lock-in the rate and/or points that meet or exceed the requirements set forth in Paragraph 4, Purchaser waives such rate and point contingency. If this Agreement is not conditioned upon Purchaser obtaining financing, Purchaser shall provide Seller with written verification from a third-party in possession of Purchaser's assets within seven (7) days after this Agreement is fully executed by the parties that Purchaser has sufficient assets to pay the balance of the Purchase Price at settlement. If Purchaser fails to comply with any of the provisions of this paragraph or fails to obtain a written loan commitment by 5:00 p.m. on the settlement date, then Seller may terminate this Agreement by written notice to Purchaser, and subject to the provisions of Paragraph 6, Purchaser's Deposit shall be refunded in full to Purchaser, and neither party shall have any further obligation hereunder. As used in this paragraph, "diligent effort" shall mean that Purchaser has provided all information or documentation requested by a lender within seven days of each such request and paid all costs associated with such loan application, including but not limited to, application fees, credit reports and appraisal(s). Purchaser authorizes the lender to disclose to Seller's real estate licensee information about the progress of the loan application and approval, including whether Purchaser has complied with the lender's requests and paid all costs associated with such application. If, after diligent effort, Purchaser is unable to obtain financing, then this Agreement shall terminate, and subject to the provisions of Paragraph 6, Purchaser's Deposit shall be refunded in full to Purchaser, and neither party shall have any further obligation hereunder.

***6. DEPOSIT:** Purchaser shall make a deposit of \$ 1,000.00 to be held by RE/MAX Commonwealth (the "Escrow Agent") in the form of: check cash other _____ (the "Deposit"). Purchaser [select one]: has paid the Deposit to the Escrow Agent OR will pay the Deposit to the Escrow Agent within 1 days after this Agreement is fully executed by the parties. If Purchaser fails to pay the Deposit as set forth herein, then Seller may terminate this Agreement by written notice to Purchaser and neither party shall have any further obligation hereunder. The Deposit may be held in an interest bearing account. The parties waive any claim to interest resulting from such Deposit. The escrow account shall conform to the Virginia Real Estate Board Regulations, and the deposit shall not be released by the Escrow Agent until (i) Seller and Purchaser have agreed in writing as to its disposition, (ii) a court of competent jurisdiction orders a disbursement of the funds, or (iii) the Escrow Agent can pay the funds to the party in the transaction who is entitled to receive them in accordance with clear and explicit terms of the Agreement which established the deposit. If option (iii) is selected, then, prior to the disbursement, the Escrow Agent shall give written notice to the party to the transaction not to receive the deposit, by hand delivery receipted for by the addressee or by certified mail, return receipt requested, that this payment will be made unless a written protest from such party is received by the Escrow Agent within 30 days of the delivery or mailing of the notice. If the notice is sent within 90 days of the date of nonconsummation, the Escrow Agent may send the notice by receiptable e-mail or facsimile if such email address or facsimile information is set forth herein or provided by the recipient.

***7. SETTLEMENT; POSSESSION:** Settlement shall be made at the offices of Hill and Rainey on or before [select one box and insert closing date]:
 May 31st, 2013, or a reasonable time thereafter if the Purchaser or Seller is making diligent effort to satisfy any contingencies contained in this Agreement.
 OR
 _____, 20____, and subject to Seller's right to cure any title defects as set forth in Paragraph 22B, if settlement does not occur within ten (10) days following such date, a party who is ready, willing and able to close under the terms of this Agreement may terminate this Agreement by written notice to the other party, and subject

to the provisions of Paragraph 6, Purchaser's Deposit shall be refunded in full to Purchaser, and neither party shall have any further obligation hereunder.

Possession of the Property shall be given at settlement, unless otherwise agreed in writing by the parties. Seller and Purchaser authorize and direct the settlement agent to provide a unified copy of the HUD-1 Settlement Statement for this transaction to the Seller, Purchaser, Listing Broker and Selling Broker. Failure to check one box above shall not invalidate this Agreement. The settlement date shall be as inserted above.

***8. OCCUPANCY DISCLOSURE:** Purchaser intends to occupy not occupy the Property as a principal residence.

***9. RESIDENTIAL PROPERTY DISCLOSURE:** Seller represents that the Property **[select one]:** is is not subject to the Virginia Residential Property Disclosure Act, Sections 55-517 et. seq. of the Code of Virginia, which requires the Seller of certain residential property to furnish the Purchaser with a Residential Property Disclosure Statement. Property Disclosure **[select one]** is is not attached. (Attachment does not become part of this Agreement.)

10. FAIR HOUSING DISCLOSURE: All offers shall be presented and considered without regard to race, color, religion, sex, handicap, familial status, elderliness or national origin as well as all classes protected by the laws of the United States, the Commonwealth of Virginia and applicable local jurisdiction.

***11. PROPERTY OWNERS' ASSOCIATION DISCLOSURE:** The Seller represents that the Property **[select one]:**
 is is not located within a development which is subject to the Virginia Property Owners' Association Act (Sections 55-508 et. seq. of the Code of Virginia) (the "Act"). If the Property is within such a development, the Act requires the Seller to obtain from the property owners' association an association disclosure packet and provide it to the Purchaser, or Purchaser's authorized agent. The information contained in the association disclosure packet shall be current as of the specified date on the disclosure packet. The Purchaser may cancel this Agreement (a) within 3 days after the date of this Agreement, if on or before the date that the Purchaser signs this Agreement, the Purchaser receives the association disclosure packet or is notified that the association disclosure packet is not available; (b) within 3 days after receiving the association disclosure packet, if the association disclosure packet or notice that the association disclosure packet will not be available is hand delivered or delivered by electronic means and a receipt obtained; or (c) within 6 days after the postmark date if the association disclosure packet or notice that the association disclosure packet will not be available is sent to the Purchaser by United States mail. The Purchaser may also cancel this Agreement at any time prior to settlement if the Purchaser has not been notified that the association disclosure packet will not be available and the association disclosure packet is not delivered to the Purchaser. Notice of cancellation shall be provided to the Seller (owner) or his agent by one of the following methods: (i) hand delivery; (ii) United States mail, postage prepaid, provided the sender retains sufficient proof of mailing, which may be either a United States postal certificate of mailing or a certificate of service prepared by the sender confirming such mailing; (iii) electronic means provided the sender retains sufficient proof of the electronic delivery, which may be an electronic receipt of delivery, a confirmation that the notice was sent by facsimile, or a certificate of service prepared by the sender confirming the electronic delivery; or (iv) overnight delivery using a commercial service or the United States Postal Service. In the event of a dispute, the sender shall have the burden to demonstrate delivery of the notice of cancellation. Such cancellation shall be without penalty, and the Seller shall cause any deposit to be returned promptly to the Purchaser, but not later than thirty days from the date of cancellation. Seller shall provide written instructions to the Association for delivery of the disclosure packet to Purchaser or Purchaser's authorized agent. The right to receive the association disclosure packet and to cancel this Agreement terminates at settlement. If the Purchaser has received the association disclosure packet, the Purchaser has a right, at Purchaser's sole expense, to request an update of such disclosure packet from the property owners' association in accordance with subsection H of Section 55-509.6 or subsection B of Section 55-509.7 as appropriate. A request for an updated disclosure packet does not extend the cancellation periods set forth above.

