

Via email 12/31/2005 - schools@loudoun.k12.va.us

Loudoun County School Board Members,

Loudoun Watershed Watch would like to bring an important issue to your attention regarding the potential purchase of the O'Connor property near Leesburg as a site for a new high school. A stream flows through this property that requires special attention. We have written the following letter to Mr. Adamo regarding the stream protection issues and as well as some special opportunities associated with the property.

We believe that it is critical to make decisions about the use of this property before it is purchased because the stream protection needs and recreational opportunities may require more land than would normally be acquired for a high school alone. To this end, we request the opportunity to briefly present our concerns to the School Board at your next meeting on January 10.

Thank you for your attention to this important need to protect our water resources and provide for the educational and recreational needs of the community.

Darrell Schwalm
Loudoun Watershed Watch
703-430-4180



December 30, 2005

Mr. Sam Adamo, Director
Loudoun County Public School Planning and Construction Department
21000 Education Court
Ashburn, VA 21048

Dear Mr. Adamo,

Loudoun Watershed Watch (LWW) is a consortium of citizen groups and local and state agencies focused on protecting Loudoun County's water resources. To that end I write to inform you of critical issues regarding the unnamed stream that flows through the O'Connor tract that is being considered for purchase by Loudoun County Public Schools. Local and national environmental organizations, as well as state and county agencies, have a special interest and concern about the stream that the state calls "Big Spring Creek." This is the only stream in a 10-county area that has a self-sustaining trout fishery. Should LCPS successfully purchase the property, it would present a unique opportunity for Loudoun County to ensure the future of this important natural resource.

Wild Trout Fishery

Mr. John Odenkirk, Virginia Department of Game and Inland Fisheries (DGIF), has been working on behalf of the state since the late 1980's to protect the wild trout waters of Big Spring Creek. The state has successfully orchestrated a partnership between the Northern Virginia Chapter of Trout Unlimited (TU) and riparian landowners along Big Spring Creek to allow a catch and release trout fishery on private lands. Under this partnership, TU has invested considerable labor and dollars on numerous riparian and in-stream habitat projects over the past several years. DGIF and the Loudoun Soil Water Conservation District (LSWCD) have also worked with VDOT concerning the Route 15 widening project to protect the stream from increasing runoff (surge) flows and excess sedimentation. Recent electrofishing samples have shown that the wild trout population and ten other fish species in the stream have responded favorably.

Natural Riparian Buffers -- DFIG advises that in a developing area we would certainly want as much riparian zone as possible and this should be at least 300 feet on either side. A recent assessment of brook trout drainage along the entire east coast shows that trout populations begin to see serious degradation when the amount of forested land within the watershed drops below about 75%. We're probably already well below that at Big Spring, but in this case the spring helps to mitigate impacts.

DFIG also advises that it is imperative that any build-out in the upper watershed be conducted in such a manner as to not increase the current hydrograph to protect trout and other species downstream. In fact, enhancements to the riparian situation that currently exists must be made in order to decrease silt

deposition. DGIF has graphic pictures of the eastern tributary dumping in silt-laden water while the spring arm runs clear and cold. We also need to be aware of water warming that can occur from detaining storm flows in wet ponds. Public ownership of the land represents an opportunity, but building a school also presents the potential for more damage.

The status of Big Springs Creek as a wild trout fishery also means there are special water quality standards and an anti-degradation policy that apply to the stream. These state standards are outlined in **Attachment 1**.

Loudoun County School Construction Guidelines

LWW is acutely aware that new schools are often built on properties too small to accommodate building and athletic field needs. Land is expensive, and with so many schools to build, the county must economize. For example, retaining walls were constructed behind Dominion High School to reduce land used for athletic fields in order to increase the floodplain buffer along Sugarland Run. Compromises have to be made, and, unfortunately, in the past, environmental protections have often lost out.

We also believe that the county process for protecting natural resources on county school properties are not as rigorous as needed. Environmental impact studies are not conducted, storm water protections meet only minimum requirement, and post-construction studies are not conducted to evaluate the effectiveness of the storm water protections. Stormwater control and management facilities are constructed knowing that downstream erosion and flooding will occur, and this is deemed acceptable as it falls within operating norms. For example, storm water flowing from the school property behind Dominion High School was designed to disperse over the flood plain in a sheet flow pattern. Instead the stormwater is creating a deeply eroded ravine that channels stormwater directly into Sugarland Run.



Storm water runoff from Dominion HS entering Sugarland Run



Storm water runoff from Dominion HS eroding drainage through the flood plain.

The O'Connor site has some unique requirements for protecting the natural resources because the property is within a Karst environment. Redirecting storm flows during and after construction could result in limestone solution channels that carry sediment-laden runoff beneath the surface and into the creek. Even though erosion and sediment controls on the surface may meet accepted minimum standards, there is the potential that the stream will be severely impacted through subsurface flows. This was reported to have happened during construction of Smart's Mill Middle School, and nothing was done to protect the stream.

With so many of Loudoun County's streams being impaired for their intended uses, all county school construction projects must have the dual purpose of building what is needed and protecting what is there for continued future use.

