

Donaldson Run Tributary B Stream Restoration – Update and Community Meeting Summary of Audience Questions and Panel Member and Staff Answers

June 23, 2010

The meeting opened with a presentation by County staff to provide an update on the 60% designs of the Donaldson Run Tributary B project. Following the presentation, meeting attendees could comment or pose questions to a panel of experts on watershed management and stream restoration. Information on the panel members is attached at the end of this summary.

Sharon Jolly: The County's watershed management plan said we would not have increases in runoff in our streams. However, in Little Pimmit Run (LPR) we may have an increase of up to a foot because of upstream culvert replacements and other projects. If runoff increases in Donaldson Run like in LPR, will the restoration handle that?

Jason Papacosma (Arlington DES): The restoration is designed to be able to handle small increases in flow. However, any changes in the watershed that might cause a larger increase in discharge to the stream would need to be managed. In Virginia, stormwater regulations are in process of being changed, so the local governments will have more capacity to control the volume of runoff from development sites. Currently in Virginia, local governments do not have the authority to control the volume of runoff from single family home sites. Virginia is a Dillon rule state, which means that the State must pass enabling legislation before local governments can enact certain laws.

Mike Green: How long does it take to see benefits from stream restoration?

Jim McGlone: In terms of the trees, the forest canopy will close in about 10-15 years. In 50 years, the trees will be 75 to 85 feet tall.

Greg Zell: My comments are based on work performed in Tributary A, but with this project a closed forest will be replaced with an ecotone or edge, creating a more diverse habitat for wildlife. Cleaner water will equate to more abundant benthic or aquatic life, and there should be increases in butterflies, dragonflies and damselflies, several species of snakes and birds of prey. The diversity of wildlife will not decrease as a result of this project.

Dean Amel: The recreational benefits are pretty immediate. When I walk along Tributary A, I almost always see kids playing in the stream. The restoration has made the stream more accessible and usable.

Bill Stack: Usually within 2 years, you see increases of wildlife. In Baltimore where we have done some stream restoration projects surveys of users in parks have been positive. There was some initial resistance, but that turned around after the projects were completed. Several opponents of the stream restoration project called later to thank the City for completing the project, and apologized for opposing it.

Jenny Molloy: Another immediate benefit from the restoration is the reduction in sediment exported from the stream, which helps the County meet regulatory requirements for water quality.

Stefan Fink: I have lived in the area a long time and I walk along the stream every day. I read about Dave Rosgen, who developed the natural stream channel design technique the County is using for this project. I read about a project he did in Colorado where he used large boulders and tree trunks to restore a stream. Tributary B is not the same as Tributary A, and it is not Colorado. I am concerned about the radical nature of the project. The loss of trees is abominable. Future generations won't know how the valley looks now, and it will heal over time. But the impacts of surgery on Trib B will be too much. It is a

very narrow channel and there is no room for flood prone areas along the channel. Long term erosion is caused by neglect. We need to rectify this problem, but this is not the way. Natural step pools are already there. I walked many streams in Austria and what they have done there is less radical and those streams are much steeper. Preserve the natural beauty and keep it the way it is.

Jim McGlone: You may want to check out the Reston stream restoration project. They used equipment that puts out less downward pressure than a human step. You can scale equipment to the project. I assessed the health of the forest along Tributary B. If I was making a recommendation on the best way to manage this forest, I would recommend removing half the trees. The basal area is 190 square feet. It should be about half of that to improve the health of forest. Also, the trees are almost all tulip poplars. Tulip poplars are not bad trees, but there are other trees, like oaks, that support many more types of insects. With the re-planting you can add more diversity of trees and also trees that support many more moths/butterflies, which is what the birds feed their young (base of food chain).

Asad Rouhi: With a stream of this nature, any alternative for restoration will not be as good. Spot stabilization would also require using machinery and bringing in stone and materials. The natural channel design restoration approach causes a minimum amount of impact on the stream, because you can work from inside stream. With the spot stabilization methods, you spend more time putting machinery in and out of stream, and you have to come back every few years. There is more damage to vegetation over the long term.

