REQUEST FOR PROPOSALS

FROM THE

PIEDMONT WETLANDS RESEARCH PROGRAM

RFP #03 – SUSTAINABLE CREATED FORESTED WETLANDS

A PROGRAM FUNDED BY WETLAND CREDIT SALES

FROM

NORTH FORK WETLANDS BANK

CEDAR RUN WETLANDS BANK

BULL RUN WETLANDS BANK

ADMINISTERED BY

WETLAND STUDIES AND SOLUTIONS, INC.

FUNDING PAYMENTS FROM

THE PETERSON FAMILY FOUNDATION

Proposal Application Due Date: June 30, 2008

WSSI #25000.01E3

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CONTENTS

CONTENTS

Attachments:

I. Background

The U.S. Army Corps of Engineers (COE), Department of Environmental Quality (DEQ), and U.S. Fish and Wildlife Service (USFWS) have worked with Wetland Studies and Solutions, Inc. (WSSI) and their wetlands bank financial partner, The Peterson Companies and the Peterson Family Foundation (PFF), to establish a wetlands research funding mechanism from revenues resulting from certain credit sales in three mitigation banks (Bull Run, Cedar Run, and North Fork).

The general goal for all research projects funded by this program shall be to determine the overall effectiveness of compensatory mitigation efforts and specifically how design and construction practices should be modified to improve the performance, in terms of functions and values, of compensatory mitigation.

The mission of this program is to fund applied research that makes a real and measurable difference (in terms of how mitigation sites are designed and built) in wetland creation, restoration, and enhancement activities in the Virginia Piedmont.

This Request for Proposal (RFP) is issued to public and private universities in Virginia, accredited by the Commonwealth of Virginia and with established programs related to the research topic. Its goal is to support research that will advance the science and engineering and provide state of the art practices for non-tidal wetlands creation, restoration, and enhancement, in the Piedmont Physiographic Province of Virginia.

II. Research Topic

A. The Basic Issue

The public, as well as regulatory agencies are concerned with the assurance of successful creation of forested wetlands as mitigation for forested wetland impacts. The establishment and persistence of a diverse and appropriate hydrophytic plant community is one of the key components. The ability of a forested wetland to provide essential functions and values is strongly correlated with the quality/quantity/species diversity of the vegetation. However, an important question is: what are the appropriate vegetative measures that will determine what functions are being effectively replaced or mitigated for? Also, how does the choice of quality (or size) /quantity/species diversity of woody species affect the ability of the created wetland to perform these functions and how do these functions change through time from initial planting to closed canopy cover? Since wetland mitigation is based on performance criteria, what is the ‘best recipe’ for establishing and ensuring a successfully created sustainable forested wetland in the Piedmont Region of Virginia? Additionally, how can the plant community be designed and managed to provide the greatest diversity and quality of wetland functions and values (wildlife habitat, flood flow attenuation, nutrient uptake, etc.).

B. Scope of Work Requirements

The successful applicant will prepare a proposal which will include a detailed literature review based analysis and a field study[1].

Literature Review:

Determine and document all available technology for planting woody vegetation within a created forested wetland, such as (but not limited to):

a. Current planting practices that are acceptable to regulatory agencies and utilized by consultants within Virginia for creating forested wetlands (i.e., what quantity, stock size and species mix are being used);
b. Existing use and success of incorporating a woody pioneer species (i.e., willow: *Salix* spp.) for forested wetland creation; and
c. Alternative methods to enhance establishment and growth of woody species (i.e., mycorrhizae inoculations, root production method (RPM) trees, etc.).

Field Studies:

Describe and outline a field study, including statistical design and methods, to implement the following:

a. Assess growth performance by planting different stock sizes (i.e., seeds, bare roots, tubelings, 1 gal.-3 gal. container grown, B&B 1-2 inch caliper) and species mix (especially oak species due to regulatory requirements), as well as relying on volunteers only;
b. Incorporate woody pioneer species (i.e., willow) and alternative methods (RPM) for comparison to (a) above; and
c. Compare woody species occurrence and diversity, and relative functions in Virginia Piedmont reference wetlands to created wetlands as planted with different stock size and species mix.

Goals/Objectives:

The field studies described above should achieve the following goals/objectives:

a. Evaluate relative length of time associated with temporal loss for prominent forested wetland function(s) (i.e., how long does it take to replace the functions lost from the impacted site?);
b. Develop a high-performance, cost-effective planting plan for forested wetlands with practical and reliable vegetation establishment methods;
c. Correlate vegetation planting schemes with appropriate measures of wetland function(s) and evaluate cost versus function(s) achieved; and
d. Develop methods/metrics which will indicate that the created wetland is on a trajectory toward becoming a sustainable forested wetland.

