National Fish and Wildlife Foundation
Final Programmatic Report

Project Name and Number:	**Targeted Watershed Restoration and Protection:Cedar Creek to Passage Creek** #2006-0100-045
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1) Summary

Potomac Conservancy's *Targeted Watershed Restoration and Protection* project continued the work already begun by Potomac Conservancy in the Cedar Creek watershed and transferred the ecological assessment model to the Passage Creek watershed. Central to this project was the analysis of priority lands within these watersheds and the development of individualized outreach and education for those priority landowners throughout the Cedar Creek watershed. This resulted in more riparian and permanent land protection in Cedar Creek increasing the number of easements from one to four and increasing the protection of riparian buffers by 2 miles. Additionally we began to broaden the scope of our work in the northern Shenandoah Valley by beginning to work in Passage Creek watershed and the community of Fort Valley. We worked with Virginia Department of Natural Heritage, Shenandoah University, Virginia Tech and VA Department of Game and Inland Fisheries, as well as key community members to create and disseminate the Passage Creek assessment.

2) Introduction

a. Project need:

Cedar Creek is a critical tributary of the North Fork of the Shenandoah River. The diverse mix of public and private land ownership, the patchwork of residential, industrial, commercial and agricultural use, and its location at the hub of development in the northern Shenandoah Valley make this watershed important as a potential model for urban, suburban, and rural best management practices in Virginia. Cedar Creek itself is valuable for its ecological diversity and cultural significance in the Valley.

A recent study conducted by Shenandoah University and Potomac Conservancy found one globally rare plant species, six plants on the Virginia Vascular Plant Watchlist, and thirty species of fish. The Cedar Creek watershed boasts unique geological diversity, giving rise to a wide variety of aquatic and terrestrial habitats including cliffs, boulders, sinkholes, caves, and rich stream valleys. Research showed that Cedar Creek had very high scores on the Index of Biological Integrity (IBI), with an overall score of 4.25 on a 5-point scale, thanks in large part to nearly continuous forest cover in the upper Cedar Creek watershed. Compared to other streams, Cedar Creek ranks in the "good" category and is relatively clean and pristine. However, threats

are looming and many of the smaller tributaries ranked significantly lower on the IBI. Specifically, Meadow Brook, which flows through the Town of Middletown and has within its watershed intensively farmed agricultural land as well as several industrial and commercial sites, was only rated at 2.1 on the IBI scale, receiving a designation of "poor". This project is designed specifically to address nonpoint source issues in the smaller, developing tributaries of Cedar Creek, where there is an opportunity to restore, improve, and protect water quality before the creek reaches its confluence with North Fork of the Shenandoah River.

This mix of uses, coupled with growing development in the watershed, is the greatest threat to water quality in Cedar Creek. Located just 75 miles from the Washington, DC area, the Cedar Creek watershed is poised for development. Encroaching subdivisions and the multitude of farmettes that have sprung up are fragmenting the landscape and are having untold impacts on water quality. While agriculture still represents a significant percentage of nutrient and sediment loads (59% of nitrogen and phosphorus and 74% of sediment for the entire Shenandoah basin, according to the Shenandoah Tributary Strategy), urban loads of nutrients and sediment have been increasing since 1985.

This trend presents a significant opportunity in the Cedar Creek watershed and the northern Shenandoah Valley. Potomac Conservancy will demonstrate how low impact development techniques (such as raingardens) can be combined with targeted implementation of agricultural best management practices (such as forested riparian buffers, streambank restoration, and wetland restoration) to reduce nutrients and sediment in local waterways. Awareness of water quality issues has increased in recent years and communities such as Middletown are ripe for education and action to improve their local water quality.

Like Cedar Creek, Passage Creek is a major tributary of the North Fork of the Shenandoah River, with its confluence located between Strasburg and Front Royal—a highly developing region in the northern Shenandoah Valley. A significant amount of Passage Creek's watershed is located within the George Washington National Forest; it is heavily traveled by recreational users and has been the focus of concentrated second-home development over the past decade. Unlike Cedar Creek, the Passage Creek watershed is nearly 90% forested. However, increasing development is fragmenting that forestland, allowing invasive species to take hold and decreasing the level of large-scale forest management in the watershed. The main valley bottom along Passage Creek itself is still agricultural, and improvements can be made to protect the stream (which is mostly unbuffered) from the effects of agriculture and livestock. Given these changes, and the unique geography of Passage Creek and the Fort Valley area, Potomac Conservancy will focus increased attention on this special resource. Furthermore, there is a great need to educate new landowners about their options for permanent land protection and restoration.