Greg Zell: The forest along Tributary B does not rise to the level of a high value natural community. It is heavily infested with invasive plants that should be removed as part of the project and replanted with native species. I have advised the County that any project on County property that creates a major disturbance should include an invasive plant removal component. This is an opportunity to restore the forest to a more natural state.

Dean Amel: The sanitary sewer is there and if we don't do anything, we'll have to bring in equipment to fix that. Stream restoration will help protect that sewer line so you don't need to do repair work in the future.

Eli Eilbott: I have noticed that there is English Ivy along Tributary A that was not removed, and it starting to come back into the restored areas. Is removing invasives from only part of an area beneficial?

Greg Zell: Invasive plants are a major issue in the County. We have six Americorps volunteers working on it full time. I have recommended that the County seek CIP funding to deal with the problem county-wide. Many of our parks have private yards backing up to them, and we cannot restrict invasive plants on private property. Lubber Run is an example of a community and County partnership has helped to remove 98% of the invasive plants within a 25 acre park.

Eli Eilbott: Why hasn't the County done that type of partnership to remove invasive plants with private property owners along Zachary Taylor? I have another question as well. We met with people from Biohabitats and they suggested raising the stream bed instead of cutting down the banks. You can save more trees by raising it up and re-connecting it that way.

Asad Rouhi: That is a good approach, but in some tight valleys there may not be room.

Jason Papacosma: Yes, that is the approach we did with Tributary A, and the same approach we will take with Tributary B. We will raise up the bed of the stream to re-connect the stream with the floodplain.

Dean Amel: That is a good point about Lubber Run and the invasive plant removal. Go see it if you can. Eighty homeowners were involved with the invasive plant removal effort. We know we could have handled the invasives better on Tributary A, and we learned something and will modify our approach for future projects.

Gordon McDonald: I am a 30 year resident of the neighborhood and I oppose any more work on the stream. The devastation to the woodland is shocking. The County took down decades old hardwood trees. Maybe the stream had some exposed pipes, but the stream is now more like a storm sewer. I don't see any benefits from the projects.

Jenny Molloy: Jason showed that the stream insect communities have improved - they are the best indicators of stream integrity. Also, Jason showed the picture of notable differences in sediment loads from Tributary A and Tributary B. Absolutely there are water quality benefits. There are also short term impacts to the tree canopy, but it is a ecosystem and you have to look at the whole system. This project aims to restore the stream hydrology, the forest canopy, and also the Chesapeake Bay.

Bill Stack: Remember the graph of the sediment source that Jason showed? It estimated about 25% of sediment in the Bay from urban streams, and I've seen some estimates higher. Phosphorus is a nutrient that is often attached to sediment, and it causes excess algae growth and low oxygen conditions in the Chesapeake Bay, which kills fish, crabs, and other wildlife. Stream restoration is a very valuable practice to reduce sediment and nutrient pollution.

Elenor Hodges: In Arlington, we need models of projects in which many environmental programs come together. This project is a model of that approach. Also, the stream is more accessible for recreation and education now.

Jim McGlone: There is beautiful forest along Tributary A. The forest that is along Tributary B is all tulip poplar. If you wanted to get some other types of trees in there, you need to open the canopy to allow oak and hickory to come in. They need openings in the canopy to mature. It's good for forest habitat to have some canopy openings.

The trees along Tributary B now are stressed from over-crowding, and also from water stress. Perennial streams flow because they are connected to groundwater. As the streams get deeper, the groundwater gets deeper too and it makes it harder for the trees to get water. By raising the stream bed up, it brings the groundwater level up as well, which is good for the trees.