***12. CONDOMINIUM DISCLOSURE:** The Seller represents that the Property **[select one]:** is is not a condominium resale, which is subject to the Virginia Condominium Act (Section 55-79.39 et seq. of the Code of Virginia) (the "Condominium Act"). If the Property is a condominium resale, the Condominium Act requires the Seller to obtain from the unit owners' association a resale certificate and provide it to the Purchaser or purchaser's authorized agent. The information contained in the resale certificate shall be current as of the specified date on the resale certificate. The Purchaser may cancel this Agreement (a) within 3 days after the date of this Agreement, if on or before the date that the Purchaser signs this Agreement, the Purchaser receives the resale certificate; (b) within 3 days after receiving the resale certificate if the resale certificate is hand delivered or delivered by electronic means and a receipt obtained; or (c) within 6 days after the postmark date if the resale certificate is sent to the Purchaser by United States mail. Notice of cancellation shall be provided to the Seller (owner) or his agent by one of the following methods: (i)

hand delivery; (ii) United States mail, postage prepaid, provided the sender retains sufficient proof of mailing, which may be either a United States postal certificate of mailing or a certificate of service prepared by the sender confirming such mailing; (iii) electronic means provided the sender retains sufficient proof of the electronic delivery, which may be an electronic receipt of delivery, a confirmation that the notice was sent by facsimile, or a certificate of service prepared by the sender confirming the electronic delivery; or (iv) overnight delivery using a commercial service or the United States Postal Service. In the event of a dispute, the sender shall have the burden to demonstrate delivery of the notice of cancellation. Such cancellation shall be without penalty, and the Seller shall cause any deposit to be returned promptly to the Purchaser, but not later than thirty days from the date of cancellation. Seller shall provide written instructions to the Association for the delivery of the resale certificate to Purchaser or Purchaser's authorized agent. The right to receive the resale certificate and to cancel this Agreement terminates at settlement. If the Purchaser has received the resale certificate, the Purchaser has a right, at Purchaser's sole expense, to request from the unit owners' association a resale certificate update or financial update in accordance with Section 55-79.97:1. A request for an updated resale certificate does not extend the cancellation periods set forth above.

13. MECHANIC'S LIEN DISCLOSURE: Virginia law (§43-1 et seq.) permits persons who have performed labor or furnished materials for the construction, removal, repair or improvement of any building or structure to file a lien against the Property. This lien may be filed at any time after the work is commenced or the material is furnished, within 90 days from the last day of the month in which the lienor last performed work or furnished materials or 90 days from the time the construction, removal, repair or improvement is terminated. **AN EFFECTIVE LIEN FOR WORK PERFORMED PRIOR TO THE DATE OF SETTLEMENT MAY BE FILED AFTER SETTLEMENT. LEGAL COUNSEL SHOULD BE CONSULTED.** Seller shall deliver to Purchaser at settlement an affidavit in a form acceptable to Purchaser's title company, signed by Seller, that no labor or materials have been furnished to the Property within the statutory period for the filing of mechanics' or materialmen's liens against the Property. If labor or materials have been furnished to the Property during the statutory period, Seller shall deliver to Purchaser an affidavit signed by Seller and the person(s) furnishing the labor and/or materials that such items have been paid.

***14. PROPERTY INSPECTION [select one]:**

Purchaser waives a property inspection of the Property.

OR

Seller hereby grants to Purchaser the right to have the Property inspected by firm(s) selected by the Purchaser at Purchaser's expense and to request repair and/or repair credit of defects revealed. Inspections may include, but are not limited to, all structural and building components and systems, radon gas, underground storage tanks, soil condition, environmental testing and engineering studies. The term "defects" as used in this paragraph shall mean (i) a condition which impairs the normal stability, safety or use of any improvements (buildings) on the Property, or (ii) damage to any part of the improvements, but shall exclude any cosmetic flaws, antiquated systems or grandfathered components that are in working order but would not comply with current building code if constructed or installed today.

Purchaser shall provide Seller with an inspection report, cost of repairs and a written request for repair and/or repair credit of such defects **NO LATER THAN: [select one]:** _____ days after this Agreement is fully executed by the parties **OR** _____ (Time) on _____ (Date). If no box is checked, the parties agree that Purchaser shall provide Seller with an inspection report, cost of repairs and a written request for repair and/or repair credit for such defects no later than ten (10) days after this Agreement is fully executed by the parties. If Purchaser has not submitted the inspection report, cost of repairs and a written request for repairs and/or repair credit for such defects to Seller by said date, then Purchaser waives the right to request repairs and/or a repair credit, agrees that the present condition of the Property is satisfactory, and will proceed to Settlement in accordance with the Purchase Agreement. Seller shall respond in writing to Purchaser's repair request within seven (7) days of its receipt (the "Negotiation Period"). If Seller agrees in writing to accept such request, then the parties shall proceed to settlement. If Seller does not respond in writing within the Negotiation Period, then Seller shall be deemed to have rejected Purchaser's repair request.

At any time during the Negotiation Period, (i) Purchaser shall have the right to accept in writing Seller's currently offered repairs and/or repair credit and the parties shall proceed to settlement, and (ii) Seller shall have the right to agree in writing to make the repairs and/or repair credit then requested by Purchaser and the parties shall proceed to settlement. No party may unilaterally terminate this Agreement during the Negotiation Period, provided however, if, by 5:00 p.m. on the seventh (7th) day of the Negotiation Period, no final agreement is reached as to the repairs, Purchaser shall have until 5:00 p.m. on the second day after the end of the Negotiation Period to either: (i) terminate this Agreement by written notice to Seller, or (ii) accept in writing Seller's last offered repairs and/or repair credit and proceed to settlement. If Purchaser terminates this Agreement or fails to notify Seller of its election within the said two (2) day period, then this Agreement shall terminate, and subject to the provisions of Paragraph 6, Purchaser's Deposit shall be refunded in full to Purchaser, and neither party shall have any further obligation hereunder.

All repairs pursuant to this Paragraph 14 shall be made in a workmanlike manner. Seller shall have all utilities supplied to all systems prior to the inspection. If Seller fails to have all utilities supplied to all systems prior to Purchaser's inspection, then the expiration of the inspection period set forth above shall be extended until ten (10) days following the date that Purchaser is notified by Seller that all utilities have been supplied to all systems. Purchaser and Seller, their heirs, and assigns, hereby jointly and severally release and forever discharge the Listing and Selling Brokers and its real estate licensees in this transaction, from any and all liabilities, obligations, causes of action, claims and demands whatsoever arising out of or in any way connected with any or all work performed, materials furnished or inspections performed in connection with the captioned Property by contractors, suppliers or inspectors hired by them on behalf of the parties of this Agreement. Purchaser and Seller acknowledge that the provisions of this Paragraph 14 are in addition to treatments or repairs made pursuant to Paragraphs 22E, 22F and 22G.

15. DEFAULT: If either Seller or Purchaser defaults under this Agreement, the defaulting party, in addition to all other remedies available at law or in equity, shall be liable for the brokerage fees set forth in Paragraph 17 and any brokerage fees set forth in Seller's Listing Agreement with the Listing Broker for the Property (which document is hereby incorporated herein by this reference) as if this Agreement and Seller's Listing Agreement had been performed, and for any damages and all expenses incurred by the non-defaulting party, the Listing Broker and the Selling Broker in connection with this transaction and the enforcement of this Agreement and Seller's Listing Agreement, including, without limitation, attorney's fees and court costs. Payment of a real estate broker's fee as the result of a transaction relating to the Property which occurs subsequent to a default under this Agreement, shall not relieve the defaulting party of liability for any brokerage fees due under this Agreement or Seller's Listing Agreement, or for any damages and expenses, including attorney's fees and court costs, incurred by the non-defaulting party, the Listing Broker and the Selling Broker in connection with this transaction.