b. Objectives: The Potomac Conservancy sought a grant of $49,000 to implement individualized outreach and education to landowners and rural communities in order to increase stream restoration and the installation of rural and suburban best management practices. This project will broaden our scope of work in the Valley, allowing us to begin application of our ecological assessment model to Passage Creek, an important neighboring watershed. The objectives of the Targeted Watershed Restoration and Protection project are to:

- Identify lands appropriate for targeting education and outreach on stream restoration and best management practices;

- Improve water quality by installing stream restoration and best management practices;
- Inform and educate at least 50 private homeowners, local planners, and professionals about how they can reduce the amount of nutrients and sediments entering our waterways and provide them with hands-on training and technical assistance to increase implementation;
- Increase wildlife habitat in and around rural and suburban restoration sites;
- Permanently protect 300 acres of river and streamside lands vital to river health and water quality in the northern Shenandoah Valley;
- Complete an ecological assessment of the plant and aquatic life of the Passage Creek watershed.

3) Methods

Describe all activities and methods. Give a yearly breakdown if this is a multi-year grant.

- To achieve and enhance targeted outreach efforts, extensive GIS analysis of the landuse and land ownership characteristics of Cedar Creek have been completed. These exercises have greatly increased our knowledge of the watershed as a whole, in addition to providing us with tools to target specific restoration and protection initiatives to the appropriate landowners. Information containing geographical, biodiversity, zoning, landuse, and the most up to date landowner records has been compiled and a number of maps have been created to identify and characterize the needs and restoration/protection potential of various regions in the watershed. The maps have been extremely helpful in identifying the largest landowners, largest parcels, landowners with significant stream frontage, agricultural landowners, and forest landowners, and have enabled us to identify existing riparian buffers and lands adjacent to national forest lands or other protected lands.
- Current and past outreach efforts to landowners in Cedar Creek drive our individual landowner education on restoration and land protection options. We met with or sent information packets to dozens of landowners in Cedar Creek since the start of this grant, and are currently in easement negotiations on two new properties, which may protect more than 100 acres of farm, forest and streamside lands. These easements are expected to close in 2008. Throughout the grant period we worked on finalizing and successfully closing an easement on the 151-acre Snapp farm. This farm has extensive agricultural best management practices in place, a number of springs on the property, and more than a mile of frontage along Cedar Creek. This project was in process for well over a year and we were successful securing the remaining funding needed for the bargain sale purchase in June 2007. This easement was purchased through generous grant funding from the Farm and Ranchland Protection Program and the Virginia Land Conservation Foundation. We are in the process of securing additional funding to purchase another 90-acre easement adjacent to the Snapp farm.
- The Cedar Creek ecological assessment report, "The Ecological and Historical Context of Cedar Creek", has been a valuable tool to our education and outreach efforts in the watershed. The report was partially supported by a previous NFWF grant, and 300 copies were printed. Widespread distribution and continued demand for the publication have depleted our supply. The Conservancy was successful in securing additional funding from the Virginia Department of Conservation and Recreation in the amount of $2,000 for the printing of 200 additional copies of this essential report. The printing was completed in June 2007.
- Conservancy staff completed several education programs for landowners in the Cedar Creek and Passage Creek watersheds. In April 2008, more than 40 people attended the

"Conservation Strategies for Forest and Farm Landowners Workshop" held at Lord Fairfax Community College in Middletown, VA. Topics included protecting land with conservation easements, purchase of development rights programs, importance of forest management, and a review of local planning ordinances and tools to conserve farm and forest lands in the counties. In May 2008, the Conservancy held a rain barrel workshop in partnership with the Friends of the North Fork of the Shenandoah. More than 30 people learned how to make, maintain, and install rain barrels, and about the effects of stormwater on water quality. Due to the increased costs of rain barrel supplies and delivery, the number of barrels distributed at this event was limited to 25. Information was provided on obtaining supplies locally and many participants left with plans to build a second or third rain barrel with friends and neighbors in the near future. Demand for the workshop far exceeded our supplies and the Friends of the North Fork have decided to hold another rain barrel workshop in July using the program materials developed for this event as a template. In April and May, presentations were given to two Cedar Creek Ruritan organizations, reaching more than 50 community members. The presentations were an opportunity to introduce the Conservancy and our work to key members of the Cedar Creek community, while at the same time educating landowners on conservation and permanent protection options for their properties. Finally, on May 28, 2008, a small meeting was held for landowners in Cedar Creek interested in learning about estate planning and the role conservation easements can play in the estate planning process.