[1] After selection and funding (not for the proposal)

C. Potential Collaborator

RPM Ecosystems
95 Brown Road
Ithaca, New York 14850
888-776-9590
www.rpmecosystems.com

III. Submission of Proposals

A. Deadline and Delivery

The proposal application must be received by **5:00 PM on June 30, 2008**. Each proposal should be submitted as six (6) bound paper copies and an electronic copy in PDF format on a CD. Send proposal applications to the following address:

Michael S. Rolband, P.E., P.W.S., P.W.D.
Wetland Studies and Solutions, Inc.
5300 Wellington Branch Drive, Suite 100
Gainesville, Virginia 20155
Telephone: 703 679 5602
E-mail: mrolband@wetlandstudies.com

Please note that misdirected proposal applications will be deemed late and returned to the applicant. All proposal applications must be complete at the time of submission. Later changes or addendums will not be accepted.

FAXED OR E-MAILED APPLICATIONS WILL NOT BE ACCEPTED

B. Questions

Questions that arise during the proposal preparation should be directed by e-mail or U.S. Mail or overnight service[2] to:

Laura A. B. Giese, PhD, CF, PWS, PWD, CSE
Wetland Studies and Solutions, Inc.
5300 Wellington Branch Drive, Suite 100
Gainesville, Virginia 20155
Telephone: 703 679 5633
E-mail: lgiese@wetlandstudies.com

[2] Telephone calls are not preferred, as all registered proposers must be informed of all questions, answers, and clarifications.

With a copy to:

Carol Novak
Wetland Studies and Solutions, Inc.
5300 Wellington Branch Drive, Suite 100
Gainesville, Virginia 20155
Telephone: 703 679 5607
E-mail: cnovak@wetlandstudies.com

All responses and related responses shall be distributed to all registered proposers.

C. Registration of Proposers

If you desire to be informed of all questions and answers addressed during the proposal preparation process, as well as any RFP amendments, you must notify (via e-mail or U.S. mail) the following for registration:

Laura A. B. Giese, PhD, CF, PWS, PWD, CSE
Wetland Studies and Solutions, Inc.
5300 Wellington Branch Drive, Suite 100
Gainesville, Virginia 20155
Telephone: 703 679 5633
E-mail: lgiese@wetlandstudies.com

With a copy to:

Carol Novak
Wetland Studies and Solutions, Inc.
5300 Wellington Branch Drive, Suite 100
Gainesville, Virginia 20155
Telephone: 703 679 5607
E-mail: cnovak@wetlandstudies.com

IV. Program Funding

A. The PFF shall fund 100% of the accepted proposal's budget pursuant to an agreed upon payment schedule based upon research progress.

B. Applicants are ***not*** expected to provide any cost-share towards the research budget, unless your institution requires such funding to offset the difference between the allowed Indirect Cost rate and your institution's Indirect Cost rate.

C. The Indirect Cost rate shall be limited to 35% of all Direct Costs. This is a maximum rate; proposers may offer a lower rate.

D. Tuition for graduate students ***is allowable*** as a Direct Cost on a proportionate basis to the percentage of their research time dedicated to the proposal work.

E. The estimated cost range for this project is $650,000 to $850,000, with 7-8 year duration. If you do not expect this budget or time frame to be adequate to perform the work, please notify us as soon as possible during your preparation of the proposal so we can consider an amendment.

F. Since this project should ideally be viewed as a long-term project (greater than 7-8 years) in order to obtain meaningful data and results, it would be invaluable for the proposer to consider obtaining additional outside funding to adequately continue the woody vegetation study either during the proposal preparation process, or more likely, to indicate how the proposer will do so during the 7-8 years of this RFP.

V. Proposal Review Process

A. Submission of Response to the Piedmont Wetlands Research Program in care of WSSI.

B. Based upon peer review recommendations in each proposal, as well as suggestions from WSSI staff and Mitigation Bank Review Team (MBRT) members, WSSI shall solicit peer review participants.

C. WSSI shall convene a peer review panel at its office for a one-day review meeting (MBRT members shall be invited to participate).

D. WSSI shall provide a recommendation to the MBRT for an award based upon its staff and peer review discussions. WSSI staff, MBRT members, and external peer reviewers will not review proposals where a significant personal or organizational conflict of interest exists.

