

*Fairfax County Stormwater Planning Division*

**BELLE HAVEN, DOGUE CREEK, AND FOUR MILE RUN WATERSHEDS INTRODUCTORY AND  
ISSUES SCOPING FORUM  
WEDNESDAY, JANUARY 14, 2009**

**Huntley Meadows Park Visitors Center**  
3701 Lockheed Blvd.  
Alexandria, VA 22307

**I. Welcome and Introductions**

Lugene Keys, Senior Public Involvement Specialist, KCI opened the meeting by welcoming the participants, and thanking them for coming out to take part in the watershed planning process. She introduced the representatives from Fairfax County – Fred Rose, Eric Forbes, Russ Smith and Darold Burdick and the KCI representatives – Bill Frost, Bill Medina and Hylton Hobday. She then turned the meeting over to Fred Rose for opening remarks.

**II. Opening Remarks**

Fred Rose, the Chief of the Watershed Planning and Assessment Branch, Fairfax County, thanked the attendees for coming out. Mr. Rose explained the county-wide watershed planning process that the county was undertaking and the purpose of this meeting. He noted that as a part of this important process, the county would be forming a Watershed Advisory Group in order to assist in further developing the watershed workbook and identifying solutions to the problems that are identified with the watersheds. He emphasized the importance of having a wide range of local interests and businesses represented on the advisory committee. Mr. Rose then introduced Supervisor Gross, the Mason District Supervisor, and invited her to address the audience.

Supervisor Gross welcomed the audience and explained that she had been a resident or lived in the vicinity of the Dogue Creek watershed area for many years. She noted that the role of the local citizen, the resident, and the individual was very important to this planning process because these individuals tend to be more sensitive to the presence of improper discharges or dumping in the vicinity of the streams and creeks that are near their properties or recreation areas. Accordingly their involvement in helping the county protect and preserve the local watersheds, beginning with the creeks and streams that feed into the source, was critical as they are key to improving the Chesapeake Bay.

Supervisor Gross discussed the county's commitment to protecting and preserving the environment as demonstrated by the county's 20-year Environmental Vision Plan. She noted that the county led the nation in an effort that was presented at the national Association of Counties annual conference.

She noted that she understood that she was 'preaching to the choir,' but she explained the critical role of public participation and support of the watershed planning initiative. Supervisor Gross

said she looked forward to seeing the Watershed Advisory Group (WAG) recommendations, and getting projects going.

### **III. Power Point Presentation**

Upon the conclusion of Supervisor Gross's remarks, Ms. Keys returned to the podium to review the agenda for the Power Point presentation. She noted that Eric Forbes would be presenting the watershed overview, and Bill Frost would present the draft watershed workbook summary portion, and that she would discuss the public involvement component and convene the open house following the presentation. Ms. Keys asked the audience to make notes of any questions they had during the presentation, and hold them until the presentation concluded so we could get through the entire presentation in a timely manner.

- **Watershed Primer: An Introduction**

Eric Forbes provided the audience with a general overview of a watershed and oriented them to the sections of the Belle Haven, Dogue Creek, and Four Mile Run watersheds that were the focus of this project. He addressed stormwater management and the importance of controlling stormwater runoff from a variety of sources ranging from roof tops to impervious surfaces. Mr. Forbes mentioned that some watershed plan groups have already been organized, and that others will be organized beginning with an issues forum like the one being held this evening. He explained that another public forum would be held to provide an opportunity to review the draft plan before it is submitted to the Board of Supervisors for approval and implementation.

Mr. Forbes explained the goal of the watershed planning process was to gather and assess data to determine the state of the watersheds, then identification of the problems and potential solutions to those problems. The final stage is the implementation of those solutions that will allow us to enhance and protect the watersheds. Mr. Forbes also reviewed what some of the common watershed issues are ranging from land use, illegal dumping, and runoff from lawns – and even people who do not clean up their pet's waste when they're outdoors.

Mr. Forbes concluded his comments noting the widespread benefit of protecting and preserving our watersheds.

- **Watershed Workbook**

Bill Frost of KCI discussed the activities undertaken to develop the watershed workbook - mapping, field assessment and monitoring, and analysis. The three watersheds have been subdivided into Watershed Management Areas (WMAs). The Belle Haven and Fairfax County portion of Four Mile Run watershed areas are small enough that each could be analyzed as a single WMA. Dogue Creek has been subdivided into five WMAs.

Mr. Frost listed the following three watershed goals for Fairfax County:

- Improve and maintain watershed functions in Fairfax County, including water quality, habitat, and hydrology.
- Protect human health, safety, and property by reducing stormwater impacts.

- Involve stakeholders in the protection, maintenance and restoration of county watersheds.

Project staff used the results of map analysis to determine several watershed characteristics. All three watersheds were substantially developed before the advent of stormwater management regulations, and are essentially built out at this point, with only four percent of the area forecast to change land use. While land use will remain relatively stable, some specific areas are expected to redevelop.

Four Mile Run is the most highly urbanized, with only five percent of the area remaining in open space, and overall imperviousness estimated at 36 percent. Belle Haven follows, at 70 percent developed and 32 percent impervious. Because of the large undeveloped areas within Huntley Meadows and Fort Belvoir, Dogue Creek was much less urbanized, at 54 percent developed and 19 percent impervious.

Field work focused on stream assessment, as follows:

- Physical Assessment -- Conducted by the county, to rate bank stability, channel erosion, and aquatic habitat.
- Water Quality Monitoring -- Conducted by the Virginia Department of Environmental Quality used to identify impaired waters not meeting "fishable, swimmable" criteria (<http://www.deq.virginia.gov/wqa/homepage.html>).
- Biological Monitoring -- Continuing assessment of macroinvertebrates, habitat, and water quality conducted by the county as part of the Stream Protection Strategy program.

The process of analysis included spreadsheet calculations of pollutant loading, integrated with monitoring and mapping data to identify priority areas for retrofits and provide a method of rating potential improvements as the planning work goes forward.

- **Public Involvement**

Ms. Keys reiterated the importance of the public involvement component of the watershed planning process. She noted that this meeting was the start of an ongoing dialogue that the county wants to establish with the public as part of the continuing effort to protect and preserve Fairfax County watersheds. She pointed out the two comment forms that were given to everyone at registration – the Workbook Comment Form and the general Meeting Evaluation Form. She explained that the Workbook Comment Form could be used tonight or it could be taken home if participants felt they needed more time to think about potential watershed issues; however, our goal was to have all comments in by February 16. She pointed out that this form contained an area for general comments on the watershed workbook, and that there was also a place to indicate an interest in being a part of the Watershed Advisory Group.

She explained that the meeting evaluation form was designed to enable us to make sure our meetings make the best use of our meeting participant's time, and we would appreciate them offering any suggestions or recommendations they may have. Ms. Keys reviewed the various avenues that were available for the participants to provide their comments to the county.

Ms. Keys continued with a discussion about the formation of a Watershed Advisory Group (WAG). She noted that we wanted to form a group of 12 to 20 members that would represent a diverse range of interests such as businesses; landscapers, and resident organizations. She noted that in addition to exchanging ideas and expressing concerns, it was also important that the member act as a conduit for information between the county and the interests they were representing, to keep information flowing both ways. She again encouraged those who might be interested to let the county know as soon as possible since our goal was to get the group up and running as soon as possible.

Upon the conclusion of these remarks, Ms. Keys opened the floor for a question and answer session. The following questions/comments were posed and responded to over a twenty-minute period following the presentation:

1. Can the watershed process be used to influence land use plans? Can it be used to promote smart growth?
2. The 2001 study data doesn't line up with what you are presenting tonight.
3. To what extent does VDOT get involved in the solutions?
4. This is the first time I've seen the goals, and a while ago, we asked that the plan be geared toward becoming Chesapeake Bay compliant – but this isn't mentioned anywhere. Isn't that the goal?
5. The process – in terms of the WAG – I hope there are different ones for each watershed. Also bigger players should be a part of the WAGS – VDOT, Fort Belvoir, the National Park Service, the whole Route 1 business community. Also, it is important for WAGs to focus on policy – you're just talking about projects.
6. BMPs are not exclusive. When you're citing information on phosphorus – how do you identify the difference between phosphorus from road runoff and phosphorus from fertilizer?
7. This is my first experience with something like this – what is your timeframe, when is implementation, and how do you document our concerns?
8. Stormwater management ponds – the focus is on streams but ponds can be more of a resource for filtering water. You can treat wet ponds like wetlands and dry ponds like native meadows. You're losing out on biodiversity. What are you doing to encourage better management of stormwater ponds?
9. What are these watershed plans for? If you're looking at preservation in the county, how can you use the same parameters to determine what needs to be improved when they're all different?
10. Regarding BMP's (wet ponds), is the county ranking to determine classification? There have been changes in State laws – will the changes be incorporated with the assessments?

All of the questions were responded to by Fred Rose, Russ Smith, Bill Frost and Bill Medina. Ms. Keys then explained that the break out sessions needed to get underway, and she invited the individuals with an interest in Dogue Creek to gather on the right side of the room with Bill Medina and Hylton Hobday while those with interests in Belle Haven and the Four Mile Run watersheds to gather on the left side of the room with Bill Frost and Ms. Keys. Ms. Keys explained that the purpose of the breakout groups was to gather additional information of issues of concern and/or potential solutions for the respective watershed areas. Ms. Keys also noted

that although we had planned to conclude at 9:00 pm, that we would like to continue until 9:15 if everyone was receptive. There were no objections.

The following items were identified during the break out sessions.

- **Belle Haven**

1. Hunting Creek Bay -- debris and litter washes up on the northeast shore.
2. Quander Brook -- Litter, debris, dumping, used oil, car parts, etc. all through stream valley. Channel erosion is more significant than shown on SPA data.
3. Belle View -- Large amount of untreated impervious area at the shopping center. Concrete channels should be restored to natural streams.
4. Belle Haven Golf Course -- Runoff should be treated if it is not now.
5. Construction sites -- Runoff from construction has caused problems at the WMATA parking lot and Eagle Park.
6. George Washington Parkway -- Stormwater flowing from watershed underneath the Parkway is causing damage to Dyke Marsh.

- **Dogue Creek**

1. Tidewater -- Channel through Fort Belvoir is silted. Algae blooms in tidal part of Dogue Creek.
2. North Fork -- Mt.Zephyr park-good condition but had 3 storm pipes-after storm lots of silt.
3. North Fork --
4. North Fork tributary -- Flooding on private property from minor rain events near Adrienne Drive and Old Mill Rd. Erosion between Adrienne Dr. and Renault Dr., along with flooding of private property.
5. North Fork tributary -- Improper application of fertilizer attributed to EP Mowing.
6. Piney Run near Manchester Lakes -- Ponds have high loads of sediment, phosphorus, and algae. Lakes consist of eight SWM facilities. Creek is eroding downstream of Manchester Lakes.
7. Mainstem Below US 1 -- Stream is in bad shape between Richmond Highway and Frey Rd. Severe turbidity, erosion, nutrients, thick algae bloom in Oct. Eutrophication. Silting and sedimentation in creek leading to decreased flow
8. Mainstem Below US 1 -- Loss of native species and infestation by Snakehead fish.
- 9.