- We are working with one landowner in Cedar Creek to enroll in the CREP program and install one-half mile of fencing and buffers. We are working with two landowners in Opequon Creek, an impaired tributary of the Potomac, to install approximately 1.5 miles of fencing and improved buffers. Along Smith Creek in Shenandoah County, VA, we are working with VA-DCR to permanently protect a CREP buffer planting with a permanent conservation easement. This is expected to close in the next month or so.
- In early spring the Conservancy spoke to more than 60 residents in Fort Valley (Passage Creek watershed) at various community events including the Fort Valley Ruritans and the Lyceum Speaker Series at the community center. The goal was to introduce the Conservancy to residents of Fort Valley and describe the Passage Creek ecological assessment project. These meetings provided important introductions in the community and allowed us to identify key community members to interview for the report. In early spring 2008, Conservancy staff and the report writer interviewed nine Fort Valley residents to gain a better understanding of the community and the threats facing the region.
- Extensive work took place throughout the grant period for the Passage Creek ecological assessment. The Conservancy had originally planned to work with Shenandoah University on the development of the Passage Creek assessment—a sister report to the Cedar Creek assessment. This was not possible due to the director of the environmental studies program for the university taking a sabbatical for the year and was therefore unable to coordinate the project. Instead, we worked with graduate, undergraduate, and doctoral students from Virginia Tech to complete the data collection and field work for the project. The Virginia Tech students submitted a final report detailing their work and findings, which includes community surveys of fish, mussel and salamander species in Passage Creek. The fish surveys documented 29 species of fish, of which 19 are native to the Potomac River basin and Passage Creek, and the salamander surveys collected 9 species of salamander in good abundance. Only one species of freshwater mussel was documented during these surveys. Although that sounds low, the Potomac River watershed is not known for its mussel diversity, and historical records indicate only one

species of mussel ever being documented in Passage Creek. We worked with the Virginia Department of Natural Heritage staff to conduct plant surveys of the Passage Creek watershed. They completed extensive GIS analysis of the watersheds fauna, and identified a number of sites in the national forest and on private lands where habitats for a number rare, threatened or unique species plant are thought to exist. In addition to NHP field work, the Environmental Studies Program at Shenandoah University conducted field surveys of common/typical plant communities in Passage Creek to compliment the work of NHP. In early 2008, DNH conducted field surveys of a number of the top sites. When all the field work was finalized, writing and design of the final report began.

- The Passage Creek Ecological Assessment report was completed. Three hundred copies of the report were printed and approximately 150 have been distributed to residents of Fort Valley, county supervisors, members of the county planning commission, and left in supply for pick up at the local community center. The final printed report is titled: "*The Valley & The Creek: the Timeless Connection Between Fort Valley, Virginia and Passage Creek*". The report highlights the results of the fish, salamander, and mussel surveys performed during the summer of 2007, and the results of VADCR Natural Heritage's plant community surveys. In addition, valuable historical and personal accounts of Passage Creek and the Fort Valley community shared by Fort Valley residents are included in the report. These personal accounts echo the deep sense of place and community ownership that is shown by the residents of the watershed. Concerns for the future of Passage Creek and what residents can do to preserve the creek and the way of life of the area are also contained in the report.
- A presentation highlighting the findings of the report and the results of the study conducted by the Environmental Studies Program students of Shenandoah University was given to over 50 Fort Valley residents at the Community Library's Lyceum lecture series and to the Fort Valley Ruritan in September and October. Potomac Conservancy staff is also scheduled to deliver a presentation on the report in December to 200 seventh graders at a local middle school that serves residents of Fort Valley.
- Potomac Conservancy staff will be creating a poster of the report to put on display at the local Fort Valley Museum at the request of museum volunteers.
- The results of the report along with the landowner connections made through Conservancy outreach efforts were used to develop a map and list of priority lands and landowners for targeted outreach. Thirty-five Passage Creek frontage landowners representing over 3,000 acres and 30 miles of riparian stream buffers along Passage Creek have been identified for targeted land and riparian buffer protection outreach efforts. These 35 residents control 54% of the privately owned banks of Passage Creek. Implementation of conservation easements and riparian buffer protection on these lands would increase the percentage of Passage Creek riparian buffers protected in the watershed to 52% from 30%.
- In addition to the 151-acre easement we closed in early 2008, we are working on easements to protect 3 other properties in Cedar Creek and expect them to close before the end of the 2008, including a 90-acre parcel adjacent to Cedar Creek and adjacent to the Snapp farm previously mentioned, a 66 acre farm and a 25 acre parcel partly forested and partially open. These properties total approximately 332 acres and protect almost 2 miles of riparian habitat along Cedar Creek and tributaries of Cedar Creek. Additionally, we also completed our first easement in Passage Creek on a 77-acre farm, which is partly forested, protecting .84 miles of riparian habitat along Passage Creek. Beyond our achievements in Cedar and Passage Creek, we are pleased to report the permanent protection of a 189 acre forested property in Middleburg, VA protecting 3.2 miles of