16. Choice of Settlement Agent: Chapter 27.3 (§ 55-525.16 et seq.) of Title 55 of the Code of Virginia provides that the purchaser or borrower has the right to select the settlement agent to handle the closing of this transaction. The settlement agent's role in closing this transaction involves the coordination of numerous administrative and clerical functions relating to the collection of documents and the collection and disbursement of funds required to carry out the terms of the contract between the parties. If part of the purchase price is financed, the lender for the purchaser will instruct the settlement agent as to the signing and recording of loan documents and the disbursement of loan proceeds. No settlement agent can provide legal advice to any party to the transaction except a settlement agent who is engaged in the private practice of law in Virginia and who has been retained or engaged by a party to the transaction for the purpose of providing legal services to that party.

Variation by agreement: The provisions of Chapter 27.3 (§ 55-525.16 et seq.) of Title 55 of the Code of Virginia may not be varied by agreement, and rights conferred by this chapter may not be waived. The seller may not require the use of a particular settlement agent as a condition of the sale of the property.

Escrow, closing, and settlement service guidelines: The Virginia State Bar issues guidelines to help settlement agents avoid and prevent the unauthorized practice of law in connection with furnishing escrow, settlement or closing services. As a party to a real estate transaction, the purchaser or borrower is entitled to receive a copy of these guidelines from his settlement agent, upon request, in accordance with the provisions of Chapter 27.3 (§ 55-525.16 et seq.) of Title 55 of the Code of Virginia.

***17. BROKERAGE FEE:** Selling Broker is to be paid a fee of 6 % of the gross sales price OR \$ _____ by Seller or by Seller. Listing Broker is to be paid the fee stated in the Listing Agreement executed by Seller, less any amount due Selling Broker. Seller hereby authorizes and directs the settlement agent to disburse to the Listing Broker and the Selling Broker from Seller's proceeds the respective brokerage fees at settlement.

***18. HOME WARRANTY INSURANCE:** Purchaser has been advised of the availability of a one year warranty program and declines coverage OR elects to purchase the home warranty program. The cost of the _____ home warranty program is \$ _____ and is to be paid by Purchaser OR Seller at settlement. The parties acknowledge that Listing and/or Selling Brokers and their respective licensees may receive a fee for each home warranty sold.

19. RELATED BUSINESS AND SERVICES: The Listing Broker and Selling Broker may engage in mortgage loan, homeowner's and title insurance, real estate settlement, home warranty and other real estate related businesses and services from which they receive compensation during the course of this transaction, in addition to the real estate brokerage fees.

6.

20. PURCHASER DISCLOSURE: Purchaser warrants he/she does not own any real or personal property that must be sold and settled prior to the settlement of this Agreement, except as disclosed in this Agreement.

***21. ADDITIONAL TERMS:**

Forms attached: Right of First Refusal -Contingency of Purchaser getting a Grant

Disclosure of Dual Agency

Summary of Rights

Exclusive Right to represent buyer agreement

Property is located in Sussex County with a Disputanta VA 23842 mailing address

Purchaser elects on down (check one) elect to purchase Title Insurance through Pinnacle Title Agency, Inc. Refrain Commonwealth will advise closing Attorney. The Real Estate Agency owns an interest in Georgia Commonwealth Title Agency which has a 23% ownership interest in Pinnacle

22. STANDARD PROVISIONS: Title Agency, Inc.

A. EXPENSE PRORATIONS: Seller agrees to pay the expense of preparing the deed and the applicable grantors tax, release fees, and any other fees applicable to the grantor by custom. Except as otherwise agreed herein, Purchaser shall pay all expenses incurred by Purchaser in connection with this Agreement, including without limitation, title examination fees, title insurance premiums, survey costs, recording costs and Purchaser's attorney's fees. All taxes, assessments, interest, rent escrow deposits and other ownership fees, if any, shall be prorated as of the date of settlement. In addition to the Purchase Price, Purchaser agrees to pay Seller for all fuel oil and propane/LP gas remaining in any tanks (if applicable) at the prevailing market price as of the date of settlement.

B. TITLE: At settlement Seller shall convey the Property to Purchaser by a general warranty deed containing English covenants of title, free of all encumbrances, tenancies, and liens (for taxes or otherwise), but subject to such restrictive covenants and utility easements of record which do not materially and adversely affect the use of the Property for residential purposes or render the title unmarketable. If the Property does not abut a public road, title to the Property must include a recorded easement providing adequate access thereto. In the event this sale is subject to a financing contingency under Paragraph 4, the access to a public road must be acceptable to the lender. If the examination reveals a title defect that can be remedied by legal action or otherwise within a reasonable time, Seller, at his/her expense, shall promptly take such action as is necessary to cure such defect. If the defect is not cured within sixty (60) days after Seller receives notice of the defect, then either party may terminate this Agreement at the expiration of such sixty (60) day period by written notice to the other party. Upon termination of this Agreement, and subject to the provisions of Paragraph 6, Purchaser's Deposit shall be refunded in full to Purchaser and neither party shall have any further obligation hereunder. The parties agree that the settlement date prescribed in Paragraph 7 shall be extended if necessary to enable Seller to cure any title defect, but not for more than sixty (60) days, time being of the essence.

C. LAND USE ASSESSMENT: In the event the Property is taxed under land use assessment and this sale results in disqualification from land use eligibility, Seller shall pay any rollback taxes assessed. If the Property continues to be eligible for land use assessment, Purchaser agrees to make application at Purchaser's expense for continuation under land use, and to pay any rollback taxes resulting from failure to file or to qualify. Notwithstanding anything herein to the contrary, the provisions of this Paragraph C shall survive settlement and the delivery of the deed.

D. RISK OF LOSS: All risk of loss or damage to the Property by fire, windstorm, casualty or other cause is assumed by Seller until settlement. In the event of substantial loss or damage to the Property before settlement, Purchaser shall have the option of either (i) terminating this Agreement, and subject to the provisions of Paragraph 6, Purchaser's Deposit shall be refunded in full to Purchaser and neither party shall have any further obligation hereunder, or (ii) affirming this Agreement, in which event Seller shall assign to Purchaser all of Seller's rights under any policies of insurance applicable to the Property.

E. EQUIPMENT CONDITION AND INSPECTION: Purchaser agrees to accept the Property at settlement in its physical condition at the time this Agreement is fully executed by all parties, except as otherwise provided herein. Seller warrants that all appliances, heating and cooling equipment, plumbing systems and electrical systems will be in working order at the time of Settlement or at Purchaser's occupancy, whichever occurs first. Seller agrees to deliver the Property in broom-clean condition and to exercise reasonable and ordinary care in the maintenance and upkeep of the Property between the date this Agreement is executed by Seller and Settlement or at Purchaser's occupancy, whichever occurs first. Seller grants to Purchaser or his representatives the right to make a pre-occupancy or pre-settlement inspection to verify that the condition of the Property conforms to this Agreement and to ensure that repairs, if any, have been completed.

F. WELL AND SEPTIC: If the Property is served by an on-site well and/or sewage disposal systems, Seller agrees to furnish Purchaser with certificate dated not more than 30 days prior to settlement from the appropriate governmental authority or from a licensed and insured private company, indicating that the well water is free from contamination by coliform bacteria and that there is no evidence of malfunction of the sewage disposal system. If Purchaser obtains a FHA/VA loan, the well

water shall also be tested by Seller and certified as being free from lead contamination. If contamination and/or malfunctions are found, Seller shall repair all malfunctions and correct the contamination at Seller's expense. Subject to the limitation set forth in Paragraph H below, if Seller fails to comply with any provision of this paragraph, then Purchaser may: (i) utilize the remedies set forth in Paragraph 15; (ii) accept the Property in its current condition; or (iii) terminate this Agreement by written notice to Seller, and subject to the provisions of Paragraph 6, Purchaser's Deposit shall be refunded in full to Purchaser, and neither party shall have any further obligation hereunder.