- **Four Mile Run**

1. Entire watershed -- Need Fairfax County commitment to bacteria TMDL implementation plan for all non-tidal reaches.
2. Upper Four Mile Run -- Large impervious area with opportunity for BMP / LID retrofit.

3. Bailey's Crossroads / Seven Corners / Skyline Mall / Leesburg Pike Plaza-- Retrofit with green roofs on all large buildings, retrofit impervious areas with BMP / LID systems.
4. Lee Blvd Heights -- SWM systems in need of maintenance, undocumented storm drain system under a house.

Ms. Keys checked in with the groups at 9:00 pm, and again at 9:10 pm at which time the break out activities concluded. At that time, Ms. Keys asked if there were any other questions to be addressed. A representative of a homeowner's association mentioned that Mr. Rose had specifically asked him to hold his question until now, and that others may be interested in hearing it. It was a question regarding a stormwater pond in a development – who was responsible for maintenance since there was a problem that needed to be addressed. Mr. Rose advised that he thought it was something that the Fairfax County Maintenance Division should be made aware of, and asked Russ Smith to provide the individual with contact information. Ms. Keys asked if there were other questions, and there were none. The meeting was adjourned at 9:15 pm.

(A copy of the input received on the meeting evaluation is included with this report)



## MEETING SUMMARY

**DATE:** September 28, 2010  
**MEETING DATE:** August 5, 2010  
**PLACE:** Mt. Vernon High School, Alexandria, VA  
**TIME:** 6:30-9:00 PM

**PROJECT** Belle Haven, Dogue Creek and Four Mile Run  
Watershed Management Plan  
**KCI PROJECT NO.** 01071644

**SUBJECT:** Draft Plan Forum Question and Answers

Q: Does the definition of the watershed include Dogue Creek itself or does it include the banks?

A: The stream is part of the watershed.

Q: I don't see any projects that address the bank of Dogue Creek or that are restoring Dogue Creek itself.

A: There aren't any projects on the main stream of the creek but there are a few stream restoration projects in the area.

Q: I live in the Riverbend area of Mount Vernon and am a land owner along Dogue Creek. The biggest problem is pollution, sediment, and significant aquatic groves choking the river and causing algae blooms. But you never will come close to solving the problem until you tackle Dogue Creek itself. The creek has changed and has an infestation of hydrilla. The solution should be stopping the contamination of the Dogue Creek basin itself.

A: We are addressing it indirectly. What you see are the symptoms of the problem and we are trying to get to the root of the problem. One of the major issues is impervious surfaces such as buildings and highways and this high school, which create the runoff that gets to the stream. We are looking at addressing it at the source first. This method will be a lot more effective than handling it further downstream.

Q: The main source is not Mt. Vernon High School. You want to spend almost a half a million dollars to save one load of sediment going into the river? It is insignificant.

A: This half million dollars would be four million by the time it gets to Dogue Creek. The problem would be four times greater if the pollutants are allowed to travel in Dogue Creek. It is more cost effective to address the source of the problem.

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Q: With a limited budget, the four million would be better spent cleaning up Dogue Creek itself and eliminating the vegetation problems. Storm drains are going directly into Dogue Creek. When we asked the County about the storm drain in Riverbend, you said you had no money to fix it.

A: It will take more than four million dollars to fix all of the problems in Dogue Creek.

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Q: Have you taken any consideration to permeable asphalt and paving stones as an alternative? We have miles of asphalt and this would also be a way to slow down the volume of water.

A: We have looked at large paved areas for LID approaches. We are looking more at bioretention and filters. We have been looking at them in low-traffic areas. Permeable asphalt doesn't work so well in high traffic areas such as large shopping centers. When we get past the concepts phase and into the design phase, we will take a closer look at that.

Q: How did you come up with detailed cost estimates when decisions still have to be made?

A: We looked at the amount of impervious area and sized tree box filters for the impervious area. This will give us a cost estimate for the area and a target cost to compare going forward.

Q: The cost couldn't include the filters and the permeable asphalt.

A: When we get into the design phase, it may be possible to reduce the number of filters by using pervious pavement.

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Q: How are developers receiving these initiatives and discussion? Because more houses and shopping centers will yield more and more impervious surfaces. Are they embracing the initiatives?

A: We are working with the developer communities and giving presentations. The planning and zoning departments are aware and working closely with us. We will work together to create a better product. It helps them build better developments if they know why and how to control the stormwater in the beginning. Simultaneously, there are two actions going on: fixing the problems we have now and working with requirements for stormwater management for new development and redevelopment.

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Q: What effect will this have on Dyke Marsh and consequently, how will it affect the neighbors?

A: Dyke Marsh is federal land and the projects we design will improve Dyke Marsh by decreasing the amount of nutrients that flow into the area, and consequently decreasing algae blooms. This will be positive for Dyke Marsh.

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Q: Will this reduce the ability to put pesticides on our lawns?

A: We recommend using pesticides only when you need it and to always follow the directions. Fertilizer isn't bad, but there are problems associated with overuse.

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Q: Will we have to get a rain barrel?

A: We would hope that residents will consider this, but we can't make you use them.

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Q1: Some of these projects are on private land and shouldn't the owners get some kind of say in it?

A: Yes. Just because you see a project, it doesn't mean the project will happen right there, right then. We always consider the community's input and we want to make sure they understand what is being proposed.

Q1: How can you plan this far ahead when the owners/residents haven't been notified?

A: At this stage, these are just concepts, and we are willing to come out and talk to the communities. This is only the first step in the engagement of community. You should view these plans as opportunity for improvement, not concrete projects. Just because the board approves the list, doesn't mean that they will be built the way they are now. Right now, we have more problems than projects to solve. And if you have strong preferences concerning a project, let us know.

Q1: We don't know the project, and the community would be hard pressed to know the project.

A1 (Staff): You can invite us to one of your community meetings to present information.

A2 (Resident): I was involved with the Little Hunting Creek Watershed and there were a lot of ideas thrown into the mix because they were physically possible to do. However, it doesn't mean they will be done in that way. We had an area with low impact development. The process was easy and the community voted.

Q1: We are talking about having no awareness.

A: This is just the beginning of the process, and the concepts should be viewed as opportunities rather than projects.

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Q1: I got a postcard from the board of directors but other than that, I got nothing. If you are going to talk about these projects in our neighborhood, it is unbelievable that we didn't know about this before, especially if you are going to put a five-foot dike in our backyard.

A: The five-foot dikes you're referring to are a part of a flood control project sponsored by the Army Corps of Engineers. That is a separate project and does not overlap with what we are doing. This is our first round of notification to the broader communities, and this is as far as we have gotten. The County sent 4,400 postcards to the three different watersheds that were the focus of this effort, advising them that projects identified as a part of our effort were adjacent to their property. We tried to notify the public in the most effective ways possible. We want to work with the communities, and will continue to improve or expand our communications efforts to reach as many people as possible.

## MEETING SUMMARY

**DATE:** March 30, 2009

**MEETING DATE:** Thursday, March 5, 2009

**PLACE:** Mt. Vernon Government Center  
Alexandria, VA

**TIME:** 6:30-9:00 PM

**SUBJECT:** BDF (Belle Haven, Dogue Creek and Four Mile Run)  
Watershed Advisory Group (WAG) Meeting #1

**ATTENDEES:** Fred Rose, Fairfax County  
Danielle Wynne, Fairfax County  
Eric Forbes, Fairfax County  
Russell Smith, Fairfax County  
Bill Frost, KCI Technologies, Inc.  
Lugene Keys, KCI Technologies, Inc.  
Bill Medina, KCI Technologies, Inc.  
Laura Rowe, KCI Technologies, Inc.  
Roger Windschitl, KCI Technologies, Inc.  
**For WAG member attendance, please see attached sign-in sheet.**

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**The purpose of this meeting** was to discuss the history of the watershed planning effort and initial findings of the watersheds, the role of the Watershed Advisory Group (WAG) and participation guidelines. The following key items were discussed:

1. **Welcome and Introductions:** Lugene Keys of KCI Technologies, Inc. welcomed attendees to the first WAG meeting for the Belle Haven, Dogue Creek, and Four Mile Run watersheds. She introduced the project team, and reviewed the purpose of the meeting. Ms. Keys advised the group that this meeting would set the stage for the planning process for the three watersheds – Belle Haven, Dogue Creek and Four Mile Run. She noted that it was important that everyone understands the big picture of the watershed planning process, and their role in the process, and that we develop a common understanding the current watershed characteristics. We want to identify and discuss the problems for each watershed – those problems that are unique and those that are similar across all three watersheds.

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Ms. Keys then reviewed the agenda and discussed the WAG meeting ground rules, noting that the ground rules were developed to assist everyone in making the best use of the meeting time. Ms. Keys quickly reviewed the handouts that the attendees received as they entered the meeting before turning the meeting over to Fred Rose.

2. **Fairfax County Watershed Planning Process: History, Purpose, and Policy**

**Recommendations:** Fred Rose of Fairfax County gave a presentation on the history, purpose, and policy recommendations for the Belle Haven, Dogue Creek, and Four Mile Run watersheds. In his presentation, Mr. Rose mentioned that the current watershed plan is over 25 years old and that the current plan needs to be updated to address water quality concerns in support of the Chesapeake Bay restoration effort and to restore quality of life. The WAG is part of Fairfax County's plan to reach out to the community and form a collaborative effort to improve the watersheds. The presentation also reviewed previous management plans, acts, permits, and studies involving Fairfax County watersheds. Mr. Rose reviewed the process undertaken during the first round of watershed management plans. He explained that Belle Haven, Dogue Creek, and Four Mile Run are part of the second round of watersheds that are being evaluated for new watershed management plans. Unlike the first round, the second round of watershed management plans are being developed concurrently and will be more unified and consistent. The first steps for the watershed planning process were the Issues Forum that was held on January 14, 2009 and the watershed workbook, both of which are being used to identify problems within the watersheds. Mr. Rose stated that the WAG was formed to assist the county in determining solutions to the problems identified.

Mr. Rose then asked if there were any questions on his presentation. One WAG member asked for a review of the acronyms in the presentation, but more specifically LID and PFM. Mr. Rose responded that LID means Low Impact Development techniques, which are the methods more recently developed to manage stormwater. He stated that PFM means Public Facilities Manual.