riparian habitat and we are in the process of protecting an additional 150 acres of forest land in Frederick, County, VA in the next few weeks. This project will protect an additional 1.62 miles of riparian habitat in Back Creek watershed a tributary of the Potomac River.

- Though we have been successful in other parts of the watershed working with Department of Conservation and Recreation to place permanent easements along restored CREP plantings totaling approximately 2.8 miles of riparian buffer restoration protection, we have been less successful encouraging new landowners in Cedar Creek to sign up for existing restoration programs. We are currently working with one landowner to restore both sides of a ¼ mile stream segment for a total of .5 miles of restoration but the process is proceeding slowly and the plan finalization and planting are not expected to take place until spring 2009 at the earliest. Part of the barrier of enrolling new participants in this process was the uncertainty of the continuation of the CREP program due to the complications and delay of the new farm bill being passed. In addition, it appears many of these same landowners are also weary of committing to existing restoration programs plagued by rumors of inflexibility and lengthy bureaucratic process involved in enrollment.

4) Results

a) Outputs

i) *Describe project outputs, any realized post-project outcomes and quantify the results using indicators and baselines.*

- Restoration/streambank fencing
  - 6 site visits with landowners
  - ½ mile new riparian buffers and stream bank fencing in the works
- Rain barrel/homeowner storm water workshop
  - 30 participants
  - 30 of practices implemented or behavior modifications
- Permanent land protection
  - 19 site visits in Cedar Creek – resulting in 3 closed easements on 244 acres and 1 easement in process.
  - 7 site visits in Northern Shenandoah Valley – resulting in 2 easements protecting 339 acres with 1 in process.
  - 1 site visit in Fort Valley resulting in 1 easement protecting 77 acres
- Passage Creek Assessment –
  - 6 riverside landowners participated by allowing studies to be conducted on their river side properties
  - 9 Fort Valley community members participated through interviews for the report.

ii) *Attach any supplemental graphs, maps, photos and other types of analytical output for the project evaluation.*

Attachments:

- Cedar Creek map
- Passage Creek map

iii) *Identify and briefly explain discrepancies between what actually happened compared to what was predicted to happen in the grant proposal using information presented above.*

The only area where there were any significant discrepancies between what happened and what was predicted is related to the miles of stream restoration/fencing completed. Part of the barrier of enrolling new participants in this process was the uncertainty of the continuation of the CREP program due to the complications and delay of the new farm bill which was passed this year. In addition it seems that many of these same landowners are also weary of committing to existing restoration programs plagued by rumors of inflexibility and lengthy bureaucratic process involved in enrollment. Other barriers including the difficulty in tracking the cases where our work has directly translated into new stream buffers because we are often not involved in the process after the landowner receives all the application materials. Since the CREP program is coordinated by many separate agencies including the Dept of Forestry, NRCS, and ultimately FSA, we are not always notified when a landowner that we worked with originally completes the project.

b) Post-project Outcomes

i) *Please identify any medium- to long-term results that may occur after the project ends.*

- At least one personal contact with 50% of landowners in Cedar Creek and Passage Creek watersheds
- 75% of streams in Cedar Creek are buffered and/or fenced
- Locally, 50% of homeowners, businesses and developers practice some urban stormwater BMPs
- At least 1 personal contact with 50% of landowners in Cedar Creek watershed
- 5,000 acres of permanently protected land in the northern Shenandoah Valley
- 25% of landowners in Passage Creek watershed participating in BMP and permanent protection programs

ii) *Describe any progress towards achieving these post-project outcomes at this time.*

We think we will have difficulty accurately tracking some of the post-project outcomes that were originally outlined in our logic framework. Now that we have more experience in the watersheds and have refined our strategy we believe many of these post-project outcomes need to be adjusted. For example, under "targeting lands appropriate for riparian buffers", we listed that we wanted one personal contact with 50% of the landowners in Cedar and Passage Creek watersheds, when in reality we should have said 50% of the streamside landowners. To that end, our progress revolves around the refinement of these outcomes and putting the infrastructure in place to be able to measure things accurately. When we began, we did not know how many landowners have frontage on Passage or Cedar creeks. We now have this information and can measure our progress towards reaching 50% of them.