Mary Glass: I find this discussion very discouraging. We were not allowed to have our experts present or make presentations on our own. There are changes that can be made and some alternatives that can be used, like Eli mentioned. This is not an open process. Ninety people that signed a petition were not invited to the meeting. Critical factors have not been considered. Stream restoration is good if used in the right place. Tree removal is good in the right place. This is not a sewer project, it's a beautiful, aesthetic area, and a community park. The failures with the first restoration project are not resolved. The same thing will happen with Tributary B. We have lived here a long time, done volunteer work, removed invasives, raised children, and we have community values. This is our home. We don't just visit the park, we have lived here for our whole lives. You need to hear these comments and understand the importance of this park to us.

For the panel members, I would like to ask: what is your relationship to the County? Have you actually visited the the stream?

Jenny Molloy: I work for EPA and I am representing EPA here tonight. I live in Arlington, and I have visited the stream and I also looked at the plans for this project. I have volunteered with my neighborhood civic association and I am very familiar with the County and our local streams. The proposed project does include a balance of both stream restoration and upland stormwater retrofits to reduce the amount of stormwater discharging to the stream; both are critical to achieving hydrologic stability.

Bill Stack: I work for the Center for Watershed Protection. We are doing retrofit assessments to look for places to add stormwater treatment facilities for Arlington and all over the country. Retrofits control smaller amounts of water. I have walked the stream and I am an advocate of stream restoration. The stream needs to be restored. The Center for Watershed Protection is a resource for the County.

Dean Amel: I am representing myself as a volunteer. I have probably planted more trees than most people here. I do love trees. I am disturbed that people think Tributary A looks like a storm sewer. I have cleaned trash from other streams that look much worse.

Elenor Hodges: I am representing Arlingtonians for a Clean Environment. I am an Arlington resident and a biker and I enjoy Tributary A very much. I take my kids there frequently and I feel like it's more accessible. Our Board rarely takes position on resident issues, but I have met with Mary, and Mary you are welcome to come to an ACE Board meeting and we can discuss further.

Greg Zell: I used to live in Arlington County until I could no longer afford it, but I have worked for Arlington County for 28 years. I have recently completed a natural resource inventory for Arlington and have walked every wooded park in the County, including Taylor Park. As a preservationist, I was initially opposed to the Tributary A project because I did not like the idea of altering the natural topography. However, I came to realize that the only way to tame the torrent of water rushing down the valley was to establish a wide floodplain where the energy could dissipate. There are some sections of stream and stream valleys where I would not support a project such as this because of the sensitivity of the resources found there. In some parks we have state and globally-rare plant communities, but this project area does not rise to that level. I am here tonight representing Arlington County.

Asad Rouhi: I am representing the Northern Virginia Soil and Water Conservation District. I have walked the stream many times and also after storms, and I have looked over the plans for the project.

Jim McGlone: I work for Virginia Department of Forestry and I give advice on forest management in Northern Virginia. One part of the forest along Tributary B is in good condition, and I looked very hard at the plan in that area to make sure that it is protected. The rest of the forest is mostly tulip poplar and invasive plants, and could be improved. I grew up in Northern Virginia and I played in the streams when I was a kid. They should look like Tributary A. Most of our streams used to look like that.

Bill Richardson: Mary, if you have experts that you wanted to bring to the meeting, I thought they could come tonight.

Mary Glass: They were not invited.

Jason Papacosma: Mary's experts were welcome to come and ask questions of the panel members, or make comments on the project.

Bill Richardson: What are the "do's and don'ts" of stream restoration? What are the best practices for contractor management, and how to minimize damage? How can we minimize invasives with stream restoration projects?

Dean Amel: The County has an invasive plant coordinator. We have learned it's important to coordinate about invasives earlier in the project planning. One approach might be to seed with grasses first and wait until the invasives return, then treat the invasives, and then put in the new trees one year later.

Greg Zell: Invasive plants should be immediately removed, but you have to remember that in addition to a native seedbank, in areas that have been invaded for many years, there will also be

a seedbank of invasive plants. The area will need to be retreated to remove additional seedlings that come up. You may be able to immediately replant some small trees or shrubs, but should not try to replace the herbaceous layer until invasives are under control. It may take up to several years, and you will have to carefully spray around any trees planted.