A member asked if the MS4 permit holds permitted entities accountable if their discharge causes damage to a stream. Mr. Rose responded that the Department of Environmental Quality (DEQ) has strict guidelines regarding runoff and stormwater. If someone identifies a problem, Fairfax County has an obligation to examine it and notify DEQ. The member asked about the protocol regarding the discharge from facilities owned by the Virginia Department of Transportation (VDOT). Mr. Rose responded that VDOT is regulated under a separate permit and that any problems regarding runoff should be brought to their attention. The member inquired about contacts for citizens if they see a problem with runoff and stormwater. Another WAG member mentioned that it's best to contact DEQ with problems. Mr. Rose mentioned that Fairfax County can make the appropriate contacts available to the WAG members. Another member asked to have this information posted on the web site.

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A member asked if every outfall is documented on either Fairfax County's permit or VDOT's MS4 permit. Mr. Rose responded that the MS4 permit does not currently have a complete list of outfalls. The state does want Fairfax County to identify every outfall that discharges into the streams from the MS4. This work is ongoing but has not been completed yet.

- 3. Overview of Watershed Planning Process: Timeline for Belle Haven, Dogue Creek, and Four Mile Run Plan:** Danielle Wynne from Fairfax County presented the timeline for the watershed planning process. Ms. Wynne mentioned that WAG meetings will only be held when there is relevant information to report. She asked that WAG members bring concerns from their groups to the meetings, but also report information from the meetings to their groups. There will be a maximum of six meetings. Ms. Wynne stated that the draft plan will be presented to the public, and she hopes that the WAG group will attend the presentation to assist Fairfax County. She added that the plan should be finished by December. Finally, she noted that meeting summaries, PowerPoint presentations, and agendas will be posted on-line for future reference.

A WAG member asked why the watershed management plan has to be done by 2010. Mr. Rose responded that the planning program was funded a few years ago by the Board to be completed by 2010.

A member asked if there is time to tour each of the watersheds. Ms. Wynne responded that this is something that can be discussed by each watershed group to see if individual tours are needed.

- 4. Review Current Information on Watershed Characteristics:** Bill Frost, KCI Technologies, Inc., reviewed background information on each of the watersheds. He mentioned that Dogue Creek is the biggest of the three, and that the Fairfax County portion of Four Mile Run is a small part of the overall watershed. Mr. Frost stated that Dogue Creek is the least densely developed area of the three, and Four Mile Run is the most densely developed. Mr. Frost mentioned that part of the intent is to restore natural functions to streams. He then reviewed various assessments of the watersheds. Mr. Frost also said that if the state determines that stream water quality is impaired, it is put on the 303D list, which is a particular clause within the Clean Water Act. He said that based on the watershed ranking results, Four Mile Run is in the worst condition of the three, with Dogue Creek the best.

A member asked how a meaningful plan can be developed for Four Mile Run when such a small portion is in Fairfax County. Mr. Frost responded that the portion of Four Mile Run portion in Fairfax County is the headwater area for Upper Long Branch, Four Mile Run, and Lucky Run. As such, the county's improvements will benefit local stream conditions since they won't be affected by water flowing downstream from other jurisdictions.

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A WAG member asked for the locations of aquatic plants and tidewater areas. Mr. Frost responded that the tidewater portion of the creeks is the small bays at their mouth before stream flow reaches the Potomac. He was unsure of the exact location of aquatic plant areas.

A member asked if the red area on the Belle Haven map was the emerging wetland east of the George Washington Memorial Parkway. Mr. Frost responded that it was and that it is immediately east of the shoreline in the river.

A member mentioned that the part of Dogue Creek (the main stem from Edison) with the steep canyon has been restored and is holding up well.

Another member stated that downstream extreme erosion is taking place and trees are being uprooted.

Several members requested that the consultants organize and conduct field trips to the watersheds. One member also asked if WAG members could have a map that shows where problematic outfalls are so they can tour the areas themselves. Mr. Frost and Ms. Wynne responded that well-developed maps will be available at the next meeting. Mr. Frost added that field trips for the WAG members are being considered.

A member asked when strategies should be suggested by the WAG members. Mr. Frost responded that he will accept suggestions at any meeting.

5. **Watershed Advisory Group Composition, Guidelines and Role:** Ms. Keys stated that it was important for everyone to know that the current WAG group was formed from a broad range of interests initially solicited to attend the public issues forum held on January 14, 2009. The invitation list for the issues forum included over 200 individuals representing a variety of stakeholders such as homeowners associations, civic, environmental, recreational and citizens associations, businesses and government agencies. Even though we contacted nearly 200 individuals, there were not more than thirty individuals in attendance at the issues forum. Many of you expressed interest in serving on the WAG at that time, and provided the names of others who would be good candidates for membership. As a result of that effort, we now have a total of thirty-three WAG members representing every area of interest (with the exception of one or two) that we initially identified.

Ms. Keys then moved on to WAG guidelines. She stated that the project team is looking to have one representative from each organization. For the four organizations that currently have more than one member on the WAG, she asked if each group could identify a prime member and an alternate. She noted that not all members are required to identify an alternate, just those with more than one member. However, if a member does foresee missing several meetings, then an alternate is an option. Ms. Keys also

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mentioned that the group will be guided by a facilitated consensus process and will make decisions as a group.

Ms. Keys also stated that WAG input and meeting activities will be recorded in the form of meeting summaries rather than meeting minutes. We will capture the main ideas and key points of discussion, and questions/commentary taking place during the meetings will not be attributed to individual members. Members will be given a five day period to look at and provide comments on the meeting summaries. If changes or comments are received within the five day period they will be reviewed by the County and incorporated into the final version of the meeting summary. The meeting summary will then become the official meeting record. The meeting summaries will not be circulated in hard copy format, but will be posted on the web site.

The project team expects members to attend all of the meetings if possible. If members are unable to make the meetings, they should let the project team know and convey any information they would like to draw to the group's attention. The team also asks that members take information from WAG meetings back to their groups and bring any input from their groups to the meetings as well.

A member asked if there is anyone on the WAG who represents developers or homebuilders. Another member answered that they represent King's Crossing. Ms. Keys stated that a list of the other WAG members will be provided to the members, but as discussed earlier, we contacted over 200 individuals, and that it is important to remember that not all groups agreed to participate.

Another member asked if VDOT is represented on the WAG. Ms. Wynne responded that Fairfax County has contacts with VDOT, the Park Authority and Ft. Belvoir, and is working closely with other similar agencies.

A member asked Ms. Keys to explain the facilitated consensus process and the decisions that will be made. Ms. Keys explained that the WAG is not a 'decision-making' body – but an advisory group. Our goal is to have the WAG provide relevant input, ideas and concerns to the County as part of the watershed planning process. She also noted that a facilitator will be utilized to guide discussions and document the information, ideas and issues put forth by committee members. The group will come to an agreement on the best way to generalize or state the information. No votes will be taken, but consensus will be achieved when we have reached a minimum of 51% agreement on an issue, idea or a statement. All input from the WAG will then be given to the County for their review and consideration. Ms. Wynne added that there will be discussions on goals and objectives at the next meeting and the hope is that the WAG will assist the county in making decisions. The member asked if the final decision will be the county's. Ms. Keys responded that the WAG is not a decision-making body; it's an advisory group to provide input that will support the County's decision-making process.

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A member asked Mr. Rose to explain to the group that the WAG will not recommend policy changes, as determined by county staff.

A member also noted that the WAG should advise the county frequently and loudly to incorporate input into the plans. Ms. Keys added that information generated during these meetings will be part of the project record and be posted on the web site. Mr. Rose also stated that the county is reasonable and after adequate discussion, the right decision will be made. Ms. Keys stated that the WAG is working together with Fairfax County to achieve what we hope will be a better end result because of their participation. We are all on the same team. The WAG's voice will be heard and there will be a better end result by having the WAG involved in the process.

Ms. Keys asked if there were any more questions, and there was not. Ms. Keys and Mr. Frost instructed the group to break out into groups based on watershed interest areas. These groups were formed to map specific issues within each watershed to provide detailed information to the project team. There were three groups: one for Belle Haven, one for Dogue Creek, and one for Four Mile Run. Following the individual group sessions, the meeting adjourned.

We believe that the above accurately reflects the key points of discussion during this meeting. However, input that reflects a difference in understanding or further explanation important to the purpose of the WAG and the meeting summary is encouraged. A request for modification or inclusion of additional information should be forwarded to **Laura Rowe** by calling 717-691-1340, ext. 3185; e-mailing to [laura.rowe@kci.com](mailto:laura.rowe@kci.com); or faxing to 717-691-3470. Please submit all requests by the end of business on Monday, March 23, 2009. If no requests are received within this time frame, we will assume that all in attendance concur with the accuracy of this summary.

Cc: WAG Membership  
Fred Rose  
Danielle Wynne  
William Frost  
Lugene Keys

## MEETING SUMMARY

**DATE:** May 27, 2009

**MEETING DATE:** Tuesday, May 5, 2009

**PLACE:** Sherwood Regional Library  
Alexandria, VA

**TIME:** 6:30-8:45 PM

**SUBJECT:** BDF (Belle Haven, Dogue Creek and Four Mile Run)  
Watershed Advisory Group (WAG) Meeting #2

**ATTENDEES:** Fred Rose, Fairfax County  
Danielle Wynne, Fairfax County  
Eric Forbes, Fairfax County  
Bill Frost, KCI Technologies, Inc.  
Lugene Keys, KCI Technologies, Inc.  
Bill Medina, KCI Technologies, Inc.  
Laura Rowe, KCI Technologies, Inc.  
**For WAG member attendance, please see attached sign-in sheet.**

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**The purpose of this meeting** was to discuss goals for the watershed planning process, problem areas and subwatershed ranking, restoration approaches, and subwatershed strategy. The following key items were discussed:

- 1. Welcome and Introductions:** Lugene Keys of KCI Technologies, Inc. welcomed the group and verified that everyone had signed in and picked up their meeting binders. She also mentioned that members may hear the project team using a new acronym – BDF which stands for Belle Haven, Dogue Creek, and Four Mile Run. Ms. Keys also noted that the target date for a field trip of the BDF watersheds is Saturday, May 30. This date was based on the 14 responses received to the watershed field trip questionnaire sent out early April. She then reviewed the agenda for the evening and the ground rules for the WAG group.
- 2. Presentation of Fairfax County Goals:** Danielle Wynne of Fairfax County gave a presentation on the county's goals and objectives for watershed management plans. Ms. Wynne noted that the first six rounds of plans were developed independently from each other, and the non-standard format of the early plans caused problems. Due to these problems, Fairfax County decided to streamline their process and have applied these main goals and objectives to the final watershed management plans. Ms. Wynne then reviewed the three goals and the five objective categories being applied to the plans (these are available in more detail on Fairfax County's web site:

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<http://www.fairfaxcounty.gov/dpwes/watersheds/wsgoalsobj.htm>). Ms. Wynne also mentioned that indicators are being used to measure how the impacts to the watersheds are being minimized.

A WAG member requested that the goals be more specific and attainable for BDF so that in the three to five years after the plans have been implemented, it will be clear whether or not the goals have been reached. Another member agreed, and stated that the goals should be more specific and measurable. Ms. Wynne responded that since the goals and objectives are for all of the remaining watershed plans, they need to remain general. Each watershed is different; therefore, specific goals won't work across the county.