iii) *Will there be continued monitoring of post-project outcomes beyond the life of this grant? Are there adequate resources (staff and funding) for continued evaluation and monitoring? If not, briefly describe the additional resources needed.*

We monitor the lands protected by conservation easements on an annual basis. Detailed reports will be completed on each visit outlining the current natural conditions or any changes to the property. We will continue to identify ways to improve management on

protected lands and forested lands in the region and will track the success or failures of our efforts. Staff and resources for the continued monitoring and stewardship of our protected properties will be covered by a stewardship endowment set up specifically for monitoring easements. As the number of properties under our protection grows, we will need to increase staff to fulfill these important duties. It is expected that the endowment will grow in proportion to the increased staffing needs. In order to continue our education and outreach efforts, as well as fund staff to shepherd landowners through the easement process resources, we will need to solicit on an ongoing basis through private donations, grants, and membership dues.

iv) *Describe any revisions in the indicators, methods and data that may be needed for post-project monitoring.*

As a result of this project we have identified critical parcels of land for restoration and protection. We believe that refining the indicators to reflect our progress towards protection or restoration on priority parcels or with priority landowners would be appropriate.

5) Discussion & Adaptive Management

a) Lessons Learned and Transferability

i) *Describe the lessons learned about effective and ineffective conservation practices associated with this project. Which of these key lessons should be shared with other conservation organizations?*

One of the important lessons learned in this project is that with limited staff and resources it is important to keep the project simple and targeted. Keeping the message and objectives clear and focused allows the project to be more transferable to other watersheds. It is important to stress the need to set realistic and attainable goals that are inline with available funding, as well as the organization's strategic mission.

ii) *To what extent did the evaluation and monitoring activities for this project inform your organization about effective conservation practices, and what lessons were learned from an evaluation perspective?*

The evaluation and monitoring activities for this project helped inform our organization of our progress and overall success in meeting the objectives of this project. Many of the objectives revolved largely around outreach and education. One of the lessons we learned is that once the information is available we need to make a strong outreach effort to keep it in the forefront of people's minds and work to get adoption and implementation on the ground.

iii) *Based on these lessons learned, what are your organization's next steps?*

Potomac Conservancy is committed to continuing the work we have begun in our priority watersheds until we meet our long term goals. Meaningful watershed protection does not happen over night and does not happen by reinventing ourselves on an annual basis. In order to achieve true success we will need to continue to work on protecting the most

critical areas of our priority watersheds and building strong personal relationships within the communities we are working.

b) Dissemination

i) *Describe the extent of information communicated to the general public, key partners, other practitioners, scientific experts. Wherever possible estimate the extent of the outreach using appropriate quantifiable indicators such as meeting attendance, publication circulation figures etc.*

It is difficult to quantify the exact number of people communicated to, including general public, key partners, and other experts through out the project. The landowners and professionals that were in attendance at the various meetings, workshops and trainings associated with this project, or received copies of the Cedar and Passage Creek reports, is estimate at more than 640 people. Hundreds more were reached through newspaper articles, newsletters, and other distributed educational materials. Potomac Conservancy's quarterly newsletter, which goes out to 3,800 households, highlighted many of the activities of this project and included detailed information on our land protection efforts and progress.

ii) *Attach any publications, brochures, videos, outreach tools, press releases and other appropriate "products" that resulted from this project.*

- Potomac Conservancy Spring 2008 newsletter, *RiverScape*, article: Conservancy protects 11,000th acre; *Partnering to Protect Working Landscapes* (pgs. 1, 6)
- Potomac Conservancy Summer 2008 newsletter, *RiverScape*, article: People Protecting the Potomac; *Caroline Stalnaker* (pg. 3)
- Potomac Conservancy Summer 2008 newsletter, *RiverScape*, article: Project Roundup; *Land Protection* (pg. 5)
- *The Valley & The Creek: the Timeless Connection Between Fort Valley, Virginia and Passage Creek*
- *Shenandoah Valley Herald*: article on Potomac Conservancy easement donor Caroline Stalnaker

6) References

i) Attach a list of secondary references used in conducting the project, including the evaluation.

No secondary references were used in the preparation of this report.