Bill Stack: There were lessons learned with construction process. Pre-qualification of contractors and verifying their experience is important, as is on-site management of contractors.

Asad Rouhi: It is very important to have the right contractor and good oversight of the contractor is critical.

Kathy Richardson: I am in support of the stream restoration project. I grew up here and played in all the streams, and it's heart-breaking to see the degradation of the streams that has occurred over time. Science is messy and doesn't always go perfectly. Some of the unhappiness with the first project is stuff that doesn't matter to scientists, but matters to us. Leaving tree snags with fluorescent X's painted on them, downed trees, and big piles of invasives plants is unattractive. I hope this time you pay attention to the aesthetics after the project as well. Don't leave piles of wood and ugly snags. There are other snags already in the woods for the birds. This time clean up afterwards and be sure you have a certified arborist to manage tree removal. Monitor it very seriously. It is too easy to destroy things if we aren't careful. We all share values that stream restoration and forest restoration are linked and we miss the shade, but it will come in time and the trees will last for hundreds of years. I demand that you have an arborist to manage the tree removal.

Jim McGlone: Tree snags are habitat. It's good to have 10 snags per acre (small and large). Downed wood is also good for birds and insects and for amphibians and can help with erosion as well.

Greg Zell: Kathy, that's a good point. There are ways to keep wood for habitat, but spread them around so they don't look like man-made piles of wood, so they blend in with the forest more..

Scott Newlon: What I've heard has disturbed me a lot. Tributary A and the problems – shouldn't we know more about it before we do another project? 70-80 trees will be removed...that seems like a lot. We are not in timber production and the forest has value to us. We saw before pictures with undercut trees along the stream, and then in the after pictures, all the trees are gone. Clearly with Tributary A, we didn't know what we were getting into. Do we know how many trees fall down each year? I see some that fall down. I see sycamore trees. I see oak trees planted, but they are out stripped. The justification for Tributary B based on invasive plants is simply not valid. Take a small fraction of the budget and do invasive plant removal instead.

Jim McGlone: I am not suggesting that tulip poplars are worthless. They are good for timber. However, if the goal is to improve wildlife habitat, you need to remove some poplars and plant other types of trees. Along Tributary A, it would be good to remove some of the volunteer sycamores. If you open up the canopy some, you can grow some oaks. There is a five year old oak in my yard that is already 12 feet tall.

Asad Rouhi: We learned lessons about construction and plants, not so much about the technique itself. Stream restoration projects are unique and the sites are unique too.

Dean Amel: Tributary A was not a failure. There were two lessons learned: oversight of contractors is important, and this deficiency can be corrected; and managing invasive plants is crucial.

Greg Zell: This project is not about invasive plants. But I have advised the County to include invasive plant work as part of any project that disturbs soil, whether it is in a wooded park or open area.

Eleanor Fink: I have three quick points. Regarding kids in the stream, Taylor school took kids down there for years before as well. So kids have used the stream for recreation for years. I also second the call for have a certified arborist manage the tree removal. With regard to maintenance, what is the maintenance plan? Tributary B has suffered from lack in maintenance.

(Staff noted that they would answer this question at the end of the speaker comment period, to make sure the last couple of speakers had time to make their comments).

Charles Cluson: I have lived in Arlington for 36 years and have training in natural resource management. I cannot support this plan. I could support it with modifications, but not this plan. I don't live in Donaldson Run Civic Association (DRCA). DRCA doesn't own this park. My civic association is Old Dominion and we haven't been contacted about these projects. This is remarkable forest that extends down to Potomac. It's a special area and we should have it managed better.

The Channel Evolution Model – this is fine but there are lots of other stream shapes, such as V shapes and U shapes. Below Military is beautiful and trees there probably haven't been cut since the Civil War. Tributary A used to be part of that ecosystem, but it's been divided. Just maximizing the number of species is not the only factor...what species are there and what are you losing?