A member replied that if one of the indicators shows improvement, then technically it could be stated that the goal was reached. The member requested that the goals be more specific so that improvements can be measured to a certain standard. Fred Rose of Fairfax County responded that there are measurable thresholds of quality (poor, good, excellent, etc.), and that the indicators will be evaluated within these ranges.

Another WAG member noted that salt was not included on the slide addressing indicators. Mr. Rose replied that there are many pollutants not listed (copper, lead, etc.) because of the cost and complexity of tracking them. For a watershed plan at this scale, a subset of "keystone pollutants" such as phosphorus and sediment provides the information needed to develop the plan.

- 3. Problem Areas and Subwatershed Ranking:** Bill Frost from KCI Technologies, Inc. reviewed the types and locations of problems in the watersheds. Maps were reviewed to illustrate stormwater runoff impacts, draft flooding hazards, habitat health, habitat diversity, water quality, overall watershed impact, and a composite of sources.

A WAG member asked for the following terms to be added to the glossary of terms provided to the members at the meeting: morphology, riparian and terrestrial, channelized, overtopped, and upland. Mr. Frost provided the following definitions:

- Geomorphology is changes in landforms
- Fluvial relates to water, so fluvial geomorphology is changes in landforms caused by water.
- Riparian means next to a stream
- Terrestrial means related to land.
- Channelizing is modifying a stream, usually by straightening, to increase the flow
- Overtopped means water has flowed over the top of a roadway
- Upland is a higher elevation in relation to a stream.

The project team noted the suggestions and will incorporate them into the glossary.

A member asked if it is possible to routinely measure the nitrogen and phosphorus loads. Mr. Frost replied that it would be difficult because field measurements give concentration

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(amount of pollutant per volume of water) instead of load (amount of pollutant). To calculate the load, measurements of flow need to be made and they are more variable and require more effort than simply taking a sample for lab analysis.

At this time, the group took a break to look at enlarged maps of problem areas and some of the applications used to address the problems.

- 4. Restoration Approaches:** Mr. Frost then presented the restoration approaches for the watersheds. He explained that first, a desktop analysis of the watershed is conducted to identify the location and types of retrofits that can be implemented. Then a field crew will go to the sites to evaluate the feasibility and benefits of each retrofit, as well as the constraints. Several of the sites will be eliminated based on this assessment. The remaining sites will be evaluated using the county's ranking procedure, and at this stage, WAG members will have input on project priority. Then, projects will be further narrowed down, further evaluated by concept design, and cost estimates will be determined. Mr. Frost then reviewed the types of subwatershed restoration opportunities available: source control, land use, new pond culvert retrofit, pond retrofit, LID retrofit, outfall retrofit, stream restoration, stream stabilization, and buffer restoration. He then briefly reviewed some examples of the various restoration opportunities.

A WAG member asked what the outfall retrofit example looked like before it was restored. Mr. Frost replied that it was a deep scour hole. Rip rap (large rock) were placed on the sides of the outfall to prevent it from widening any further. The scour hole is regraded if necessary to create a plunge pool, which slows down the water coming out of the outfall so it is less likely to erode the stream banks downstream.

Mr. Frost then explained the stream restoration approach, which involves the investigation of problems, evaluation of potential retrofits by the project team, and WAG input on site priority. As with the stormwater retrofits, projects will be further evaluated by concept design and cost estimates will be developed. Mr. Frost also reviewed examples of the stream restoration approach.

One WAG member asked what the benefit ranking on the right side of the presentation slide for the stream restoration example meant. Mr. Frost replied that it is a listing of what will improve with the stream restoration. The primary benefit is to improve channel stability, aquatic habitat shows some improvement, and water quality may show improvement depending on the project site. Generally, if erosion is reduced, water quality will improve. The member asked how long this restoration lasts. Mr. Frost stated that if it is done correctly, it should last indefinitely. In a stable stream, sediment coming in is balanced by sediment coming out, which means erosion and deposition are in balance.

Another WAG member asked if future land use could undo work done on the improvement. Mr. Frost said that theoretically it could happen, but there are stormwater

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management regulations in place that require developers to provide enough storage to ensure stream channel protection. The member asked if proposed projects have precedence over any other use for the land. Ms. Wynne replied that Fairfax County is focusing more on publicly maintained land instead of private to avoid competing with other land uses. Mr. Rose added that if the proposed project is located on residential land and it was rezoned to be commercial, the project recommendation might be ignored. However if the project is ignored, hopefully an alternative would be proposed that is better.

A member asked about land use issues that arise that don't involve rezoning. For instance, suppose a party placed an application for new commercial activity for a parcel in Belle Haven. The member asked if the recommendations of the WAG have any consideration in the routine processing of this application. Mr. Rose replied that he would like to think that they would be considered, but there are still rules and regulations that must be applied. He added that the WAG group and project team has more control for county-level projects, and the overall process has improved because coordination is better between agencies now than it has been in the past.

Mr. Frost then completed his review of examples of the stream restoration approach.

5. **Subwatershed Strategy:** Mr. Frost reviewed subwatershed strategy and mentioned that there are areas where millions of dollars will not be able to restore the watersheds; therefore targeting these areas is not a beneficial approach. A good method to follow is preservation and focusing on areas with limited impairment that can be restored.

A member asked, given the current economic situation, if there will be funding problems once projects move forward. Mr. Rose stated that during the budget process this year, the stormwater program took a hit, but the county still plans to move forward. The member stated that the budget could improve year over year. The member then asked if these projects will be in the construction queue when the funding does return. Mr. Rose replied that the county is making plans to have stable implementation of projects for the next 10 years. Projects and plans are currently being identified for the next 20 years.

Another member asked if it is possible that developers would consider sharing the cost of these projects with the county if incentives are provided. Mr. Rose replied that this suggestion would fall to a policy-level discussion. It would be ideal to develop formal incentives, but they do not currently exist.

A member stated that the Department of Conservation and Recreation (DCR) focuses on headwaters, but also tries to protect healthy waters by restoring the tributaries that feed into them if it is feasible. If impaired streams are targeted, DCR will look more favorably at them as funding opportunities, especially with potential stimulus funds coming. Mr. Frost replied that it is a good approach to look at protecting healthy streams by targeting the tributaries and watersheds that are degraded and flow into them.

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6. **Next Steps:** Ms. Keys reviewed the next steps for the WAG. She stated that the county will be identifying specific projects. Ms. Wynne added that there will be homework for the WAG on the project web site. Dots will be placed on maps of Belle Haven, Dogue Creek, and Four Mile Run to identify potential project areas. She asked if the members could take a look at the dots and provide input on the sites, and/or additional information on other sites that could be explored.

A member asked if there will be descriptions of the sites marked by dots on the web site. Ms. Wynne replied that there will only be a one sentence description.

Ms. Keys stated that there next meeting is estimated to take place in either late June or early July. She added that more details will be communicated regarding the May 30 field trip.

A member asked if the maps will be readable on the site. Mr. Frost stated that they will be labeled by project numbers and street names. Ms. Wynne added that WAG members should focus on the watersheds with which they are most familiar.

A member asked if the field trip on May 30 will consist of visiting all three areas in one day. Ms. Keys replied that at this time the project team anticipates visiting all areas in one afternoon. The details, such as carpooling and scheduling, will be further developed shortly, and the WAG will be notified.

A member mentioned that a good large stream restoration site to visit is in Arlington at Donaldson Run. Another member mentioned that there is one behind Hayfield High School as well.

Ms. Wynne requested that any members who have not completed their field trip questionnaire and would like to submit it, to do so.

The meeting adjourned.

We believe that the above accurately reflects the key points of discussion during this meeting. However, input that reflects a difference in understanding or further explanation important to the purpose of the WAG and the meeting summary is encouraged. A request for modification or inclusion of additional information should be forwarded to **Laura Rowe** by calling 717-691-1340, ext. 3185; e-mailing to [laura.rowe@kci.com](mailto:laura.rowe@kci.com); or faxing to 717-691-3470. Please submit all requests by the end of business on Wednesday, June 10, 2009. If no requests are received within this time frame, we will assume that all in attendance concur with the accuracy of this summary.

Cc: WAG Membership  
Fred Rose  
Danielle Wynne  
William Frost  
Lugene Keys

# Belle Haven, Dogue Creek and Four Mile Run watersheds Watershed Advisory Group

Meeting Date: May 5, 2009

## Sign In Sheet

Name	Organization	MTG 1	MTG 2	MTG 3
Augustin, Mike	Belle Haven Country Club	✓	✓	
Ball, David	Manchester Lakes Master Association		✓	
Booth, Glenda	Friends of Dyke Marsh	✓	✓	
Bucher, Adam	Tartan Village/Huntley Meadows Park	✓	✓	
Burke, Sheila	Mount Vernon Yacht Club	✓	✓	
Dale, David	MVCCA	✓	✓	
Di Iaconi, Krista	JBG Rosenfeld (King's Crossing)	✓	✓	
Dowdy, F. Andrew	Lee Boulevard Heights Neighborhood Association	✓	✓	
Dyroff, Kurt	Ducks Unlimited			
Eden, Paul	Northern Virginia Nursery & Landscape Association			
Flint, Russell	Washington Union Farm	✓	✓	

# Belle Haven, Dogue Creek and Four Mile Run watersheds Watershed Advisory Group

Meeting Date: \_\_\_\_\_

## Sign In Sheet

Name	Organization	MTG 1	MTG 2	MTG 3
Gilbert, Paul	Northern Virginia Regional Park Authority			
Glasgow, Harry	Friends of Huntley Meadows Park			
Grape, Laura	Northern Virginia Regional Commission			
Gregory, Donna	Long Branch Citizens Association			
Hamblin-Katnik, Claudia	City of Alexandria	✓		
Harn, Jeff	Arlington County Department of Environmental Services			
Hastings, Ginny	Mount Vernon Terrace Civic Association			
Hinman, Donald	Huntington Grove Homeowners' Association	✓	✓	
Hodges, Elenor	Arlingtonians for a Clean Environment			
Hoffman, Diane	Northern Virginia Soil and Water Conservation District			
Holub, Frank	Southeast Fairfax Development Corporation	✓		

## Belle Haven, Dogue Creek and Four Mile Run watersheds Watershed Advisory Group

Meeting Date: \_\_\_\_\_

### Sign In Sheet

Name	Organization	MTG 1	MTG 2	MTG 3
Issa, Lars	Lee Boulevard Heights Citizens' Association	✓	✓	
Jolicoeur, Christin	Northern Virginia Soil and Water Conservation District	✓	✓	
Jones, Chris	George Mason University, Department of Environmental Science and Policy			
Kadera, Mary	Sierra Club			
Kenney, Brett	Supervisor Hyland's Office		✓	
Landgraf, Chris	US Army Garrison Fort Belvoir	✓	✓	
Lovering, Jay	Northern Virginia Trout Unlimited, Chapter 360			
Maclin, Elizabeth	Eastern Conservation, Trout Unlimited			
McLaren, Bob	Hayfield Citizens' Association	✓		
McNeil, Kathi	Friends of Huntley Meadows Park/Mt. Vernon Unitarian Church	✓	✓	
Mruk, Betty	Long Branch Citizens' Association	✓		

## Belle Haven, Dogue Creek and Four Mile Run watersheds Watershed Advisory Group

Meeting Date: \_\_\_\_\_

### Sign In Sheet

Name	Organization	MTG 1	MTG 2	MTG 3
Merrifield, Ed	Potomac Riverkeeper, Inc.			
Millikin, John	Hayfield Stormwater Committee	✓	✓	
Neerman, David	Lee Boulevard Heights Neighborhood Association			
Oberg, Erik	George Washington Memorial Parkway			
Ovrevik, Glenn	Telegraph Road Citizens' Association	✓	✓	
Phelps, Paul	MVCCA Environment and Recreation Committee	✓	✓	
Plummer, David	MVCCA Environment and Recreation Committee	✓	✓	
Prescott, Michael	Mount Vernon Terrace Civic Association		✓	
Slusser, Bob	Department of Conservation and Recreation	✓	✓	
Smith, Charles	Fairfax County Park Authority			
Stewart, Jeanette	LANDS and WATERS, Inc.			