G. WOOD INFESTATION: Prior to settlement, Seller shall furnish Purchaser with an inspection report from a Virginia licensed termite control company concerning the presence of, or damage from, termites or other wood destroying insects. If the inspection reveals active infestation or damage caused by wood destroying insects, whether past or present, to the (i) primary dwelling, (ii) any other dwelling(s) on the Property with a valid certificate of occupancy, and (iii) the following additional structures _____ Seller shall have the affected area treated and have the damage repaired by a reputable company. The treatment company shall furnish a one-year warranty on such treatment. Subject to the limitation imposed by Paragraph H below, if Seller fails to comply with any provision of this paragraph, Purchaser may: (i) utilize the remedies set forth in Paragraph 15; (ii) accept the Property in its current condition; or (iii) terminate this Agreement by written notice to Seller, and subject to the provisions of Paragraph 6, Purchaser's Deposit shall be refunded in full to Purchaser, and neither party shall have any further obligation hereunder.

***H. LIMITATION:** If the total costs of fulfilling Seller's repair or treatment obligations set forth in Paragraphs F and G above exceeds \$ _____ ("Repair Limit"), then Seller shall have the option to: (i) fulfill Seller's obligations set forth herein; or (ii) pay or credit the Repair Limit to Purchaser and refuse to pay any excess of the Repair Limit. If Seller elects option (ii), Purchaser shall have the right to either accept the Property in its present condition (in which case the Seller shall pay or credit the Repair Limit to Purchaser at settlement), or to terminate this Agreement by written notice to Seller, and subject to the provisions of Paragraph 6, Purchaser's Deposit shall be refunded in full to Purchaser, and neither party shall have any further obligation hereunder. If no Repair Limit is entered in this paragraph, the parties agree that the amount shall be \$1,000.00. The Repair Limit is independent of any obligations agreed to by Seller pursuant to Paragraph 14 or any inspection/repair addendum.

I. VA/FHA Loans: It is expressly agreed that notwithstanding any other provisions of this Agreement, the Purchaser shall not be obligated to complete the purchase of the Property described herein or to incur any penalty by forfeiture of earnest money deposits or otherwise unless the Purchaser has been given in accordance with HUD/FHA or VA requirements a written statement by the Federal Housing Commissioner, Veterans Administration, or a director endorsement lender setting forth the appraised value of the Property of not less than the Purchase Price. The Purchaser shall have the privilege and option of proceeding with consummation of this Agreement without regard to the amount of the appraised value. The appraised value is arrived at to determine the maximum mortgage the Department of Housing and Urban Development will insure. HUD does not warrant the value or the condition of the Property. The Purchaser should satisfy himself/herself that the price and condition of the Property are acceptable.

J. NONBINDING MEDIATION: Unless waived by mutual agreement of the parties, any disputes or claims arising out of this Agreement (except matters involving mechanics liens or licensing) shall be submitted to mediation prior to instituting arbitration or litigation. The cost of mediation will be shared equally between Purchaser and Seller. The mediation shall be non-binding, unless a satisfactory settlement has been reached. Thus, if no settlement is reached, the parties are not bound by the mediation and may pursue any course of action. If a settlement is reached, it shall be binding upon the parties. The mediation shall be provided by a mutually agreeable mediator. Judicial actions to provide provisional remedies, such as an injunction or a lis pendens, shall not be prohibited by the agreement to mediate, nor shall it waive a party's right to mediate.

K. MISCELLANEOUS: This Agreement represents the entire agreement between Seller and Purchaser and may not be modified or changed except by written instrument executed by the parties. This Agreement shall be construed according to the laws of the Commonwealth of Virginia and shall be binding upon and shall inure to the benefit of the heirs, personal representatives, successors, and assigns of the parties. To the extent any handwritten or typewritten terms herein conflict with, or are inconsistent with the pre-printed terms hereof, the handwritten or typewritten terms shall control. This Agreement may only be assigned by Purchaser with the written consent of the Seller. If the Seller agrees in writing to an assignment of this Agreement, Purchaser shall remain obligated hereunder until settlement. The parties agree that faxed or electronic transmission of any signed original document shall have the same effect as an original. As used in this Agreement, a "day" shall mean a calendar day unless otherwise noted. This Agreement may be signed in one or more counterparts, each of which is deemed to be an original and all of which shall together constitute the same instrument. No party will refuse delivery of any notice from the other party in order to hinder or delay any deadline established in this Agreement. UNLESS OTHERWISE PROVIDED HEREIN, THE PROVISIONS OF THIS AGREEMENT AFFECTING TITLE SHALL BE DEEMED MERGED INTO THE DEED DELIVERED AT SETTLEMENT AND SHALL NOT SURVIVE SETTLEMENT.

23. SELLER REPRESENTATION: Seller warrants that the person(s) signing this Agreement as "Seller" include(s) every person who possesses an ownership interest in the Property or who will be a necessary party to convey clear title to the Property.

*24. ELECTRONIC SIGNATURES. _____/_____/_____ If this paragraph is initialed by both parties, then in accordance with the Uniform Electronic Transactions Act (UETA) and the Electronic Signatures in Global and National Commerce Act, or E-Sign, regarding electronic signatures and transactions, the parties do hereby expressly authorize and agree to the use of electronic signatures as an additional method of signing and/or initialing this Agreement. The parties hereby agree that either party may sign electronically by utilizing an electronic signature service.

*25. ACCEPTANCE: Unless both Seller and Purchaser accept this offer in writing by 8:00 a.m. or p.m. on 03/02/13, this offer shall expire. Purchaser and Seller understand that they shall have the right to withdraw any offer at any time prior to receipt of a fully executed Agreement by all parties. If either party withdraws an offer, notice may be given in person, by telephone or electronic transmission, or by U.S. mail sent to the other party or such party's real estate licensee, and shall be deemed effective upon hand delivery, upon transmittal by electronic transmission or upon deposit in a mailbox. Should any offer be withdrawn, all Deposits shall be returned to the Purchaser at no penalty.

WITNESS the following authorized signatures:

<u>[Signature]</u> Purchaser	<u>President Meadowview Biological Research Station</u> Date <u>2/28/13</u>	<u>[Signature]</u> Seller	<u>Al J. Schwartz</u> Date <u>3/02/13</u>
_____	_____	<u>[Signature]</u> Seller	<u>Suzanne Schwartz</u> Date <u>3/02/13</u>
_____	_____	_____	_____

The following is for informational purposes only:

Selling Company's Name and address

Listing Company's Name and Address

RE/MAX Commonwealth

RE/MAX Commonwealth

9401 Courthouse Rd St 200

Same as Selling Company

Chesterfield VA 23832

Office Phone 1-804-530-9919

Office Phone _____

Office Fax 1-804-423-2352

Office Fax _____

Purchaser's Salesperson Information:

Seller's Salesperson Information:

Name Connie Felts

Name _____

Email ccfelts@verizon.net

Email _____

COPYRIGHT©2012 by the Central Virginia Regional MLS, LLC (CVRMLS). All rights reserved. This form may be used only by members in good standing of the CVRMLS. The reproduction of this form, in whole or in part, or the use of the names "Central Virginia Regional MLS" or "CVRMLS", in connection with any other form, is prohibited without prior written consent of CVRMLS

**ADDENDUM TO PURCHASE AGREEMENT
RIGHT OF FIRST REFUSAL**

THIS ADDENDUM to the Purchase Agreement dated 2-28-13 (the "Purchase Agreement") for the sale of 22857 Cabin Point Rd. (the "Property") by and between Al J. AND Suzanne Schwartz ("Seller") and Meadowview Biological Research Station ("Purchaser") shall be attached to and made a part of the Agreement.