E. The MBRT Chair shall have ten (10) days to (based upon MBRT comments): (i) concur with the RFP Award Recommendation, (ii) select an alternative proposal, or (iii) reject all proposals. The MBRT Chair shall provide one (1) signed original "Solicitation Offer and Award" form confirming its decision to WSSI.

F. WSSI shall notify PFF of the decision and the research grant shall be awarded by PFF to the selected proposal (if any).

G. ***More than one (1) response may be selected*** if the reviewers determine that significantly different research approaches are proposed that separately have the strong possibility of yielding a different, yet practicable, solution.

H. Timing: We expect the review process to take 90-120 days.

VI. Subcontractors

One academic institution must be the prime research contractor and designate a Principal Investigator (PI) as both the point of contact and the party responsible for performing the

work. Other entities may be subcontractors to the prime research contractor subject to the following conditions:

A. They are an academic institution or a federal government entity with research capabilities (such as USGS), and

B. No more than 30% of the work (measured in dollars of Direct Cost) shall be undertaken by academic personnel from a non-Virginian academic institution or federal government entity.

C. The Prime Research Contractor cannot apply any indirect rate markup to the subcontractor's total cost except if that subcontractor's indirect rate is lower than that allowed for the prime. In such case, the prime contractor may charge the difference. In no case can the subcontractor charge more than the indirect rate allowed by the prime.

VII. Review Criteria

The proposals will be reviewed and scored based upon the following criteria, with the weighting noted below showing the likely value of each criterion in the award decision:

	Criteria	Weight
1.	Viability of the proposed research program relative to solving the stated need	20%
2.	Level of interest and expertise of the Principal Investigator(s) in the research topic	20%
3.	Overall proposal quality, innovation, and viability	20%
4.	Unique methodologies proposed for investigation	20%
5.	Cost	20%

The reviewers and ultimate decision makers reserve the right to modify, at any time during the review process, the weighting of each criterion or simply make a unilateral decision to not follow said weighting in the extraordinary circumstance that the weighting does not result in a practicable outcome. For example, if one proposal was triple the cost of all others, even if it was deemed superior in every other manner, we may determine that it is not an economically viable approach and not select that proposal or contact the proposer to discuss a modification to its proposal to address the cost issue.

VIII. Submission Requirements

Your response to this RFP must not exceed ten (10) single-spaced, typed pages,[3] using 12-point font size and one-inch margins (all sides) and include the following sections:

[3] Text Section (i.e., does not include resumes, budgets, cash flow projections, schedules, or SOAF)

A. Solicitation Offer and Award Form (referenced in Section XII and provided in Appendix A): You must complete all sections on this form and obtain signatures of the appropriate officials.

B. Table of Contents: Please include major sections and the corresponding page numbers.

C. Executive Summary (limit to one page single spaced): Explain what you plan to do and why your team should be selected.

D. Project Team: Describe which institutions and, specifically, the people who will be involved (and to what degree) in this project. Explain why this team is best suited for this project.

E. Project Description:

1. Objectives: List the specific objectives of the project.

2. Background: Explain the relevance of the project.

3. Preliminary Studies (if applicable): Describe any precursor research you have conducted or are aware of that applies to the project topic and what was determined from those preliminary results.

4. Experimental Procedures/Methodologies: Describe any laboratory or field testing to be performed referencing analytical methods used and commercial products planned to be used or assessed in this program. List and describe each type of device that you will test and evaluate.

5. Description of Resources (i.e., laboratory facilities and/or field sites): Describe the laboratory facilities, testing equipment, field sites, etc. available for conducting the tasks associated with this project. If WSSI field sites are desired for use, describe which ones and how large an area.

6. Literature Cited: List all sources used.

F. Scope of Work:

1. Issue Identification: Identify and briefly describe the issue this project is addressing.

2. Work Tasks: Break the project into specific work tasks and describe each work task individually.

3. Time Allocation: Describe how much time (by months) is to be allotted for each work task and when each task is to begin and end.

4. Resource Allocation: For each work task, list the personnel who will be working on that task and specifically what each person will be doing.

5. Quality Assurance/Quality Control: List measures planned to ensure that high quality results are achieved, such as descriptions of statistics to be used to evaluate data and to compare data to controls; field and lab QA/QC, data handling and security, and how to deal with the potential that graduate student tenures may not coincide with the research schedule.

6. Determination of Goals: Identify the means to be used to determine that project goals are met.

G. Budget and cash flow requirements for requested funding (use similar format as provided in Sections X and XI). You propose duration and cost, within the general parameters established in Section IV.E.