## MEETING SUMMARY

**DATE:** August 27, 2009

**MEETING DATE:** Wednesday, June 24, 2009

**PLACE:** Sherwood Regional Library  
Alexandria, VA

**TIME:** 6:30-8:45 PM

**SUBJECT:** BDF (Belle Haven, Dogue Creek and Four Mile Run)  
Watersheds Advisory Group (WAG) Meeting #3

**ATTENDEES:** Fred Rose, Fairfax County  
Danielle Wynne, Fairfax County  
Eric Forbes, Fairfax County  
Russell Smith, Fairfax County  
Camylyn Lewis, Fairfax County  
Bill Frost, KCI Technologies, Inc.  
Hylton Hobday, KCI Technologies, Inc.  
Lugene Keys, KCI Technologies, Inc.  
Jackie Krayenvenger, KCI Technologies, Inc.  
Bill Medina, KCI Technologies, Inc.  
**For WAG member attendance, please see attached sign-in sheet.**

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**The purpose of this meeting** was to learn about and provide feedback on potential retrofit sites and priority subwatersheds. The following key items were discussed:

1. **Virtual Tour of Quander Brook:** WAG member Martin Tillett presented a Virtual Tour of Quander Brook. He first reviewed the history and briefed attendees on the natural environmental quality and recreational characteristics of the brook. He then outlined problems that face Quander Brook today, including pollution, illegal dumping, and erosion. Mr. Tillett also stated that he is frustrated by slow action on complaints and the lack of enforcement of adopted policies. He is concerned that the plans presented to the WAG will not be sufficient to address the environmental issues that these watersheds face. He requested the formation of plans that result in long-term improvements.

Another WAG member agreed with Mr. Tillett and added that Quander Brook is affected by too much impervious area. The member asked if the storm inlets are labeled with information that indicates where the inlet flows. The member added that it is important to report dumping violations when seen and to continue educating schoolchildren about the matter.

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2. **Welcome and Introductions:** Lugene Keys of KCI Technologies, Inc. welcomed the group and verified that everyone had signed in and picked up their nametags and an agenda. She also introduced the project team members present at the meeting, since there were a few new faces. Ms. Keys then reviewed the purpose of the meeting and reviewed participation guidelines. She also asked if there were any comments about the watershed field trip, since not everyone was able to participate. Danielle Wynne of Fairfax County made a few comments about the field trip and pointed out that the project sheets have been uploaded to the document section of the BDF web site for those group members who were not able to make the tour. Ms. Keys then turned the meeting over to Bill Frost of KCI Technologies, Inc.
3. **Subwatershed Strategy:** Mr. Frost stated that the project team's goal was to incorporate comments from the last WAG meeting and prioritize subwatersheds for project identification based on input from the WAG. Mr. Frost noted that the project team has been focused on two suggestions from the WAG: the first is that it is easier to preserve the good areas than to fix the bad ones; the second is that it is important to restore the headwater areas. The next step is to utilize these goals and watershed plan indicators to focus on specific projects and form strategies.

The first strategy is to focus on preservation areas. These were defined as "not urbanized," based on the land use classification. If the areas had less than 50 percent residential, commercial, industrial, or institutional land use, the subwatershed is a candidate for preservation.

The first step of the second strategy was to define impaired areas. Mr. Frost noted that the ranking procedure discussed at the last meeting would be used for defining impaired areas. Please see the presentation and meeting summary listed under Meeting #2 – May 5, 2009 on the document section of the BDF web site for more detail.

Two approaches were used to define impairment. The first used the composite score from all of the following indicator groups:

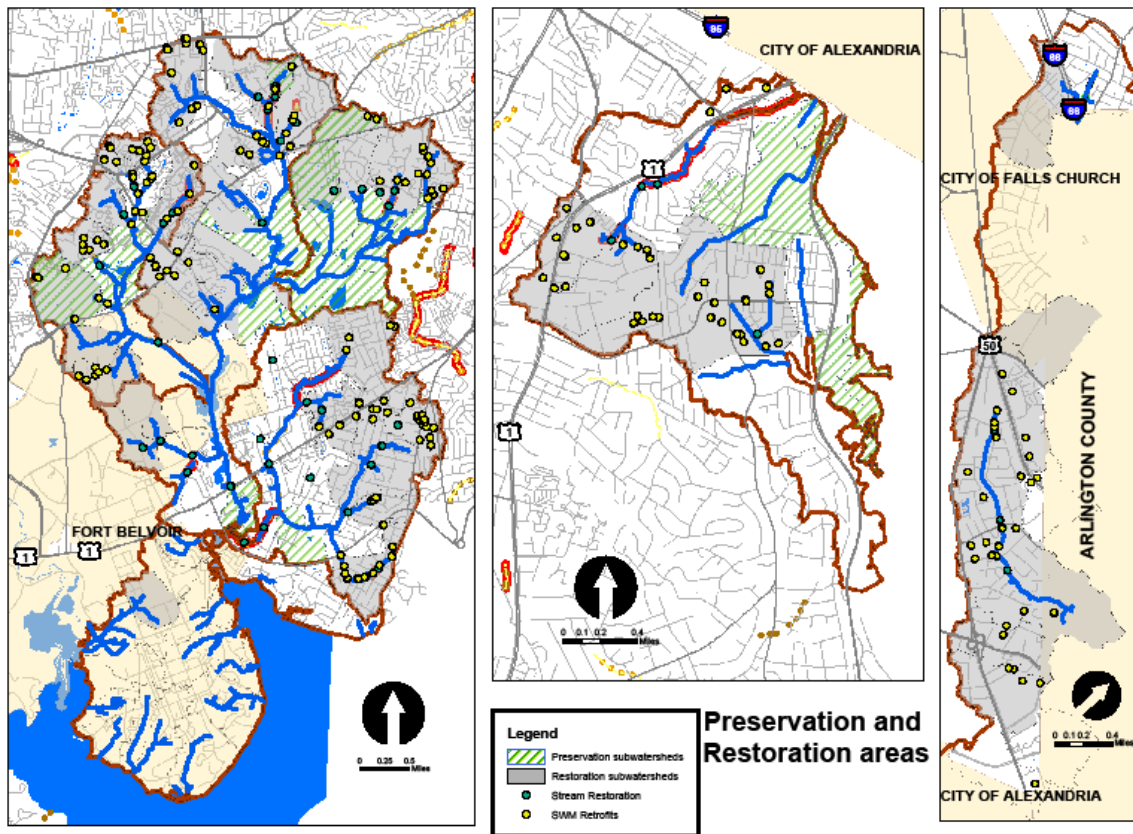
- Stormwater Runoff
- Flooding Hazards
- Habitat Health
- Habitat Diversity
- Stream Water Quality
- Drinking Water Quality
- Storage Capacity

If a subwatershed had a composite score in the worst 40 percent of the watershed, it was considered to be impaired.

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The second approach looked at the scores of each of the indicator groups. If any single indicator group was in the worst 20 percent, regardless of the composite score, it was also flagged.

Headwater areas were defined as the subwatersheds where a stream begins, either for the main channel, a tributary, or a small branch draining to either. Subwatersheds draining directly to tidewater were not included. Mr. Frost noted that the subwatersheds in Fairfax's portion of Four Mile Run are mostly headwaters. In summary, the retrofits are focused on the areas of the maps shown in gray. The individual maps below can be found at [www.fairfaxcounty.gov/dpwes/watersheds/doguecreek\\_docs.htm](http://www.fairfaxcounty.gov/dpwes/watersheds/doguecreek_docs.htm)



A WAG member commented that the maps are difficult to see on the Power Point and difficult to print out online. Ms. Wynne answered that the maps will be posted to the County's website as soon as possible. She also stated that the projects will be placed on the Google maps site (the link was previously e-mailed to the WAG). Fred Rose of Fairfax County stated that at the next WAG meeting copies of the presentations will be available so everyone can see the small print and maps.

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A WAG member mentioned the Essex Manor Pond Restoration that was completed in 2006. The project turned it from a dry pond to a vegetated area, making it a great natural habitat. It was mentioned that some homeowners were unhappy with the concept. Outreach and education is critical to the watershed restoration process, and the county's high school education program can be a useful part of this.

Mr. Frost added that the Mount Vernon Planning District is planning for another APR process. He stated that they are looking to make nominations that will focus on a range of issues that are not just development-centered. Mr. Frost also said that it would be helpful to the Mount Vernon Planning District if the watershed plans included language that would give developers options to assist with water quality.

A WAG member asked if there are options that have not been brought forward because the county is limited as to how much work can be done. Mr. Frost confirmed there were contractual limits on the number of projects to be proposed and added that the proposed project assessment has been focused on feasibility and identifying projects with the best benefits for the cost.

4. **Potential Retrofit Sites:** Mr. Frost described the use of the county's subwatershed ranking process to identify quantitative indicators to identify the problems within each watershed. He described four indicator groups: stormwater runoff impacts, flooding hazards, habitat health, and habitat diversity, which can be used to pinpoint problems. Ms. Wynne added that there is additional information about the indicators on the Fairfax County web site at [www.fairfaxcounty.gov/dpwes/watersheds/wsgoalsobj.htm](http://www.fairfaxcounty.gov/dpwes/watersheds/wsgoalsobj.htm).

Mr. Frost then reviewed an example that illustrated how these indicators were used to identify causes of problems, using one impaired subwatershed, DC-PY-0040. He outlined the potential areas for improvement flagged by the ranking process: stormwater impacts on streams and water quality. The desktop assessment of this subwatershed indicated that there were possible sites for in-stream or off-line treatment, and that there were potential sites for water quality treatment of surface runoff. After preparation of field maps and data sheets, the project team went out in the field to identify constraints and assess feasibility of the project(s).