POSTING OF FINAL REPORT: *This report may be shared by the Foundation and any Funding Source for the Project via their respective websites. In the event that the Recipient intends to claim that its Final Report contains material that does not have to be posted on such websites because it is protected from disclosure by statutory or regulatory provisions, the Recipient shall so notify the Foundation and the Funding Source and clearly mark all such potentially protected materials as "PROTECTED," providing an accurate and complete citation to the statutory or regulatory source for such protection.*

Approved: _____ Date: __December 22, 2008_
Signature

__Kelly Watkinson, Senior Director of Land Protection____
Print name and title

National Fish and Wildlife Foundation
Project Evaluation Form

Project Name and Number: ***Targeted Watershed Restoration and Protection:Cedar Creek to Passage Creek*** #2006-0100-045

Recipient: Potomac Conservancy, Inc.

Project Location: Northern Shenandoah Valley: Cedar and Passage Creek watersheds

1) Were the specific objectives as outlined in your application and grant agreement successfully implemented and accomplished? Explain.

Yes, specific objectives as outlined in our application were successfully implemented, these objectives included;

- **Identify lands appropriate for targeting education and outreach on stream restoration and best management practices;**

Extensive GIS analysis of the land use and land ownership characteristics of Cedar Creek and Passage Creek have been completed. Information containing geographical, biodiversity, zoning, land use, and the most up to date landowner records has been complied and a number of maps have been created to identify and characterize the needs and restoration/protection potential of various regions in these watersheds.

- **Improve water quality by installing stream restoration and best management practices;**

Though we have been successful in other parts of the watershed working with Department of Conservation and Recreation to place permanent easements along restored CREP plantings totaling approximately 2.8 miles of riparian buffer restoration protection, we have been less successful encouraging new sign up of landowners in Cedar Creek to existing restoration programs. We are currently working with one landowner to restore both sides of a ¼ mile stream segment for a total of .5 miles of restoration but the process is slow going and the plan finalization and planting are not expected to take place until spring 2009 at the earliest. Part of the barrier of enrolling new participants in this process was the uncertainty of the continuation of the CREP program due to the complications and delay of the new farm bill being passed. In addition it seems that many of these same landowners are also weary of committing to existing restoration programs plagued by rumors of inflexibility and lengthy bureaucratic process involved in enrollment.

- **Inform and educate at least 50 private homeowners, local planners, and professionals about how they can reduce the amount of nutrients and sediments entering our waterways and provide them with hands-on training and technical assistance to increase implementation;**

Conservancy staff completed several education programs for landowners in the Cedar Creek and Passage Creek watersheds. More than 40 people attended the "Conservation Strategies for Forest and Farm Landowners Workshop" held at Lord Fairfax Community College in Middletown, VA. Topics included protecting land with conservation easements, purchase of development rights programs, importance of forest management in protecting water quality, and a review of local planning ordinances and tools to protect water quality and conserve farm and forest lands in the counties. Additionally, a rain barrel workshop was held in partnership with the Friends of the North Fork of the Shenandoah. More than 30 people learned how to make, maintain, and install rain barrels, and about the effects of stormwater on water quality. Information was provided on obtaining supplies locally and many participants left with plans to build a second or third rain barrel with friends and neighbors in the near future.

- **Increase wildlife habitat in and around rural and suburban restoration sites;**

Wildlife habitat was protected and enhanced by numerous activities during this project including the permanent protection of over 550 acres of forested lands through out the Shenandoah and Potomac River watersheds of Virginia and the education of over 40 forested landowners on best management and stewardship practices for their rural and suburban properties. A number of stewardship plans were created and/or updated by VA Dept of Forestry as a direct result of this work.

- **Permanently protect 300 acres of river and streamside lands vital to river health and water quality in the northern Shenandoah Valley;**

We are please to announce that we exceeded our land protection goals for the northern Shenandoah Valley by protecting more than 469 acres of land with more than 4.5 miles of critical riparian habitat, as well as 189 acres in the Piedmont region of the Potomac watershed protecting 3.2 miles of riparian habitat. This included 242 acres in the Cedar Creek watershed and 77 acres in the Passage Creek watershed.

- **Complete an ecological assessment of the plant and aquatic life of the Passage Creek watershed.**

The Passage Creek Ecological Assessment report has been completed. Three hundred copies of the report were printed and approximately 150 have been distributed thus far to residents of Fort Valley, county supervisors, members of the county planning commission, and left in supply for pick up at the local community center. The final printed report is titled: "*The Valley & The Creek: the Timeless Connection Between Fort Valley, Virginia and Passage Creek*". The report highlights the results of the fish, salamander, and mussel surveys performed during the summer of 2007, and the results of VADCR Natural Heritage's plant community surveys. In addition, valuable historical and personal accounts of Passage Creek and the Fort Valley community shared by Fort Valley residents are included in the report. These personal accounts echo the deep sense of place and community ownership that is shown by the residents of the watershed. Concerns for the future of Passage Creek and what residents can do to preserve the creek and the way of life of the area are also contained in the report.