Tributary A was way overdone. Taking bulldozers up there was overkill. Bulldozers killed some trees and now we have more snags. Tributary A could be done with a backhoe working from the trail. Very careful work can be done. With regard to maintenance – the County Board Chair said we don't have staff for maintenance and they want it to be easy to maintain. Tributary A has issues already. Runoff from Taylor School is creating a gully and rocks are washing under the bridge.

Greg Zell: I am familiar with Donaldson Run and the lower section contains significant natural resources and locally-rare plants. It does have a natural V-shaped valley and some sections are free of invasive plants. But the lower stream has also suffered from erosion and in some areas is 10 – 15 feet lower than it was. Tributary B and the section above Military Road does not have the same resource value. But wildlife diversity will not decrease in Taylor Park as a result.

Stephen Powers: My property backs up to Tributary A and the stream actually runs through my property. I am an environmental engineer. I am raising kids here now in the neighborhood. I think the project is fabulous. The erosion control in my backyard has been great. The County re-planted trees in my yard, including dogwood, redbud, oak. They are great. People are playing in the stream all the time. I have wildlife, racoons, deer, foxes, snakes. It's why I chose the house and why I live there. I support moving forward with the Tributary B project right away.

Larry Finch: I have lived here since 1966, and I have seen the stream evolve since 1966. The stream was not too bad at that time, but we've seen it degrade slowly over time. With the first project, I was pretty naive and it was more extensive than I expected. Before the first project, I asked Asad if we couldn't use bobcats instead of big equipment to do the stream restoration? Asad mentioned that some of the rocks are heavier than the bobcat, and you need big equipment to move those bigger rocks. I work all over County to preserve trees. It was painful to lose trees. But we have to prevent erosion and the water quality in the stream is better. I go out during storms to see the water quality. I like Jim's idea for oak trees for wildlife. I support the project.

Jason Papacosma (DES): Regarding maintenance, the County agrees that maintenance of the vegetation (additional plantings and invasives control) following restoration is very important, and a maintenance program will be in place for Tributary B as is the case currently for Tributary A.

Eli Eilbott: Why and how often does the County flush chlorinated water from the water tower down the stream? When that happens you can smell a strong odor of chlorine and it is a large volume of water.

Jason replied that he is getting more information on the frequency and volume of the tank draining. Aileen noted that County staff do remove chlorine prior to draining the water supply tanks, although sometimes there is a residual chlorine smell in the air.

Mary Glass: If you'd like to find out more about alternatives to the County project, check out www.SaveDonaldsonRun.com

Comment received via email from Baxter Hunt:

I want folks involved with this project to know that I strongly oppose the stream restoration project. The reason I am opposed is the impact that this project will have on the Zachary Taylor nature trail. I live at 4200 N 31st Street, and my family and I use the trail several times a week. It is a big part of our exercise routine and we treasure it as a green oasis in the middle of Arlington. After seeing the impact of the stream restoration project on one side of the Zachary Taylor nature trail, we very much want to avoid that outcome on the other side. Specifically, we were very unhappy to see the stream area denuded of mature trees, which gave the affected area the look and feel of an open field rather than a nature trail and makes the area much hotter in summer. We also expect that removing a large number of mature trees cannot be good for the local environment. I have to think that there are ways to address stream problems without doing irreparable harm to our nature trail.

Comments received via email from Peter RavenHansen

My wife and I attended the forum last night, and we wanted to thank you for a well-organized and clear presentation of a complicated issue to a lay audience. We appreciated the self-evident care you took to prepare your presentation. We also appreciate the impressive expertise you assembled for the forum, and the time they gave to this, in the scale of things, small local project. The County's residents are lucky to have people like you working for us.