Mr. Frost then reviewed the schedule for the retrofit assessments. In June, stormwater retrofits were evaluated. This field work is ongoing with 90 percent of it completed. Stream restoration sites will be assessed in July.

A WAG member asked if there is any way the county can compel developers or property owners by law to carry out these projects. Mr. Rose replied that this process does not address this because it is a state process that involves more than Fairfax County. Ms. Wynne also stated that there is a chance that these areas can be rezoned at a later date, and developing these plans may enable the county to provide opportunities for others who may be interested in taking on the projects in the future.

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Mr. Frost went on to outline the challenges that face the project team. He stated that finding retrofit locations that meet county goals and objectives can be difficult. It is challenging to redevelop already developed areas to meet current stormwater regulations. He mentioned that modifying storage is the easiest and quickest tactic. There are six location types for storage retrofits:

- Existing ponds
- Above roadway culverts
- Below outfalls
- Within a conveyance system
- Within transportation right-of-ways
- Large parking lot retrofits

Mr. Frost added that parking lots can be great locations for rain gardens and water quality treatments.

Mr. Frost then reviewed the potential locations for on-site systems:

- Hotspot operations
- Small parking lot retrofits
- Individual Streets
- Individual Rooftops
- Little retrofits
- Landscapes/hardscapes
- Underground Retrofits

Mr. Frost stated that during the field assessments, the project team evaluated construction constraints, environmental restraints, and how the community might react to the project. He went over an example involving DC-PY-0040.

Next, Mr. Frost presented maps that showed proposed projects located in potential retrofit or preservation sites. He added that KCI's stream restoration designers reviewed the county's stream assessment photos and data to look at potential project sites and narrow down the original 50 potential sites for the three watersheds to approximately 25 for field assessment.

A member asked what will happen to the other half of the potential sites. Mr. Frost replied that they will be placed on a list of projects for future consideration.

At this time, breakout groups were established to look at maps of proposed projects within each project area. Notes from these sessions were summarized and mapped and can be viewed via Google Maps at this website:

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<http://maps.google.com/maps/ms?hl=en&ie=UTF8&msa=0&msid=108825537840646653687.00047221d42bf9c28194b&ll=38.7668,-77.103596&spn=0.095833,0.152435&z=13>

5. **Next Steps:** Ms. Keys reconvened the meeting to review the next steps for the WAG. She mentioned that the library hours are changing, so the location for the next meeting will likely change. Danielle also requested that if anyone in the group had a meeting location they wanted us to consider, they should send that information to one of us as soon as possible.

Ms. Keys then directed the group to join Ms. Wynne in the parking lot for a discussion about Sherwood Regional Library's rain garden.

The meeting adjourned after this discussion.

We believe that the above accurately reflects the key points of discussion during this meeting. However, input that reflects a difference in understanding or further explanation important to the purpose of the WAG and the meeting summary is encouraged. A request for modification or inclusion of additional information should be forwarded to **Laura Rowe** by calling 717-691-1340, ext. 3185; e-mailing to [laura.rowe@kci.com](mailto:laura.rowe@kci.com); or faxing to 717-691-3470. Please submit all requests by the end of business on Tuesday, August 25, 2009. If no requests are received within this time frame, we will assume that all in attendance concur with the accuracy of this summary.

Cc: WAG Membership  
Fred Rose  
Danielle Wynne  
William Frost  
Lugene Keys

## MEETING SUMMARY

**DATE:** March 12, 2010

**MEETING DATE:** Thursday, March 4, 2010

**PLACE:** Mt. Vernon Governmental Center  
Alexandria, VA

**TIME:** 6:30-9:00 PM

**SUBJECT:** BDF (Belle Haven, Dogue Creek and Four Mile Run)  
Watersheds Advisory Group (WAG) Meeting #4

**HANDOUTS:** Agenda, PowerPoint Presentation, Draft Project Scores and Ranking, and copies of mapping for each watershed depicting subwatershed order and rank with 10- and 25-year projects

**ATTENDEES:** **For WAG member attendance, please see attached sign-in sheet**  
Fred Rose, Fairfax County  
Danielle Wynne, Fairfax County  
Eric Forbes, Fairfax County  
Russell Smith, Fairfax County  
Martin Chang, Fairfax County  
Bill Frost, KCI Technologies, Inc.  
Lugene Keys, KCI Technologies, Inc.  
Jessica Bratina KCI Technologies, Inc.  
Bill Medina, KCI Technologies, Inc.  
Manasa Damera, KCI Technologies, Inc.

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**The purpose of this meeting** was to provide the WAG membership with an update on the planning process since the last meeting (June 2009); to review the project prioritization process and engage them in a dialogue (questions, concerns and suggestions) about the projects. The following key items were discussed:

- 1. Introduction & Welcome:** Lugene Keys of KCI Technologies, Inc. welcomed the members back since the last meeting. Ms. Keys reviewed the WAG Meeting Ground Rules, and explained that the project team wanted to try recording the meeting discussion to assist with developing the meeting summary. She asked if the group was receptive to this approach, and if anyone had an objection, that the recorder would not be used. There was no objection from the group for recording the meeting, so Ms. Keys set the recorder up on the table. Ms. Keys turned the meeting over to Fred Rose.

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- 2. Recap of Planning Process Up to WAG Meeting #4:** Fred Rose of Fairfax County stated that this process was started almost a year ago and expressed his appreciation for everyone's participation. Mr. Rose explained that due to technical aspects, the team had to step back in the summer and fall, which was the reason for the delay. He noted that this watershed group is actually ahead of other watersheds, but still three months behind where the County had hoped to be in terms of schedule.

Mr. Rose assured the members that the County will finish the planning process expeditiously. The goal of the County is to have all the plans for the watersheds presented and adopted by the Board by the end of the year. He explained that the County feels that it has a good handle on the project selection process. It's important that the project team considers several factors, selects the right projects and looks at the benefits of using a process that is as objective as possible. When the Draft Plan is complete, the County will need to be able to defend how the projects were evaluated and provide quantifiable benefits. The next step will be to finalize the projects selected, while adhering to budgetary constraints, and develop a draft plan.

Mr. Rose then introduced Bill Frost to explain the details of this technical process.

- 3. Introduction to Project Prioritization:** Bill Frost of KCI Technologies, Inc. used a PowerPoint presentation for his discussion. The audience received a printout of the PowerPoint slides along with the meeting agenda and other relevant handouts during meeting sign-in period. A copy of the power point may be found at: [www.fairfaxcounty.gov/dpwes/watersheds/doguecreek\\_docs.htm](http://www.fairfaxcounty.gov/dpwes/watersheds/doguecreek_docs.htm)

He reminded the group that at the last meeting, the initial process of choosing projects was discussed. As a starting point, subwatersheds were ranked against four indicator groups from the subwatershed ranking process: stormwater runoff impacts, flooding hazards, habitat health, and drinking water quality. The project team identified potential sites from mapping data, and then went out into the field to assess feasibility. Most of the sites were in headwater areas, a suggestion made by the WAG and identified as a subwatershed strategy at an earlier meeting. The target subwatersheds map identified the areas of the watersheds that have some type of impairment that needs to be addressed using a color gradation scale; the darker colored subwatersheds had more impairments than lighter colored subwatersheds.

The initial project identification began with over 200 sites in the three watersheds. A desktop analysis and field reconnaissance were performed to narrow down the projects to 105 by combining smaller sites into single projects and by eliminating some projects that had duplicate benefits. These projects were further narrowed down to 60 sites for the 10-year projects and 45 sites in the longer term 25-year program by analyzing indicators such as pollutant loading and subwatershed condition.

A WAG member asked that when the number of sites decreased from 200 to 105, how many were combined and what was the reason for the other eliminations. Mr. Frost responded that

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there were 65 sites that had no action and were not feasible due to constraints such as utilities, concrete channels, or that they would be cost prohibitive. An estimated 34 sites were combined into 15 to 20 projects.

Another WAG member asked what was meant by “not feasible.” Mr. Frost responded that often there are utilities crossing the area which prevent any excavation. In the case of stream projects, the disturbance needed for construction access, such as tree removal, can cause more damage than the benefit from the stream restoration is worth. It is frequently difficult to restore concrete channels, since the stream may have been straightened, leaving too little space through private property to reconstruct a natural channel without getting too close to structures. This was the case with the channel for most of the length of Four Mile Run.

Another member asked what the number of projects was for other watersheds within the County. Mr. Frost responded that the number is prorated by watershed area. Accotink is twice the size of these watersheds, so it would have twice the projects.

A WAG member mentioned that there are special challenges in the Belle Haven area. This area has the most degraded streams and is in the greatest need of restoration from the County. The member questioned, if there are watersheds of comparable size in pristine condition, but those projects are easier to do, do they get more projects assigned?

Mr. Rose mentioned that the County is working on the prioritization issue county-wide right now. Mr. Rose explained that there is not one simple factor that decides which project is selected, but rather a matrix of factors.

Another WAG member asked if there are two levels of prioritizations – the one that will be completed during the meeting tonight, and then another round of prioritization to be done by the County. Mr. Rose explained that projects do not compete against each other on only one factor.

Mr. Frost continued to explain that the assessments of subwatershed condition and project prioritization were aimed at comparing projects across the watershed. As an example, in these three watersheds, the areas in Dogue Creek were in fairly good condition. The priority there was low and KCI looked in more degraded areas for potential projects.

Mr. Frost continued with the discussion on prioritization explaining that the purpose was to identify the 60 best projects. The steps for the prioritization procedure were:

- Determine the effect of each project on watershed impact and source indicators by subwatershed.
- Determine project score for location within priority subwatersheds. Projects in subwatersheds with high priority (poor condition) rank higher.

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- Determine project score for sequencing based on upstream-downstream order. Downstream projects scored lower than those upstream.
- Determine project score for implementability. Two factors were assessed: Does the County own or maintain the property? Will a downstream project require an upstream project?

A WAG member asked what is meant by predictive indicator. Mr. Frost responded that a predictive indicator is one where the benefits should be predictable, if not quantifiable. Indicators that can be modeled are predictive. Some factors, such as flood complaints, can't be forecasted or predicted.

Regarding location within priority subwatersheds, Belle Haven and Four Mile Run are ranked higher (i.e. poorer condition) than Dogue Creek because of intensity of development. Dogue Creek is much less developed. Mr. Frost noted that the scale of the maps shows all three at about the same size; however, Belle Haven is half the size of Dogue Creek, and is enlarged for this map.

A WAG member asked what consideration was given to the fastest growing area in the County, Dogue Creek. Mr. Frost responded that built-out conditions from the current County Comprehensive Plan were considered for future conditions and it was taken into account for indicators where the project team could model the difference.