2) Please assess project accomplishments as quantitatively as possible.

- **Number of miles of riparian habitat protected:** 7.7 miles

- **Total acres of land preserved by conservation easement as a result of this project:** 658 **acres**

- **Number of meetings/events/presentations held:** More than 20 meetings, events, and presentations were held as a result of this project. This includes 10 presentations and meetings in Passage Creek and 10 meetings/presentations in Cedar Creek as well as a few others throughout the watershed.

- **Publications and extent of distribution:** 200 additional copies of the Cedar Creek Ecological Assessment were printed. Approximately 75% of these new copies have been distributed to Cedar Creek landowners, businesses, and decision makers in Cedar Creek thus far. 300 copies of the Passage Creek Ecological Assessment have been printed and approximately 50% of these have been distributed to Passage Creek landowners and local governmental officials. 40 copies of the "Farm and Forestland Conservation Strategies Workshop" manuals were distributed and included in-depth information on: Principles of Sustainable Forestry, Comprehensive Plans/Zoning/Subdivision, Right to Farm and Practice Forestry Laws, Land Protection options, Ag and Forestall Districts and Use Valuation Taxation.

3) Assess the number of people reached through your work (e.g., landowners, students, organizations, agencies); did other land managers benefit from the project?

It is difficult to quantify the exact number of landowners reached through our work on this project. Over 640 landowners and professionals were in attendance at the various meetings, workshops, and trainings associated with this project or received copies of the Cedar and Passage Creek reports. Hundreds more were reached through newspaper articles, newsletters, and other distributed educational materials. Many other land managers were among the participants and presenters at our workshops. In this capacity, they certainly benefited through the promotion of their services, projects or management initiatives. A few specific examples include Virginia Department of Forestry (Forest Stewardship Plans), Virginia Department of Natural Heritage (program promotion), Farm Service Agency (CREP sign up) and the Friends of the North Fork as illustrated below.

As previously mentioned, the Conservancy held a rain barrel workshop in partnership with the Friends of the North Fork of the Shenandoah. More than 30 people learned how to make, maintain, and install rain barrel, and were educated on the effects of stormwater on water quality. Due to the increased costs of rain barrel supplies and delivery, the number of barrels distributed at this event was limited to 25. Information was provided on obtaining supplies locally and many participants left with plans to build a second or third rain barrel with friends and neighbors in the near future. Demand for the workshop far exceeded our supplies and because of this the Friends of the North Fork took advantage of the opportunity and held another rain barrel workshop using the program materials the Conservancy developed for this event as a template.

4) Were any surveys or interviews conducted with partners to help gauge the success of your efforts?

Surveys were conducted at the Farm and Forestland Conservation Strategies workshop and the estate planning workshop. These surveys are important in gauging the appropriateness of information presented, as well as to serve to provide us with important feedback on the format of the workshops. Feedback was generally positive about the events and many people requested that we set up appointments to discuss issues specific to their properties or send additional information.

In addition to these surveys, an important component of our Passage Creek Ecological Assessment was conducting interviews with key community members in the Fort Valley. In this respect we consider landowners not only as stakeholders but as partners helping us identify the key issues and concerns for the citizens of the community we were interested in learning more about and beginning to work in. These interviews provided invaluable insight and lent credibility to our report in a community weary of outsiders.

5) How will the project be evaluated in terms of monitoring or assessment of cause-and-effect response? Describe the evaluation timescale (e.g., one year, five years, 10 years). How will monitoring results be reported?

Monitoring and evaluating the permanent protection of land has and will continue to involve careful tracking of the progress of conservation agreements help by the Conservancy as well as other organizations working in the region. Conservation easements are difficult to predict on an annual basis due to the nature of easements, which are labor intensive and may require years of education and cultivation prior to finalizing the transaction. Success in this area will continue to be measured as long as we are inexistence. In addition to measuring our land protection successes in acreage we will now be able to more accurately tract the effectiveness of our targeted and strategic outreach and education by comparing our successes with the list of identified parcels and landowners on our priority maps. These will be particularly important over the next 3-5 years as we hope to meet our goals in Cedar and Passage Creek and move onto new priority sub-watersheds in the Shenandoah and Potomac watersheds of Virginia.