We know that in the past there have been times when you have tried to be sensitive to the need for stream buffers. We note, for example, your role in the partnership between Smart's Mill Middle School, LSWCD, NRCS, VDOF, and the Loudoun County Administrator's Stream Buffer Planting Program. Volunteers joined in to plant 1,000 trees in the floodplain headwaters to Big Spring on the school property in the spring of 2004. The school construction office helped by having the floodplain bush hogged prior to planting and promised to have school maintenance bush hog between rows once or twice a year.

Unique Opportunities

Loudoun Watershed Watch supports the proposal to purchase the O'Connor property as a site for a new high school because this will allow the county to reestablish a proper riparian buffer and protect the important downstream trout fishery. The O'Connors have used Big Spring Creek as a source of drinking water for cattle, and the riparian buffer has been largely destroyed. The poor buffers accentuate high stormwater flows that cause stream bank erosion and increased sediments in the stream. DGIF and LSWCD have approached the O'Connors with a plan to fence off the stream at no cost to the landowner, but were rebuffed.

Protecting the trout resource is only one of several opportunities that acquisition of this property by the county offers.

- **Outdoor Classroom** -- The proposed high school and the existing middle school across the road will be able to use the stream corridor as an outdoor classroom for science activities. Classes can also become engaged in helping to restore a natural riparian buffer through a variety of BMP projects along the stream corridor.
- **Stream Corridor Park** -- Loudoun County Parks and Recreation has advised us that the stream would make a good linear, stream corridor park. This would allow public access to the stream and provide added protection and management.
- **Connector Trail** -- Loudoun County Parks and Recreation also advised that the corridor could be used as a connector between the Potomac Heritage National Scenic Trail along the Potomac River and Ida Lee and Morven Parks in Leesburg. There are existing trail rights-of-way through Big Spring Farm that may allow such a connector trail.
- **Ida Lee Park** -- The recent article in the Loudoun Times Mirror discussed how Leesburg is also interested in extending Ida Lee Park, and would be very supportive of a linear park along the stream, as well as a connector to the Potomac River trail.

All of these opportunities that will benefit the school system and the larger community are contingent on one thing -- **that sufficient property be acquired by the school system to protect the floodplain and to establish a sufficient stream buffer for Big Spring Creek.**

Multi-Use Model for a Stream Corridor – Loudoun County would not be the first to develop a property for a school site with a stream corridor that is used for a variety of educational and recreational uses, as well as a natural riparian buffer to protect an important fishery resource. DGIF has advised LWW that they are involved in a similar project on Redbud Run near Winchester. In that case they have established a 300' protected corridor on either side for a linear greenway type park that will eventually have a greenway trail through it. A new school is part of this plan as well. They believe this multi-use plan will work well and is probably the best approach to protect this stream.

Funds for a Linear Stream Corridor Park and Outdoor Classroom

The potential for multiple uses of the property for educational and recreational activities and stream protection also brings to the table the potential for multiple sources of funds. DGIF has grant money available to help establish outdoor classrooms. The Town of Leesburg has funds that might be used to extend Ida Lee Park. There may be funds available for a trail connector between Leesburg and the National Heritage Trail. The school Planning Department should bring these other stakeholders to the table to discuss such opportunities.

We regret that little public information is available on the amount of land you seek to acquire and how the stream corridor would fit into your site plan. We believe that the opportunity to protect Big Spring Creek will be lost forever if the county does not purchase sufficient property to establish a sizeable riparian buffer to protect the stream corridor and provide for the multiple uses discussed above. This is forcing us to be proactive during the negotiating phase, and to rely upon sources of information outside the school system. It is not our intent to be critical but rather only to alert you to the particular needs and opportunities associated with this property along Big Spring Creek.

Capitalizing of these opportunities will likely require a more inclusive process than what is now occurring. We request that you meet with the appropriate recreational, water quality, and fishery resource officials in order to properly understand the needs and opportunities that will benefit the school system, the community, and the county's natural resources.

Thank you for your attention to these matters. We look forward to hearing from you on your reactions and thoughts.

Darrell Schwalm
Loudoun Watershed Watch
Schwalmie@aol.com

Attachment 1. State Water Quality Requirements

Attachment 1

State Water Quality Requirements

The Virginia Department of Environmental Quality (DEQ) advises Loudoun Watershed Watch (LWW) that Big Spring Creek is identified as Class VI natural trout waters with a public water supply designation as follows in 9 VAC 25-260-390 of the Virginia Water Quality Standards:

Big Spring Creek and its tributaries in Loudoun County, from its confluence with the Potomac River upstream to their headwaters. (The temperature standard for natural trout water may be exceeded in the area above Big Spring and Little Spring at Routes 15 and 740 due to natural conditions). This section was given a PWS designation due to the Town of Leesburg's intake on the Potomac as referenced in Section 8b below.

The numerical water quality standards for dissolved oxygen, pH, and maximum temperature for Class VI natural trout waters as established in 9 VAC 25-260-50 are as follows:

- Minimum Dissolved Oxygen: 6.0 mg/L
- Daily Average Dissolved Oxygen: 7.0 mg/L
- pH: 6.0 – 9.0
- Maximum Temperature: 20 °C

These criteria are more stringent than those for most free flowing streams in this part of Virginia.

Anti-Degradation Policy – Virginia's water quality standards include an anti-degradation policy that provides additional protections. All existing in-stream water uses and the level of water quality to protect the existing uses must be maintained and protected. This means that, at a minimum, all waters in Loudoun County streams should meet adopted water quality standards.