A WAG member asked if the team will work with zoning staff. There are permits to subdivide lots on this land which will cause issues in the future, and to say the least, there will be problems. Danielle Wynne of Fairfax County explained that the County will work with zoning but an "as-of" date for future conditions had to be set so that modeling could be completed. When the process is finished, the County can work more closely with DPZ if an area comes into redevelopment. Mr. Rose also explained that the zoning designation provides a range and within the range it is the high-end. For this project, the worst case was used with the modeling.

A WAG member inquired if the project is using current development plans for Fort Belvoir. Another WAG member, representing Fort Belvoir, fielded this question stating that most of Fort Belvoir is not in the Dogue Creek watershed. Mulligan Road is exceeding water quality and Humphreys Engineering has no plans to expand. There is 1,000 feet of stream restoration meeting future development of the improved stream. The Dogue Creek development is not as much of a factor as in Accotink Creek.

Another question was asked to the representative from Fort Belvoir, inquiring if the hospital will increase volume and velocity of stormwater runoff. The representative responded yes, there will be an increase, but by DCR SWM regulations, the discharge will be controlled to pre-existing good woods conditions with the infiltration basins, sand filters and stream restorations to buffer.

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Another WAG member mentioned that runoff from concrete puts less nitrogen into the water than the golf course. The representative from Fort Belvoir explained that Belvoir meets the requirements of nutrient reduction, and as a result, there are not as much green greens as the golfers would prefer. As part of the Coastal Zone Management Act, Fort Belvoir must comply with the federal, state and local requirements for all projects, which are reviewed the same as any other project in Fairfax County.

Mr. Frost continued the discussion with the Location within Priority Subwatersheds slide, noting all of Four Mile Run was headwaters, parts of Belle Haven were headwater, and the outside subwatersheds for Dogue Creek were also classified as headwater areas. When reviewing the maps, Mr. Frost indicated the green and yellow dots are the proposed projects.

Mr. Frost explained for implementability, two metrics were used: whether it was County owned or maintained property and if upstream quantity controls were required.

For the final score calculation, the weighted average was determined from the five factors. Mr. Frost explained that the team looked at what came out of the numbers, asked if it made sense, and should it be adjusted as part of the best professional judgment (BPJ) review.

A member of the audience asked for clarification on what Mr. Frost meant by “opportunities for this.” Mr. Frost responded that the LID-type designs for treating runoff before it leaves the site are ideas for what you can do to retrofit in a developed area. In a developed area like this with a lot of pavement, there are a lot of opportunities for these improvements, and there may not be any area to build a new pond. In an area developed before SWM regulations, there may not be many dry ponds to retrofit for water quality.

Another WAG member asked what was meant by area-wide improvements. Mr. Frost responded that this is a type of project for a residential area that was built before stormwater management with no ponds to retrofit and no areas to do bioretention. But filtration or a filter boxes can be implemented throughout the area to treat the water flowing through the gutter before it gets to the inlets.

A WAG member asked if we had found a way to do rain barrels yet. Mr. Rose responded that the County does have a program.

Mr. Frost moved on to nonstructural projects, describing the same approach with the four kinds of impairments and the project types:

Impairments:

- Stormwater runoff impacts: Project types include dumpsite cleanup and obstruction removal.
- Flooding hazards: There were no non-structural project types.
- Habitat health: Includes the condition and quantity of forests, wetlands and riparian buffers. Projects include land conservation.

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- **Water quality:** The most significant type of impairment that nonstructural projects affect. With non-structural measures, the goal is to remove pollutants before they get into the streams. These projects were identified through the upland reconnaissance, and they disconnection of downspouts and impervious areas, outreach/education for lawn care practices or storm drain stenciling. Inspection and enforcement projects dumpster management, outdoor material storage and fuel spill prevention. Street sweeping and litter removal was the final type of project.

Mr. Frost reviewed the results of the findings, consisting of 137 different candidate sites with the most in the categories of dumpsite/obstruction removal, land conservation (areas in good shape not currently owned by the County), outreach, and inspection/enforcement. Buffer restoration was covered in structural projects.

A member asked two questions about the prioritization process. First, was this what the team had been working on between the last WAG meeting and this one, and second, when the County decided that the process wasn't sufficiently developed. Mr. Frost responded on behalf of the County that yes, this had been the main effort between the two meetings. He answered the second question by stating that the County reviewed the results of using the indicators for the subwatershed assessment, concluded it would be useful to expand their use for project prioritization, and have all the watershed consultants use the same procedure.

A WAG member asked if there was anyone representing the National Park Service because she wanted to know what they thought about some of the recommendations on their property. Ms. Wynne responded that at this time there are not any representatives from the NPS but the County is coordinating with other groups that are not represented on the WAG.

The WAG member also asked that in terms of Belle Haven, has the County taken into consideration the possibility of putting a flood wall along the parkway. Mr. Frost responded that the US Army Corps of Engineers has their own study and didn't want to duplicate what they were doing, so the County stepped back from that area.

At this time, the group took a break to look at maps of their watershed areas of interest.

- 4. Regroup & Next Steps:** Ms. Wynne thanked everyone for their comments and encouraged the members to take the information back to their groups and feel free to email her with additional comments.

Ms. Wynne explained that the team is going to start writing the plans and it will take a few months. The next time the WAG gets together, it will be to show the members a draft plan. When asked, the WAG members responded that they would prefer CDs over printed copies and asked if the material on the CD would be on the website. Ms. Wynne responded yes, it would.

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Ms. Wynne continued, stating that once the draft plan is created, a Draft Plan Forum will be scheduled for public comments. Ms. Wynne asked the members to go back to the groups they represent and encourage them to attend the forum. After the forum, the team will review the comments, prepare a final plan and submit it to the Board for review.

A WAG member asked about the schedule of the draft plan. Ms. Wynne responded that it would take a few months to write it, depending on how much the mix of projects might change.

Another WAG member asked if Ms. Wynne would be willing to do a presentation for Mt. Vernon Committee. Ms. Wynne responded that she would be more than happy to do that.

Ms. Wynne continued explaining that after the forum, the review period for the draft will last at least 30 days. She explained that there will be a form to fill out on the web for comments. After the information is received and comments are addressed, the plan will be written and sent to the board.

Mr. Rose mentioned that a member asked him what is the soonest they could see projects going forward for implementation. The soonest would be July of next year, which is the start of the fiscal year.

Mr. Rose explained that this is a continuing process with a category of things to look at. Short-term and easy fixes are being looked at first. Some things require coordination with the state, and some require enabling legislation from the state legislature. There is a lot of convergence going on with the stormwater NPDES permit and the Bay TMDL (Total Maximum Daily Load). There is also an effort to look at what localities will be required to do in terms of watershed implementation plans (WIPs). Mr. Rose explained that he will be talking to the State tomorrow about Fairfax being a pilot to look at impediments and obstacles to overcome in terms of policies, ordinances and codes.

Another WAG member asked Mr. Rose about the budget impacts on the stormwater division and how the penny fund, that was set aside for stormwater projects, was diverted to be used for operations. The member said he was angry that the government has the ability to set a tax and earmark the tax for a specific project, but then turns around and cuts the agency to the bone. Mr. Rose responded that at the presentation last week, the County recommended increasing the tax to a penny and a half. A WAG member asked if the extra funding will be used for actual projects. Ms. Wynne responded that yes, the County really needs this extra funding, and Mr. Rose agreed that it makes a big difference in putting money towards projects.

Another member asked if the County was putting together a citizen committee to implement the policy recommendations from the first set of watershed plans. Mr. Rose replied that the County has not designed the process for implementing policy recommendations yet.

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There were no additional questions, so the meeting adjourned after this discussion.

*We believe that the above accurately reflects the key points of discussion during this meeting. However, input that reflects a difference in understanding or further explanation important to the purpose of the WAG and the meeting summary is encouraged. A request for modification or inclusion of additional information should be forwarded to **Jessica Bratina** by calling 717-691-1340, ext. 3139; e-mailing to [jessica.bratina@kci.com](mailto:jessica.bratina@kci.com); or faxing to 717-691-3470. Please submit all requests by the end of business on Tuesday, March 23, 2010. If no requests are received within this time frame, we will assume that all in attendance concur with the accuracy of this summary.*

**Cc: WAG Membership**

Fred Rose  
Danielle Wynne  
William Frost  
Lugene Keys



## MEETING SUMMARY

**DATE:** September 28, 2010

**MEETING DATE:** Thursday, July 15, 2010

**PLACE:** Mt. Vernon Governmental Center  
Alexandria, VA

**TIME:** 6:30-9:00 PM

**PROJECT:** Belle Haven, Dogue Creek and Four Mile Run  
Watershed Management Plan

**KCI PROJECT NO.:** 01071644

**SUBJECT:** Watersheds Advisory Group (WAG) Meeting #5

**HANDOUTS:** Agenda, PowerPoint Presentation, Priority Structural Projects List  
(10-year implementation plan)

**ATTENDEES:** **For WAG member attendance, please see attached sign-in sheet**  
Fred Rose, Fairfax County  
Danielle Wynne, Fairfax County  
Eric Forbes, Fairfax County  
Russell Smith, Fairfax County  
Bill Frost, KCI Technologies, Inc.  
Lugene Keys, KCI Technologies, Inc.  
Jessica Bratina KCI Technologies, Inc.  
Bill Medina, KCI Technologies, Inc.

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**The purpose of this meeting** was to introduce the Draft Plan contents, to recap the process, discuss the next steps and the upcoming Draft Plan Forum. The following key items were discussed:

- 1. Welcome:** Lugene Keys of KCI Technologies, Inc. opened the meeting by welcoming everyone and thanking them for coming. She turned the meeting over to Fred Rose of Fairfax County who mentioned that it was good to see a large number of members in attendance. Mr. Rose noted the County appreciated the WAG members' efforts and dedication over the last two years. He acknowledged the WAG members' patience when the team wanted to take a step back and look at the process and procedures to ensure a quality product at the end.

Mr. Rose also mentioned that although this would be the last WAG meeting, he encouraged everyone to stay involved. This was not the end of the process and the County will be moving into the actual implementation phase. County-wide, there will be an estimated 4000 projects generated from all of the watershed plans. Mr. Rose said that the biggest challenge will be deciding which projects get built from year to year. The projects will be selected

each year from the overall list, using a prioritization tool which the County has been developing to consider many different criteria.

A WAG member asked if the Chesapeake Bay TMDL effort will affect the ranking of the projects and in which order they will be implemented. Mr. Rose responded that the TMDL, along with other regulatory concerns, can be factored into the prioritization system.

In response to a question about changes in ordinances and policies, Mr. Rose said that in the first round of watershed plans, there were over 300 recommendations made from all six plans, which were consolidated into eight different themes, with some overlap. For this round of plans, an effort has been made not to delve into policy issues.