The Purchase Agreement is hereby made contingent upon ~~the sale and settlement of Purchaser's~~ property located at A Grant to purchase (the "Contingency"). Seller reserves the right to continue to market the Property for sale through the term of the Contingency.

1. **Offer From Third-party.** During the Contingency period, if Seller accepts from a third party a bona-fide written offer to purchase the Property which shall be subject to this Right of First Refusal (the "Subsequent Contract"), Seller shall give written notice to Purchaser of the existence of said contract. Purchaser shall then have 24 hours (the "Response Period"), commencing upon presentation of the written notice to Purchaser, to waive the Contingency. If the Contingency is not waived within the Response Period, the Purchase Agreement shall terminate in accordance with paragraph 3 below.
2. **Optional Provisions.** Purchaser may not waive the Contingency during the Response Period unless [the parties shall initial all provisions that apply]:

Purchaser receives a fully executed purchase agreement for the purchase of the contingent property from a buyer who has obtained a written loan commitment for such purchase, and neither the purchase agreement nor the loan commitment is conditioned upon the sale of another property.

Other:

3. **Termination:** Time is of the essence in this Addendum. If: (i) written notice of the waiver of the Contingency is not received by Seller within the Response Period; or (ii) Purchaser is unable or unwilling to satisfy the requirements as set forth in paragraph 2 within the Response Period; or (iii) the Contingency is not satisfied by MAY 31 13 (date), then the Purchase Agreement shall terminate and thereupon, Purchaser's deposit shall be refunded in full, and neither party shall have any further obligation thereunder. *SELLER RESERVES THE RIGHT TO EXTEND THE CONTRACT IF THEY HAVE NO OTHER OFFER AND PURCHASER WANTS TO EXTEND.*
4. **Waiver Without Consent:** Purchaser may waive the Contingency without the consent of Seller if Purchaser has (i) obtained a written loan commitment for the Property that is not contingent upon the sale of the contingent property or any other property, or (ii) provided Seller with written verification that sufficient cash funds are on deposit to purchase the Property.

**Instant
Forms**

This form was produced by Dennis Felts. CVA RES forms may be used only by members in good standing of the Central Virginia Regional RES.

RESIDENTIAL PROPERTY DISCLOSURE STATEMENT

NOTICE TO SELLER AND PURCHASER

The Virginia Residential Property Disclosure Act (§ 55-517 et seq. of the Code of Virginia) requires the owner of certain residential real property, whenever the property is to be sold or leased with an option to buy, to furnish this form to the purchaser and to refer the purchaser to a Virginia Real Estate Board website for additional information. Certain transfers of residential property are excluded from this requirement (see § 55-518).

Property Address/ 22957 Cabin Point Rd in Sussex VA
Legal Description: The Elms Subd Cabin Pt PCL 3A 000011479

The owner makes no representations with respect to the matters set forth and described at the RESIDENTIAL PROPERTY DISCLOSURES web page. The purchaser is advised to consult the website (http://www.dpor.virginia.gov/dporweb/reb_consumer.cfm) for important information about the real property.

The undersigned owner(s) represents that there are no pending enforcement actions pursuant to the Uniform Statewide Building Code (§ 36-97 et seq.) that affect the safe, decent, and sanitary living conditions of the real property described above of which the owner has been notified in writing by the locality, nor any pending violation of the local zoning ordinance which the violator has not abated or remedied under the zoning ordinance, within a time period set out in the written notice of violation from the locality or established by a court of competent jurisdiction, except as disclosed on this statement.

The owner(s) acknowledge having carefully examined this statement and further acknowledge that they have been informed of rights and obligations under the Virginia Residential Property Disclosure Act.

Al J. Schwartz 3/02/13 Suzanne Schwartz 3/02/13
Owner Date Owner Date
Al J. Schwartz Suzanne Schwartz

The purchaser(s) acknowledge receipt of a copy of this disclosure statement and further acknowledge that they have been informed of their rights and obligations under the Virginia Residential Property Disclosure Act.

Meadowview Biological Resources 2/28/13
Purchaser Date Purchaser Date
Meadowview Biological Resources 2/28/13

DPOR 7/11



12
**DISCLOSURE OF DUAL AGENCY OR DUAL REPRESENTATION*
 IN A RESIDENTIAL REAL ESTATE TRANSACTION**

The undersigned do hereby acknowledge disclosure that the licensee Connie Felts
 (Broker or Salesperson) associated with RE/MAX Commonwealth (Brokerage Firm) represents more than one
 party in this residential real estate transaction as follows:

- A. The Licensee represents the** **Seller** OR **Landlord as a (select one below):**
 Standard Agent OR **Limited Service Agent** OR **Independent Contractor**
- B. The Licensee represents the** **Buyer** OR **Tenant as a (select one below):**
 Standard Agent OR **Limited Service Agent** OR **Independent Contractor**

*"Dual agent" means representing a client as a standard agent or as a limited service agent. "Representative" means representing a client as an independent contractor.

C. Brokerage Firm disclosure and client acknowledgement of the following (select one):

BOTH CLIENTS ARE EXISTING CLIENTS

Brokerage Firm represents two existing clients in the transaction and the undersigned acknowledge the following:

The undersigned understand that the foregoing dual agent or dual representative may not disclose to either client any information that has been given to the dual agent or representative by the other client within the confidence and trust of the brokerage relationship except for that information which is otherwise required or permitted by § 54.1-2130 et seq. of the Code of Virginia to be disclosed.

OR

ONE EXISTING CLIENT ONE NEW CLIENT

Brokerage Firm represents one existing client and one new client in the transaction and the undersigned acknowledge the following:

The undersigned understand:

1. That following the commencement of dual agency or representation, the licensee cannot advise either party as to the terms to offer or accept in any offer or counteroffer; however, the licensee may have advised one party as to such terms prior to the commencement of dual agency or representation;
2. That the licensee cannot advise the buyer client as to the suitability of the property, its condition (other than to make any disclosures as required by law of any licensee representing a seller), and cannot advise either party as to what repairs of the property to make or request;
3. That the licensee cannot advise either party in any dispute that arises relating to the transaction;
4. That licensee may be acting without knowledge of the client's needs, client's knowledge of the market, or client's capabilities in dealing with the intricacies of real estate transactions; and
5. That either party may engage another licensee at additional cost to represent their respective interests.

The undersigned by signing this notice do hereby acknowledge their consent to the disclosed dual representation by the licensee.

SELLER/LANDLORD
 3/02/13 Al Schwartz
 Date Signature

BUYER/TENANT
 2/28/13 BRK
 Date Signature

*President
 Mr. [unclear]
 [unclear] Schwartz*

SELLER/LANDLORD
 3/02/13 Suzanne Schwartz
 Date Signature

BUYER/TENANT

 Date Signature

Disclosure - Dual 7/2012

This form was produced by Connie Felts. 098 NLR Form may be used only by members in good standing of the Central Virginia Regional NLR.





**SUMMARY OF RIGHTS AND OBLIGATIONS
OF SELLERS AND PURCHASERS UNDER
THE VIRGINIA RESIDENTIAL PROPERTY DISCLOSURE ACT**



Virginia's Residential Property Disclosure Act (the "Act") (Virginia Code §§55-517 et seq.) requires real estate licensees to inform the parties to a transaction with whom they deal of their rights and obligations under the Act. The licensee providing this information to you is prepared to answer any questions you may have about what the Act means to you, and to furnish you with a copy of the Act at your request.