H. Budget Narrative: The budget may include salaries, travel, equipment, materials, and services ***not including fees or profit***. It is imperative that you specify any overhead, Indirect Costs, or fringe benefits rates, as well as which budget categories are affected by those rates. (For example, Indirect Costs defined as "Facilities and Administration" = 10% of Total Direct Cost less tuition and equipment). In addition, salaries must include personnel descriptions (i.e., faculty, graduate student, hourly worker, etc.), the number of hours expended on the project, and the hourly rate. Supplies must be listed in general terms (i.e., field supplies, general office supplies, etc.). Travel must include a description (trips to field site, conference, etc.), estimated number of hours for travel, and estimated cost per trip. In addition, for travel to conferences, estimate proposed expenses in the budget. For travel to conferences, specific information on conference title, dates of conference, and purpose in attending (i.e., presenting paper, poster session, etc.) must be supplied to WSSI for approval prior to travel. Other Direct Costs must include a general description (i.e., chemical analysis) and include units and unit cost. As stated in Section IV. C., Indirect Costs are fixed at 35% of Direct Cost. No cost-share funding is required.

Major pieces of equipment (>$5,000 with lifetime >2 years) are not eligible for purchase with funding from this program unless (i) they are clearly essential to the conduct of the proposed work, (ii) their documented use will be primarily for the proposed work, and (iii) they will be made available for use by future consortium research programs after the funding program is completed.

I. Proprietary Information: No information provided in proposals responding to this RFP shall be deemed proprietary. All information in each proposal could be subject to public disclosure or disclosed to other parties. If this research leads to a new product, software, or any type of property with economic value, the rights to such shall be owned by Wetland Studies and Solutions, Inc.

J. Organizational Chart: Provide an organizational chart depicting the structure of your team.

K. Curriculum Vitae (CV): Provide CV for each senior investigator involved in the proposed project. Resumes should be no more than two pages of text with an attachment listing all relevant publications within the past 20 years (limit to two pages). Senior investigators include the principal investigator and any other faculty or senior-level personnel involved in the project. CV of lower level researchers may be included at your option.

L. Peer Review: Provide the name and contact data (address, telephone, e-mail) for a minimum of three (3) researchers you feel would be qualified to provide a peer review of this proposal without personal or organizational conflict of interest.

M. Research Schedule: Provide a projected schedule for your research activities. This schedule should be logically related to the budget's cash flow projections.

IX. Payment and Reporting Requirements

A. Reporting Requirements Shall Include:

1. Quarterly (i.e., March 31, June 30, September 30, December 31) Progress Reports with reports submitted within thirty (30) days after the end of the quarter describing (one or two paragraphs) your progress relative to the Proposal Schedule, Budget, and Scope of Work tasks.

2. An invoice for the work completed in the previous quarter – provided with the related quarterly report and billed by Work Task item.

3. Draft Final Report for WSSI and MBRT review.

4. Final Report (six [6] hard copies and six [6] PDFs on CD).

5. One short article for Virginia Association of Wetlands Professional Scientists (VAWPS) newsletter.

6. One peer reviewed publication article shall be prepared and submitted to an appropriate journal, such as *Wetlands*.

7. One seminar at WSSI's office which will be open to VAWPS and academics, as well as the consulting and regulatory community at large.

B. Payment Requirements

1. WSSI and/or MBRT representatives may inspect research facilities and discuss progress with researchers to verify invoice amounts and research progress at their discretion.

2. Undisputed Invoices shall be paid by PFF within thirty (30) days of tender ***if and only if*** they are submitted in the mandated manner and schedule described above. Invoices submitted later than prescribed above shall be delayed for processing until all reporting submissions are made timely in the next quarter.

X. Budget Sheet

Your proposed budget shall be submitted in a spreadsheet in a format similar to the description depicted below (to assist you in completing this form, a sample is provided):

Budget Sheet

Project Title: _____

Principal Investigator: _____

Organization: _____

Requested Duration in Months: _____

Item	**Unit Rate**[4] (A)	**Units**[5] (B)	**Quantity** (C)	**Cost** (D = A x C)
Salaries (list each person or position separately)				
Benefits (list each benefits rate per person / position)				
Tuition				
Supplies[6]				
Equipment[7]				
Subcontracts (provide breakdown of salary, benefits, tuition, supplies, equipment, etc. unless it is a lump sum less than $5,000)				
Travel				
Other Direct Cost				
Total Direct Cost				
Indirect Cost	35%[8]	N/A	N/A	
Total Cost	N/A	N/A	N/A	

[4] i.e., $/hr; ¢/mile; $/month
[5] i.e., LS = lump sum; hr = hours; % of effort
[6] Items costing <$2,000 with a useful life <2 years
[7] Items costing ≥$2,000 with a useful life ≥2 years
[8] This is the maximum rate. Proposer may offer a lower rate.