As the policy recommendations are reviewed, the specific process for action must be figured out, whether it's a new policy or legislation adopted by the Board. Mr. Rose expects it to be a long process. The County will take into account the concerns of different interest groups and of the Board to get things changed. Mr. Rose said he considers the plan to be a modest beginning to get things moving in the right direction. Implementation will continue, with an eye on watershed conditions, monitoring projects, and if necessary, making changes. Mr. Rose thanked the group again and, on behalf of the staff, he extended their gratitude.

**2. Introduction to the Plan's Contents:** Bill Frost of KCI Technologies, Inc. was introduced to review the meeting goals: introduction to Draft Plan contents, recap of the process, discussion of next steps, and preparation for the Draft Plan Forum. Mr. Frost discussed each section briefly.

- **Section 1** – Introduction. Mr. Frost explained that this section covered the basics about watersheds and the countywide watershed planning process, which is focused on water quality improvements and runoff reduction. This information was covered in the first meeting, the Issues Forum.
- **Section 2** – Watershed Planning Process. Mr. Frost said this section included goals and objectives for all watersheds, a review of the indicators that measured the data, and how that data was used for scoring and ranking. This information was covered in WAG #1.
- **Section 3** – Summary of Watershed Conditions. Mr. Frost explained this section was a summary of the Watershed Workbook developed in the first stages of the project, which used analysis of land use, imperviousness, and stream assessment data to determine where the problems were, what was causing the problems, and how they can be improved.
- **Section 4** – Summary of Watershed Restoration Strategies. Mr. Frost said this section explained what each project is, gave specific details on the project and provided sample pictures. Strategies for locating projects were developed based on input from the WAG. This section also included the master list of proposed projects.
- **Section 5** – Watershed Management Area (WMA) Restoration Strategies. This section included the description of structural and non-structural projects, a map of project locations by WMA and fact sheets for the 10-year projects. A short description of how to read the fact sheets was presented.

- **Section 6** – Benefits of Plan Implementation. This section summarized the results of watershed modeling. The table showed the pollutant loads and reductions for TSS, TN, TP, along with hydrologic results for flow and volume. The results were presented for existing conditions, future conditions based on zoning and build out, and future conditions with projects. It was broken down by watershed and WMA.
  - **Appendices** – Mr. Frost reviewed the appendices, including the Draft Watershed Workbook and the Technical Documents. Public Involvement materials were also attached which included the meeting summaries from all of the WAG meetings.
- 3. Process Recap:** Mr. Frost discussed the elements of the process in developing the plan. The first step was to determine the problems based on project information developed earlier. For stream restoration projects, the County's stream assessment was reviewed to identify areas in poor condition with restoration potential. Flooding sites were identified using results from the hydraulic modeling, which forecast the frequency that road crossings were flooded. Habitat problems were areas where wetlands could be restored or a stream buffer could be reforested. Water quality problems were identified from the pollutant loading modeling and the mapping of areas where there is no stormwater quality treatment. These solutions included pond retrofit, parking lots, inlets, and outfalls. From these, there were 240 potential restoration sites to look at.

For project evaluation, field reconnaissance of all the sites was conducted to look at constraints and feasibility, and select the most effective potential projects. The result was a list of 125 candidate sites, which were presented at WAG Meeting #4.

To develop a list of projects, some of the smaller projects were consolidated into larger ones using a targeted minimum cost of about \$80,000. Projects were then evaluated and ranked for priority.

Non-structural, programmatic projects were developed using the results of the upland reconnaissance. These types of projects, such as outreach efforts, street sweeping or enforcement of dumpster maintenance, will be conducted watershed-wide.

The result of the project identification and selection process was a list of 60 10-year projects, 38 11-25-year projects, and 20 non-structural projects.

A short Q&A period was held to discuss the material presented:

A WAG guest asked if the County had considered a system for litter control such as netting near storm drains. Mr. Frost responded that the County terms this "floatable control" and that the County didn't have that control at this time. The guest mentioned where Hunting Creek meets the Potomac River, there were 1000 plastic bottles coming from Fairfax County into the river. If there was a method of trapping the trash before it went further, it could be collected once a week for disposal. Mr. Frost said that between now and the final draft plan, there was an opportunity to add additional projects such as this.

Danielle Wynne of Fairfax County mentioned that after all the County's watershed plans are complete they will look for the kind of problems found County-wide and will evaluate how to address each of them. She mentioned that the team probably won't get into these types of tasks at this level in the planning effort.

A WAG member asked how involved the process would be with trash and litter enforcement. The member brought up a problem with the wet ponds in Manchester Lakes. When Boardwalk Fries opened up next door, trash was found in the ponds the same day. The WAG member asked what the level of enforcement was, or will be.

Ms. Wynne responded that they were still determining an exact process for floatable management. She asked the members to let the County know about specific areas that are producing trash and these can be highlighted and looked it.

A WAG member asked about the land owner characterizations: private, residential, church and HOA. The member mentioned that sometimes a project on the list identified more than one owner. Ms. Wynne stated that some projects can be large enough to include several parcels. Mr. Frost mentioned that the team will review the list for errors and asked the members to make note of any errors they may come across.

Another WAG member asked if the team had any process set up or were they envisioning something once a hot spot is identified, such as requiring the County to get back to an individual within 60 days. Ms. Wynne responded that the County does not have any process like that at this time. More intensive stream cleanup and adoption programs are being set up. The WAG member also suggested for the County to establish a process after receiving a complaint, so that things would not fall through the cracks. Ms. Wynne responded that it was a great idea to make the County more responsible. She said the County will work as hard as possible to address the problem.

4. **Next Steps** – To conclude the presentation, Ms. Wynne went over the next steps. She mentioned that the draft plan was given out via CD and if anyone would prefer printed copies, they are located at the district offices. Ms. Wynne mentioned there were several layers in the review process, the first being the WAG members. Ms. Wynne asked the group to go through and help identify errors and any project areas that were missed. The next layer, the Interagency review, includes the public school board and Park Authority. Comments can be provided until September 5. The Draft Plan Forum will be held on August 5 from 7:00 PM to 9:00 PM at the Mount Vernon High School. Ms. Wynne asked the members to let their groups know about the forum and to post fliers.

A WAG member mentioned that he publishes a newsletter and would like a text or Word document version of the flier. Ms. Wynne noted that this can be done.

Ms. Wynne said that after the comment date closes, the team will consolidate the comments, address them, create the final plan and present it to the Board of Supervisors for adoption. The proposed date is December 7, 2010.

A WAG member asked if the County was having any pushback from anyone on the Board of Supervisors. Ms. Wynne responded no and informed the member that the team has met with the Board several times and has educated them on the process and what the plan is. The WAG member asked if the supervisors have any say in what gets funded first, possibly in their areas. Ms. Wynne responded that funding is at a County-wide level. Mr. Rose mentioned that while Board members always have a say, a process has been established to look at improvements County-wide.

A WAG member mentioned that with the layers of review, a lot of what was proposed is based on a highly technical and scientific plan. It is on a level of detail that most reviewers may not be as familiar with. He did not see any independent technical review to identify potentially better approaches. Mr. Rose mentioned that the County has an overarching technical reviewing consultant looking at the plans County-wide, who has done an evaluation of all technical models and made recommendations. The goal was to achieve consistency across the County with all watersheds using the same model and to evaluate how the model will have an impact on Fairfax County as a whole.

- 5. Planning for the Draft Forum** – Ms. Wynne explained how the members can provide their comments. WAG members can submit their comments by e-mail to Jessica Bratina at [jessica.bratina@kci.com](mailto:jessica.bratina@kci.com). After the Draft Plan Forum on August 5, there will be an online comment form during the 30-day public comment period. Comments can also be submitted directly to Ms. Wynne at 703-324-5500 TTY 711. Ms. Wynne reminded the members to visit the web site because it is being constantly updated and members can review all previous WAG materials.

All the technical data in the report can be found the appendices so anyone should be able to read the main body of the plan without a technical background.

A WAG member had a question about the numbering system. Mr. Frost responded that projects were numbered by watershed, but for some of the non-structural projects applied to all three watersheds, projects were numbered with “DC” because Dogue Creek is the largest. For non-structural projects, such as outreach education area, project sites were identified from a sample of neighborhoods. These projects are needed everywhere so one spot of color in one neighborhood does not mean the adjacent area is pristine.

A WAG guest asked for an explanation of BMP/LID. It was explained as a Best Management Practice (a term for stormwater quality projects) and Low-Impact Development (a term meaning smaller, on-site projects).

A WAG member asked if the owners of the all the properties have been notified. Ms. Wynne responded that postcards were sent out to any property adjacent to a project and about 4,000 were sent out between the three watersheds. The WAG member asked for clarification that the postcard was sent to the owner of the land, yet the owner may not be living on the parcel. Ms. Wynne responded that this was correct. The WAG member also asked if the County had received any feedback on the postcards. Ms. Wynne said that they had received a few phone calls with questions on why the postcards were sent out.

Typically, there is a 1% return on activity with postcards, so they are hoping for at least 40 people at the public forum.

Another WAG member asked about nonstructural projects and restrictions on HOAs, specifically rain barrels. There was some discussion on the effectiveness of using rain barrels and the appearance of rain barrels used on residential properties.

Mr. Rose mentioned that the goal of many of the outreach projects was to change the way people look at things and their habits. He compared this to no smoking awareness and recycling. He said it is going to take a generation before watershed outreach concepts are fully embraced.

A WAG member asked if the County is allowed to enter private property without permission. Mr. Frost responded that projects will not necessarily be designed exactly like what is shown in the project fact sheets. In every case, during the design phase, the County will work with the community. For new structural projects, the County would have to get easements. Mr. Rose explained that with new easements, this is a negotiation process with land owners. The WAG member asked for clarification that the County could be recommending a project in a plan that the Board would approve, prior to getting the owner's permission. Mr. Rose responded that that was correct; however there will be opportunities to revise the design during the implementation stage of the process.

A WAG member asked another WAG member to clarify his previous statement with HOAs and their restrictions on rain barrels. The WAG member responded that some HOAs are restrictive and will not let people put decorative items in their yards. A different WAG member mentioned that there are many options with rain barrels to make them attractive and customizable. A retention vault in the backyard was another possibility. Another WAG member mentioned implementing a pilot program for rain barrels with the HOAs.

With no further questions or discussions, the members adjourned to look at maps and enjoy refreshments.

*We believe that the above accurately reflects the key points of discussion during this meeting. However, input that reflects a difference in understanding or further explanation important to the purpose of the WAG and the meeting summary is encouraged. A request for modification or inclusion of additional information should be forwarded to **Jessica Bratina** by calling 717-691-1340, ext. 3139; e-mailing to [jessica.bratina@kci.com](mailto:jessica.bratina@kci.com); or faxing to 717-691-3470. Please submit all requests by the end of business on Monday, October 11, 2010. If no requests are received within this time frame, we will assume that all in attendance concur with the accuracy of this summary.*

**Cc: WAG Membership**

Fred Rose  
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