The Act applies to sales, exchanges, installment sales, or leases with option to purchase of residential real property improved with one to four dwelling units. The Act does not apply to: transfers pursuant to court order (in estate administration, pursuant to writ execution, foreclosure, bankruptcy, condemnation, or by decree for specific performance); transfers among co-owners; transfers among spouses; transfers among parents or grandparents and their children or grandchildren; tax sales; transfers involving a government or housing authority; or (subject to certain exceptions discussed below) sales of new homes.

The Act requires sellers to furnish purchasers with a disclosure statement developed by the Virginia Real Estate Board. The statement must be furnished to the purchaser before final ratification of the purchase contract or the purchaser may terminate the contract or sue later for damages. The statement will direct purchasers to the RESIDENTIAL PROPERTY DISCLOSURES web page (http://www.dpor.virginia.gov/dporweb/reb_consumer.cfm) for important information about the real property. Purchasers are advised to consult the webpage.

A seller, in furnishing a disclosure statement, makes no representations or warranties as to the condition of the property or any improvements located thereon, nor with respect to the matters set forth and described at the RESIDENTIAL PROPERTY DISCLOSURES web page (http://www.dpor.virginia.gov/dporweb/reb_consumer.cfm). Purchaser is advised to exercise whatever due diligence purchaser deems necessary including a certified home inspection, as defined in §54.1-580, in accordance with the terms and condition of the purchase contract, but in any event prior to settlement.

A builder of a new home must disclose to a purchaser in writing all known material defects which would constitute a violation of any applicable building code. In addition, for property located wholly or partially in any locality comprising Planning District 15 (the City of Richmond, the Town of Ashland, and the counties of Charles City, Chesterfield, Goochland, Hanover, Henrico, New Kent and Powhatan), the builder (or seller, if the owner is not the builder) shall disclose in writing whether mining operations have previously been conducted on the property or the presence of any abandoned mines, shafts or pits. This disclosure does not abrogate any warranty or other obligations the builder may have to the purchaser, and must be made (i) when selling a completed home, before acceptance of the purchase contract, or (ii) when selling a home before or during construction, after issuance of a certificate of occupancy. No disclosure or statement of any kind is required if there is no such information to disclose. Any required disclosure may be, but need not be, contained in the disclosure statement described in this Summary.

A purchaser must be furnished with a disclosure statement signed by the seller prior to final ratification of the purchase contract. If such statement is not received by final ratification, the purchaser's sole remedy shall be to terminate the purchase contract by sending written notice to the seller either by hand delivery or U. S. Mail, postage prepaid, at or prior to the earliest of (i) 3 days after receiving the statement (if delivered in person); (ii) 5 days after postmark (if sent by U. S. Mail, postage prepaid); (iii) settlement; (iv) occupancy by purchaser; (v) purchaser's making written application for a mortgage loan if such application discloses that the termination right ends upon application; (vi) purchaser's execution of a written waiver of the right to terminate (such waiver may not be in the purchase contract).

If the seller fails to provide the required disclosure statement, the contract may be terminated as set forth above. If the seller fails to provide the required disclosure statement, or the seller misrepresents, willfully or otherwise, the information required in such disclosure, except as a result of information provided by the locality in which the property is located, the purchaser may bring an action to recover actual damages suffered as a result of such violation. No purchaser of property located in a noise zone designated on the official zoning map of the locality as having a day-night average sound level of less than 65 decibels shall have a right to maintain an action for such damages. Any such action must be brought within one year of the date the purchaser received the disclosure statement. If no disclosure statement was provided to the purchaser, the action must be brought within one year of the date of settlement, or purchaser's occupancy of the property by lease with option to purchase.

Purchasers should be aware that neither a seller nor a real estate licensee is obligated to disclose facts or occurrences which have no effect on the physical structure of the property, its physical environment, or the improvements located thereon, or the fact that the property was the site of a homicide, felony, or suicide. Furthermore, it is a violation of federal law to disclose whether a previous occupant of the property was afflicted with the HIV virus or has AIDS.

Purchasers should be aware that in providing a disclosure statement:

(a) The seller is making no representations with respect to any matters that may pertain to parcels adjacent to the subject property. Purchasers should exercise whatever due diligence they deem necessary with respect to adjacent parcels in accordance with the terms and conditions of the purchase contract, but in any event prior to settlement on the subject property.

(b) The seller makes no representations as to any matters that pertain to whether the provisions of any historic district ordinance affect the property. Purchasers are advised to exercise whatever due diligence they deem necessary with respect to any historic district designated by the locality pursuant to §15.2-2306.

VAR SUM1 revised 6/11

This form was produced by Connie Felts. CVR MLS forms may be used only by members in good standing of the Central Virginia Regional MLC.



Details of Schwartz property

22957 CABIN POINT RD - ENDLESS POSSIBILITIES

Offered Exclusively by Connie Felts Offered for \$449,900

Re/Max Commonwealth 804-530-9919 804-731-1225 ccfelts@verizon.net

Discover the distinctive character of an exquisite custom built **brick** residence on **51 + - Acres** with privacy, beauty, grace, and charm. Entertain in grand style in and out with a floor plan that is family and friend friendly, and cast your fishing pole in the **acre + -** stocked pond. Possible IN-LAW SUITE.

FIRST FLOOR

ENTRY FOYER: 13'X7'4", Coat Closet, Hardwood Floor, Leaded Glass Entry Door
GREAT ROOM: 23'X17', Vaulted with Ceiling Beams, Hardwood Floor, Ceiling Fan, Accent Lights, Accent Windows, Brick Fireplace with Gas Log, Two 5' French Doors to Deck
KITCHEN: 15'X13', Vaulted, Vinyl Floor, Electric Glass Top Range, Wall Oven, Dishwasher, Custom Cabinets with Glass Accent Doors, Four Lazy Susan's, Appliance Garage, Pantry, Island with Raised Serving Bar, Accent Lights
BREAKFAST/DINING ROOM: 16'X13', Hardwood Floor, Large Window to allow views to the Pasture
LAUNDRY: W/D Hookups, Cabinets, Laundry Tub, Door to Deck
MASTER BEDROOM #1: 21'4"X13'10", Vaulted, Ceiling Fan, 2'4"X4'0" Closet, 8'2"X4' Walk in Cedar Lined Closet, Access to Sun Porch
FULL BATH #1: Vinyl Floor, Bay Window, Double Bowl Vanity, Walk in Shower, Jetted Tub, Linen Closet
MASTER BEDROOM #2: 22X17, Vaulted, Ceiling Fan, Cedar Lined Walk in Closet, Access to Sun Porch
FULL BATH #2: Vinyl Floor, Vaulted, Double Bowl Vanity, Bay Window, Walk In Shower with Grab Bar, Garden Tub, Closet, Linen Closet
HALF BATH: Cultured Marble Sink with Vanity
STAIRCASE: 3'6", Oak Staircase

FULL FINISHED BASEMENT

FAMILY ROOM: 41'X28', Vinyl, Brick Fireplace with Gas Logs, 2 Doors to Covered Patio
BEDROOM #3: 13'9"X9'7", Vinyl, Closet
BEDROOM #4: 15'4"X9'8", Vinyl, Closet right outside the room, Windows with views of Pond
OFFICE/BEDROOM #5: 15'4"X9'8", Vinyl, Clothes Hanging Rod
LAUNDRY RM: W/D Hookups, Shelving, Clothes Hanging Rod, Laundry Sink, Door to Patio
KITCHENETTE: Vinyl, Electric Range, Sink, Electric Generator Hookup
FULL BATH: 4'11"X9'8", Vinyl Floor, Cultured Marble Sink with Large Vanity, Tub/Shower