SAMPLE

Budget Sheet

Project Title:	**Sustainable Created Forested Wetlands**
Principal Investigator:	**M. Jones, Ph.D.**
Organization:	**University of Wetlands**
Requested Duration in Years:	**7 Years**

Item	**Unit Rate**[9] (A)	**Units**[10] (B)	**Quantity** (C)	**Cost** (D = A x C)
Salaries				
M. Jones, P.I.	8,000/month	N/A	9[11]	72,000.00
J. Waters, Research Associate	3,000/month	N/A	18	54,000.00
Benefits				
P.I.	20%	N/A	N/A	14,400.00
R.A.	16.5%	N/A	N/A	8,910.00
Tuition	5,000 / semester	semester	3	15,000.00
Supplies	10,000	L.S.	1	10,000.00
Equipment	5,000	L.S.	1	5,000.00
Subcontracts				
Mineralogy Lab	3,000	L.S.	1	3,000.00
VA Tech Soils Lab	2,000	L.S.	1	2,000.00
Travel	.50/mile	Miles	5,000	2,500.00
Other Direct Cost	N/A	N/A	N/A	N/A
Total Direct Cost	N/A	N/A	N/A	186,810.00
Indirect Cost	35%	N/A	N/A	65,383.50
Total Cost	N/A	N/A	N/A	252,193.50

[9] i.e., $/hr; ¢/mile; $/month
[10] i.e., LS = lump sum; hr = hours; % of effort
[11] 50% of 7-8 years

XI. Cash Flow and Work Task Budget Projection

Your Scope of Work shall include a Work Task section. For each Work Task, provide a quarterly (calendar year basis) cash flow projection. Ideally, you should develop this by spreading out your man hours, and related costs (from your budget) by work task and quarter. Each Invoice and each Progress Report should relate to these projections.

In summary, the Cash Flow and Work Task Budget should be presented in a format similar to the spreadsheet titled, "Cash Flow Projection Form." To assist you in completing this form, a sample is also provided.

Note: Some researchers asked why cash flow projections are requested. The reasons are twofold:

1. It provides a management indicator as to whether or not the resources expected to be needed for the project are being utilized – minimizing the potential of the "last minute push."

2. It allows the PFF to invest these monies prior to payments to researches in vehicles that maximize the return on investment subject to the limitation that they be available for use when you need the money.

Cash Flow Projection Form

(You Select Duration, i.e., Number of Quarters)

Work Task	Total Budget	Cash Flow Projection			
		1st Quarter 2008	2nd Quarter 2008	3rd Quarter 2008	4th Quarter 2008
List Each Task from Scope of Work:					
Draft Final Report					
Final Report					
VAWPS Article					
Peer Article					
WSSI Seminar					
Total Costs					

SAMPLE

Cash Flow Projection Form

(You Select Duration, i.e., Number of Quarters)

Work Task	Total Budget	Cash Flow Projection			
		1st Quarter 2008	2nd Quarter 2008	3rd Quarter 2008	4th Quarter 2008
List Each Task from Scope of Work:					
A. Document Existing Technology	15,000.00	15,000.00			
B. Develop Black Box Technology	70,000.00	35,000.00	35,000.00		
C. Set Up Testing Cells	30,000.00	30,000.00			
D. Lab Testing	60,000.00		30,000.00	30,000.00	
E. Data Compilation	30,000.00		10,000.00	20,000.00	
Draft Final Report	20,000.00			10,000.00	10,000.00
Final Report	10,000.00				10,000.00
VAWPS Article	2,000.00				2,000.00
Peer Article	10,000.00				10,000.00
WSSI Seminar	5,000.00				5,000.00
Total Costs	252,000.00	80,000.00	75,000.00	60,000.00	37,000.00

XII. Solicitation Offer and Award Form (SOAF)

Include one (1) original of the SOAF, signed by the Principal Investigator and Organization's Certifying Representative, with each of the six (6) hard copy submissions, and a PDF of said signed document on the CD containing your proposal.

See Attachment A: Solicitation Offer and Award Form.