I had to leave before the end, but had I stayed, one question I would have put is whether the county plans to re-hire the company that did the Tributary A restoration, and, if not, why. My impression was that the A restoration did not go entirely according to plan. I also thought that many of the plants that company put in were themselves "compromised" to my untrained eye (I'd say, "dead as a doornail," either then or within months), and that the ground cover was added later as a bit of an afterthought. I think we still support the project, based on your explanation, but I am left with a nagging question about how the Tributary A contract was performed.

Response from Jason Papacosma (DES):
Thanks for your comments.

We were not satisfied with some of the work done by construction company that won the bidding process for construction of Tributary A. This firm was qualified on paper but had significant quality control problems. One of the things we learned on this project was the need to have much tighter construction specifications, standards, and oversight.

Due to the quality control problems we documented, this firm paid for half of the repair work following the June 2006 flood. While it was clear that this was a major flood and the project had only recently been completed and therefore plantings did not have a chance to establish themselves to hold the soil, it was clear that critical elements of the project, including the size of the rocks in the streambed (too small) and the depth of the channel (too deep), did not meet the County's design specifications.

So, in short, we will be paying extra attention to how we procure and manage the construction of the Tributary B project.

Panelist Information

Dean Amel has been a member of Arlington County's Environment and Energy Conservation Commission since 1997 and of the Urban Forestry Commission since 2002. He chairs the Little Pimmit Run Advisory Committee and the Solid Waste Committee, and is a member of the Chesapeake Bay Ordinance Review Committee, the Long Bridge Park Design Advisory Committee, the Land Acquisition and Preservation Subcommittee and the Natural Resource Management Plan Working Group. In his day job, he is a senior economist with the Federal Reserve Board.

Elenor Hodges has served as the Executive Director of Arlingtonians for a Clean Environment, a community nonprofit that is working to make Arlington sustainable, since 2000. Elenor has been working in the environmental field for over 20 years and has extensive experience managing environmental education and community programs. She has worked throughout Arlington County engaging students in watershed education programs, helps manage the Northern Virginia Rain Barrel Program, and is a volunteer with Arlington County's stream monitoring program.

Dr. Jim McGlone is an Urban Forest Conservationist with the Virginia Department of Forestry assigned to Northern Virginia. He has participated in the planning and installation of several stream stabilization projects based on Rosgen natural channel design principles. He is recognized by the Virginia Department of Forestry as an expert in urban riparian forestry and has examined and written management plans for thousands of acres of forestland in Northern Virginia.

Jenny Molloy has worked for 6 years at the U.S. Environmental Protection Agency as the coordinator of both the municipal stormwater program and the green infrastructure collaboration. She is currently on detail to the Chesapeake Bay Program Office to coordinate efforts to implement stormwater commitments under the Chesapeake Bay Executive Order Strategy. She has training and experience in stream ecology, geomorphology, water quality, stormwater management including Bachelors and Master degrees in aquatic biology. Ms. Molloy has coordinated several stream restoration projects.

Dr. Asad Rouhi is a Conservation Engineer with the Northern Virginia Soil and Water Conservation District. He is experienced in watershed and stream corridor restoration and erosion and sediment control. Asad has designed, constructed and monitored several stream restoration projects in Fairfax County. He regularly gives technical advice to government agencies, private industry and local citizens on stream restoration, stormwater management, and erosion and sediment control.

Bill Stack is a professional engineer who has worked in the environmental restoration field for over 33 years. He recently joined the Center for Watershed Protection as the Deputy Director of Programs. Prior to coming to work with the CWP, Mr. Stack spent 30 years working for the Baltimore City Department of Public Works where he retired as Chief of the Surface Water Management Division and was responsible for implementing 6 stream restoration projects (approximately 3 miles in total) with several more under design.

Greg Zell has worked for Arlington County for 28 years as a naturalist, nature center director and is currently a Natural Resource Specialist. He has broad experience in the environmental field, including conducting environmental assessments, biotic inventories and studying urban wildlife. He has served as a consultant to the Department of Environmental Services in the area of natural lands restoration and preservation of native plant communities.