LARGE STORAGE CLOSET WITH DOUBLE DOORS

SUN PORCHES, PATIO AND DECK

2 Vaulted 12'X18' Sun Porches with Wood Ceiling and Ceiling Fans - off each Master Suite
and are recently enclosed by Champion with Vinyl Trim and
Vinyl Clad Sliding Windows with Water Views
24'X14' Deck with entry to each Sun Porch and Great Room
39'X17' Covered Cement Patio with views of Pond - Entry from Exterior and Family Rm

FEATURES

Custom Built by Dan Walters for Current Owners 1996 Brick Siding with Vinyl Clad Trim
2300 Main Level 2000 Finished Basement Total of 4300 Sq. Ft. 38'X8' Front Porch
About 10 Acres in Timber Acre+- Stocked Pond Horses Permitted
Caradco Tilt Vinyl Clad Windows with UVA Tint Central Vac
Certified Water Treatment System Propane Hot Water Heater Handicap Assessable Doors
12 Seer 2 Zone Heat & Air -Thermostat Upstairs with Duel Control, Sensor Downstairs/Propane
Gutters and Downspouts 200' Well Double Tank Septic with Pump System
Utilities average per year - \$133. Per month Propane \$130. Per month Electric

EXTRAS

30'X60' Carport Aluminum Building with Storage above
Field Fencing with Cross Fencing Goat and Llama Shelter

All information deemed reliable but not guaranteed
All sizes are +- & rounded & estimated, Sq Ft is an estimate only
Buyer to satisfy themselves with all information

Letters of Support for the Project

Carl E. Garrison III
State Forester



COMMONWEALTH of VIRGINIA

DEPARTMENT OF FORESTRY
900 Natural Resources Drive, Suite 800
Charlottesville, VA 22903
www.dof.virginia.gov
(434) 977-6555
Fax: (434) 296-2369

March 11, 2013

Dr. Phil Sheridan
President and Director
Meadowview Biological Research Station
8390 Fredericksburg Tnpk.
Woodford, VA 22580

RE: Letter of support for the proposal, "The Waste Management Center for Biodiversity At Joseph Pines Preserve".

Dear Dr. Sheridan,

Thank you for the opportunity for the Virginia Department of Forestry to express our support for the proposal "The Waste Management Center for Biodiversity at Joseph Pines Preserve".

The Virginia Department of Forestry protects and develops healthy, sustainable forest resources for Virginians. Headquartered in Charlottesville, the Agency has forestry staff members assigned to every county to provide citizen service and public safety protection across the Commonwealth. With nearly 16 million acres of forestland and more than 144,000 Virginians employed in forestry, forest products and related industries, Virginia forests provide more than \$27.5 Billion annually in benefits to the Commonwealth.

Since the early 1950's, the Department of Forestry has supported an Applied Research program that conducts structured research in the areas of pine and hardwood silviculture, tree improvement, growth and yield, and diminished species restoration. One of the most prominent recent initiatives has been the protection of native northern source longleaf pines and the restoration of the longleaf ecosystem within its original native range in southeastern Virginia.

To that end, the Department has been working for nearly two decades to protect the remaining native Virginia genotype and preserve it in a grafted native Virginia longleaf seed production area at our New Kent Forestry Center. Each year we collect as much seed as possible from the few remaining mature native longleaf still accessible (primarily on the South Quay Sandhills Natural Area Preserve owned by the Virginia Department of Conservation and Recreation) and raise native seedlings for restoration efforts.

Mission: We Protect and Develop Healthy, Sustainable Forest Resources for Virginians.

As you know, from the beginning the Meadowview Biological Research Station has played a major role in actively pursuing the same objectives with regard to longleaf pine restoration and collaborating with DOF and other stakeholders in these efforts. The expansion of your capabilities offered by this proposal is truly exciting as it would enhance the educational opportunities for landowners interested not just in longleaf but also the broader topics of biodiversity, conservation, and restoration. The additional seed production area would provide insurance that seedlings will remain available in the event of either an increasing market demand or unexpected damage to either the DOF or Meadowview orchard. At a minimum, the purchase of the Schwartz tract will secure these valuable gains. Additional funding could greatly expand the restored extent of native Virginia longleaf.

Therefore, the Virginia Department of Forestry supports the proposed education and conservation effort by the Meadowview Biological Research Station. We are excited about the opportunities this proposal would present, and would look forward to participating in and supporting your efforts. We encourage Waste Management to consider this project. Please keep us informed about the progress of this proposal.

Sincerely,

A handwritten signature in black ink, appearing to read "Jerre Creighton". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Jerre Creighton
Research Program Manager
Virginia Department of Forestry



MathScience Innovation Center

Imagine. Create. Lead.

March 11, 2013

Re: Meadowview Biological Research Station and the development of an educational center for biodiversity and the conservation, protection, and restoration of the historic endangered longleaf pine/pitcher plant ecosystem in Sussex County, Virginia.

Dear Dr. Sheridan,

As the coordinator of middle and high school special programs at the MathScience Innovation Center and director of our Summer Regional Governor's School, it is my pleasure to write this letter in support of your proposal entitled "The Waste Management Center for Biodiversity at Joseph Pines Preserve."

The MathScience Innovation Center is a STEM based educational institution in Richmond, VA. Our staff offers educational outreach to the K-12 students enrolled in the eight school divisions who are members of our consortium. This consortium includes the inner city schools of Richmond and Petersburg and their surrounding counties. Through our programs, we make contact with thousands of students every year.

Your workshop entitled "Bug Eating Plants" was well received by students in our Let's Innovate! Student Conferences for middle school youth, both in the spring of 2012 and in March, 2013. The workshop was tremendously engaging as the students explored the world of carnivorous plants, rare plants, and methods of preventing their extinction in Virginia. With a pedagogical approach that included both lecture and hands-on student involvement, the participants left the workshop with a new found appreciation for biological conservation and the role that plants play in stabilizing an ecosystem. We look forward to your continued association with the MathScience Innovation Center exploring innovative ways of explaining biodiversity and ecological sustainment to K-12 students. Your proposal to develop an educational center that focuses on these principles and offers a unique educational experience to our widely diverse population would be a tremendous resource for the Center. For instance, one of our Summer Regional Governor's School courses, A River Runs Through It, takes students through a variety of lab-based experiments and outdoor field studies on and around the water, as they conduct water quality and aquatic habitat research. It would be a logical extension of this course to explore the bog ecosystems being restored at Joseph Pines Preserve.

I wish you good luck on your proposal and look forward to your long term involvement in our programs.

Sincerely,

Daphne Schmidt
Director, Summer Regional Governor's School
Assistant Coordinator of Special Programs for Middle and High School
dschmidt@msinnovation.info
804-343-6525 Ext. 244



August 19, 2013

Phil Sheridan, Ph.D.
Meadowview Biological Research Station
8390 Fredericksburg Turnpike
Woodford, VA 22580
804-633-4336
meadowview@pitcherplant.org
www.pitcherplant.org

Dear Dr. Sheridan;

The *Humanities 211: Western Tidewater Cultural-Historical-Natural Landscape* class and I cannot thank you enough for the tour of the Joseph Pines Preserve in Sussex County this past July 15. As you know, this course is used by Educators in grades K-12 towards their teacher recertification. Thus it is a very important course to be offered by Paul D. Camp Community College.

The class received a wonderful overview of the educational and biodiversity goals which the Joseph Pines Preserve can offer to the public, particularly about rare plant conservation. The Preserve is unique in its regional habitat restoration. The restoration of longleaf pine is fundamental to a better understanding of our area's history, and has been so easily forgotten about. In fact, 18 rare plants and 3 animal taxa is an exciting restoration of the ecosystem.

Additionally, it is great to have the teachers realize that colonial and more recent history is also being investigated and explored. Our region does not separate easily from the natural to human historical association. There is so much to discover and learn in Western Tidewater. Appreciate your being a part of this effort.