6) Does this project fit into a larger program, spatially or temporally? If so, how has that program benefited from your work? (For example, an easement or on-the-ground work that connects or benefits other protected properties.)

This project fits nicely with the mission of Potomac Conservancy, which is to protect the health, beauty and enjoyment of the Potomac River and its tributaries. The project also fits within the larger programs of the State of Virginia outlined in the Shenandoah-Potomac Tributary Strategy, and the Clean Water Act being implemented by the Chesapeake Bay program. Our work on this project has helped benefit these larger programs by educating landowners, on agricultural and forestry best management practices recommended to help protect water quality. Our work has secured easements on important streamside, scenic, and working lands in Virginia, which is helping to attain the land conservation goals laid out by Governor Kain for the state. One particular easement includes a 151-acre working farm in Frederick County with just under a mile of frontage on Cedar Creek. The protection of this property was in line with both Federal and state land protection initiatives and was awarded Federal monies from USDA's Farm and

Ranchland Protection Program in the amount of $300,000, in addition to $250,000 awarded by the state's Virginia Land Conservation Foundation. In addition to working to help achieve state and federal goals, these programs help meet the goals and objectives of the local county governments, such as Frederick County, who has identified rural and agricultural preservation and vitality as important components of their comprehensive plan. We are now in the process of placing a conservation easement on the parcel adjacent to this property and have had conversations with other neighboring landowners wishing explore easements as well.

7) Does the project incorporate an adaptive management component? If so, please explain. Any lessons learned that will guide future implementation of this, or similar, projects?

Potomac Conservancy is continually assessing our education and outreach techniques in an effort to adapt our techniques and achieve better results. Due to the prioritization mapping completed as a result of this project and the tightening and refining of our goals and objects of our land protection program we are now better equipped to understand the impact of our work on the specific areas we are targeting. This will allow us to better adjust our methodology in accordance with our true effectiveness. Much of our current work and focus is a direct result of past adaptive management. For example, we initially began our outreach efforts in the Shenandoah Valley region with a broad approach to the issues and region to gage the interest and knowledge of the organizations and landowners in a watershed. Once we had a clear understanding of these issues, we refined our approach and focus to target specific types of landowners in a smaller region in an effort work more efficiently with our limited resources and make a difference in a concentrated area.

8) Was there a local/regional/national response? Any media/press involvement?

As part of Potomac Conservancy's efforts to raise awareness of permanent land protection opportunities in Virginia and in an effort to commend and recognize exemplary easement donors we nominated Caroline Stalnaker and the Mount Pleasant Farm conservation easement project for the 2008 Governors Awards for Environmental Excellence. Mrs. Stalnaker's property is located along Cedar Creek and her efforts to protect and conserve water quality, forest resources, and agricultural lands have gone above and beyond most landowners we have had the pleasure of working with. We were successful in this nomination and Carolyn received a bronze metal and award from the state in recognition of all she has done. This award was presented at the awards banquet of the Virginia Environment Conference and received a significant amount of press at the state and local level.

In addition to these articles we have made a strong effort to get workshops and meetings covered in the appropriate local publications.

9) To what degree has this project contributed to the conservation community as a whole?

This project has contributed to the conservation community as a whole by further educating landowners, professionals, local government officials, and community members about ways to protect water quality and important wildlife habitat. By working in partnership with other conservation organizations in the area, we have mutually benefited by both giving and receiving referrals from other partner groups in the headwaters region. This approach enables us to point

to community members to the appropriate organization who can best meet their needs. There are many missions and strategies guiding the work of conservation organizations in the community. Through continued efforts to work together, the land and water conservation organizations and state and federal agencies are finding more ways achieve greater conservation results. Through this project we have helped reduce the load of pollutants entering the Shenandoah River, permanently protected river and streamside lands, and promoted the adoption of best management practices. Many of these goals mirror those of other organizations in the conservation community. It is only by working together toward a common vision that any of us will ever truly fulfill our missions.

10) Did your work bring in additional partners, more landowners, et cetera, who would be interested in doing similar work on their land in the future? If so, please describe.

Decisions to make meaningful management changes on your properties, including the donation of a conservation easement, take a significant amount of time. Many landowners educated throughout the length of this project will implement the conservation tools presented in the near future. These efforts will have a compounding effect over the long run when riparian buffers have fully established and failing streams have been repaired. As more landowners implement management practices and realize the benefits, they will promote these practices by being examples of success. Change often happens slowly at first, but with time and continued education we believe that more landowners and communities will make informed choices to protect water quality and the important resources that make the region special.