Sincerely,


Felice Hancock, B.A., M.A.
Adjunct Faculty



April 6, 2008

As an instructor for the Fredericksburg Regional Governor's School, I have developed an association with Phil Sheridan's Meadowview Biological Research Station as a field study destination for my students. Our Governor's School summer program consists of an investigation of the value of wetlands ecology to our environment. The students selected are participants of the gifted programs from the counties of Stafford, Spotsylvania, Caroline, King George and the City of Fredericksburg. Students may also be home schooled or be enrolled in area private academies. Over the years of our association with Meadowview, I have been pleased with the excitement of the students when visiting the Biological Research Station. It is clear to the students, as it is to me, that Phil Sheridan is totally involved in his research. His passion for his subject clearly makes an impression on these young science students. Students learn the history and evolution of the carnivorous plants that Mr. Sheridan cares for. They are shown the propagation techniques that have been developed for Meadowview and the biology behind the research.

I have known students that return to Meadowview as volunteers in the ecological research that is continuing there and know at least one young man who acquired carnivorous plants at Meadowview, and has cared for them for 7 years. This former middle school student is now finishing his first year at Virginia Tech and is planning to major in environmental science.

In the years of our association, Phil Sheridan has volunteered to instruct students in my classroom and has brought his carnivorous plants for students to dissect as a hands-on lab experience for middle school students. The squeals of excitement and laughter as these 12 year-olds opened up and investigated the innards of carnivorous plants was not to be missed.

I cannot think of a better community partnership for hands-on ecological learning than I have experienced with my students and Meadowview Biological Research Station.
Sincerely,

Stephanie Larson
Science Department Chair
Walker-Grant Middle School
Wetlands Instructor, Fredericksburg Regional Governor's School

IRS Determination letter

INTERNAL REVENUE SERVICE
P. O. BOX 2508
CINCINNATI, OH 45201

DEPARTMENT OF THE TREASURY

Date: OCT 27 2000

Employer Identification Number:

54-1904513

DLN:

200278048

Contact Person:

ROBERTA VAN METER

ID# 52624

Contact Telephone Number:

(877) 829-5500

MEADOWVIEW BIOLOGICAL RESEARCH
STATION
C/O PHILIP SHERIDAN
8390 FREDERICKSBURG TPKE
WOODFORD, VA 22580-3440

Accounting Period Ending:

December 31

Form 990 Required:

Yes

Addendum Applies:

No

Dear Applicant:

Based on information supplied, and assuming your operations will be as stated in your application for recognition of exemption, we have determined you are exempt from federal income tax under section 501(a) of the Internal Revenue Code as an organization described in section 501(c)(3).

We have further determined that you are not a private foundation within the meaning of section 509(a) of the Code, because you are an organization described in sections 509(a)(1) and 170(b)(1)(A)(vi).

If your sources of support, or your purposes, character, or method of operation change, please let us know so we can consider the effect of the change on your exempt status and foundation status. In the case of an amendment to your organizational document or bylaws, please send us a copy of the amended document or bylaws. Also, you should inform us of all changes in your name or address.

As of January 1, 1984, you are liable for taxes under the Federal Insurance Contributions Act (social security taxes) on remuneration of \$100 or more you pay to each of your employees during a calendar year. You are not liable for the tax imposed under the Federal Unemployment Tax Act (FUTA).

Since you are not a private foundation, you are not subject to the excise taxes under Chapter 42 of the Code. However, if you are involved in an excess benefit transaction, that transaction might be subject to the excise taxes of section 4958. Additionally, you are not automatically exempt from other federal excise taxes. If you have any questions about excise, employment, or other federal taxes, please contact your key district office.

Grantors and contributors may rely on this determination unless the Internal Revenue Service publishes notice to the contrary. However, if you lose your section 509(a)(1) status, a grantor or contributor may not rely on this determination if he or she was in part responsible for, or was aware

Letter 947 (DO/CG)

MEADOWVIEW BIOLOGICAL RESEARCH

, the act or failure to act, or the substantial or material change on the part of the organization that resulted in your loss of such status, or if he or she acquired knowledge that the Internal Revenue Service had given notice that you would no longer be classified as a section 509(a)(1) organization.

Donors may deduct contributions to you as provided in section 170 of the Code. Bequests, legacies, devises, transfers, or gifts to you or for your use are deductible for federal estate and gift tax purposes if they meet the applicable provisions of Code sections 2055, 2106, and 2522.

Contribution deductions are allowable to donors only to the extent that their contributions are gifts, with no consideration received. Ticket purchases and similar payments in conjunction with fundraising events may not necessarily qualify as deductible contributions, depending on the circumstances. See Revenue Ruling 67-246, published in Cumulative Bulletin 1967-2, on page 104, which sets forth guidelines regarding the deductibility, as charitable contributions, of payments made by taxpayers for admission to or other participation in fundraising activities for charity.

In the heading of this letter we have indicated whether you must file Form 990, Return of Organization Exempt From Income Tax. If Yes is indicated, you are required to file Form 990 only if your gross receipts each year are normally more than \$25,000. However, if you receive a Form 990 package in the mail, please file the return even if you do not exceed the gross receipts test. If you are not required to file, simply attach the label provided, check the x in the heading to indicate that your annual gross receipts are normally \$5,000 or less, and sign the return.

If a return is required, it must be filed by the 15th day of the fifth month after the end of your annual accounting period. A penalty of \$20 a day is charged when a return is filed late, unless there is reasonable cause for the delay. However, the maximum penalty charged cannot exceed \$10,000 or 5 percent of your gross receipts for the year, whichever is less. For organizations with gross receipts exceeding \$1,000,000 in any year, the penalty is \$100 per day per return, unless there is reasonable cause for the delay. The maximum penalty for an organization with gross receipts exceeding \$1,000,000 shall not exceed \$50,000. This penalty may also be charged if a return is not complete, so be sure your return is complete before you file it.

You are required to make your annual information return, Form 990 or Form 990-EZ, available for public inspection for three years after the later of the due date of the return or the date the return is filed. You are also required to make available for public inspection your exemption application, any supporting documents, and your exemption letter. Copies of these documents are also required to be provided to any individual upon written or in person request without charge other than reasonable fees for copying and postage. You may fulfill this requirement by placing these documents on the Internet. Penalties may be imposed for failure to comply with these requirements. Additional information is available in Publication 557, Tax-Exempt Status for Your Organization, or you may call our toll free number shown above.

Letter 947 (DO/CG)

MEADOWVIEW BIOLOGICAL RESEARCH

You are not required to file federal income tax returns unless you are subject to the tax on unrelated business income under section 511 of the Code. If you are subject to this tax, you must file an income tax return on Form 990-T, Exempt Organization Business Income Tax Return. In this letter we are not determining whether any of your present or proposed activities are unrelated trade or business as defined in section 513 of the Code.

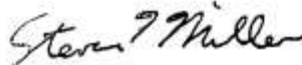
You need an employer identification number even if you have no employees. If an employer identification number was not entered on your application, a number will be assigned to you and you will be advised of it. Please use that number on all returns you file and in all correspondence with the Internal Revenue Service.

If we have indicated in the heading of this letter that an addendum applies, the enclosed addendum is an integral part of this letter.

Because this letter could help resolve any questions about your exempt status and foundation status, you should keep it in your permanent records.

If you have any questions, please contact the person whose name and telephone number are shown in the heading of this letter.

Sincerely yours,



Steven T. Miller
Director, Exempt Organizations

Letter 947 (DO/CG)

Attachments

Board list and contact information

Financial statements

Current operating budget

Meadowview 2013 Fall Newsletter