

WISTAS

A publication of Allegheny Land Trust

Fall/Winter 2007



From the Executive Director

The region needs a land trust like Allegheny Land Trust

Over the past 18 months, ALT has been intensely involved with compiling reports and data sets that we are using to create the ALT GREENPRINT. We've also heard from a lot of people through our survey work and feedback from presentations I've made at conferences and workshops on the ALT GREENPRINT.

We've learned that the public is well aware of the issues that we deal with on a daily basis—but really not aware that Allegheny Land Trust is dealing with them. I'm not talking about the day to day issues that any non-profit faces such as raising revenue and the like. I'm talking about our work to address flooding, landslides, water quality and the loss of biodiversity and scenic character.

These issues touch people in different ways, sometimes physically such as floodwater in their basement or street, other times emotionally such as the loss of a favorite scenic landscape.

Flooding has been the subject of a lot of news coverage and public discourse lately. But I've not heard anyone talk about "flood prevention". It's always about "flood control". ALT is trying, through our ALT GREENPRINT project, to change the mindset of leadership to think proactively about this issue instead of waiting to react when the disaster happens. We need to think about how to prevent a pure drop of rainwater from commingling

See "From the Executive Director", page 2

Funding Secured to Protect Last Undeveloped Island

Sycamore Island is the last remaining undeveloped island in Allegheny County, in the Allegheny River near Blawnox (see page 3 for aerial image). Over the past several months ALT has been working diligently to get Sycamore under agreement to purchase. Twice we thought we lost it but we persisted and our offer was accepted. Furthermore, we received full funding for the acquisition from the Colcom Foundation and are now completing the necessary due diligence such as a Phase One Environmental Evaluation.

Created in 1966, the Colcom Foundation makes grants in four areas: environmental sustainability, natural resource preservation, land and water conservation, and efforts to establish a sustainable population.

"This is an extremely exciting project," states ALT's Project Committee Chair, Tim Stanny. "Sycamore is truly a rare conservation opportunity in the county. We will face some stewardship challenges such as removing debris that has collected over the years from floods, but we are very fortunate to have negotiated the sales agreement just in time to make Colcom's grant submission deadline. A special thanks to Colcom Foundation for their generosity and support of this project."

See "Sycamore Island", page 3



Allegheny County Parks Director Andy Baechle, Davitt Woodwell of PA Environmental Council, Tom Baxter of Friends of the Riverfront, and representatives of Three Rivers Rowing join ALT Project Chairman Tim Stanny to explore Sycamore Island.

Don't miss these special features...

- 2...Lessons Learned from a Landslide
- 4 and 5...A Case for Land Conservation
- 6...An Ounce of Flood Prevention...
- 7...Worn Out Hiking Boots
- 7...Officials Tour Wingfield Pines



"From the Executive Director", continued from page 1

with a zillion others to become a rioting surge of polluted stormwater in our streams and floodwater in our streets, without expensive man-made structures.

ALT is compiling scientific evidence that quantifies how certain lands such as woodlands function to intercept rainfall. We call these lands "highly functional natural infrastructure". Woodlands, for example, are a form of natural infrastructure that are providing the beneficial services of water interception and retention, two really important functions that can help to manage rainfall before it becomes floodwater (see page 6 for detailed ideas and solutions to managing stormwater).

Our next objective is to compile the much needed economic data to complement this scientific data that will create a durable case for conservation which we can take to the county and, more importantly, the local municipalities. Local municipalities are key to a successful campaign addressing floods, landslides and the loss of the region's scenic character. They control land use, land development and the subdivision of land. For example, if we can convince elected officials and their consulting engineers and solicitors that it is fiscally and environmentally sound decision-making to protect steep wooded and landslide prone slopes, we will be on our way to curbing the upward trend in flooding and landslides.

ALT can't acquire all the land that may be necessary to protect to resolve regional water quality and land use problems. We need to convince elected officials and other key decision makers to see green space as a valuable and highly functional resource for their community—not only as unused land waiting for the next development.

Your support helps empower ALT to advance our work with local government as well as directly acquire land when it is necessary. Please read on and learn more about what we are accomplishing together with your support. Accomplishments that neither of us could achieve alone.



A family enjoys a walk on a wooded trail on a tree-covered steep slope above Chartiers Creek.

Finding Solutions after the Kilbuck Landslide—One Year Later

Roy Kraynyk, ALT Executive Director

Over the past five years I've been involved with the Kilbuck WalMart project. I reviewed the initial development application submitted to Kilbuck in 2002, provided testimony at public hearings and am now serving on the Kilbuck Landslide Task Force (VISTAS, Summer 2007). Over this time I've closely watched the sequence of events that led to the September 2006 landslide that closed Route 65 for two weeks and the Norfolk Southern Railroad for two days.

Almost a year from the date the landslide occurred, WalMart decided in September 2007 to not build a store in Kilbuck but to work to restore and stabilize the landslide site. WalMart deserves recognition for stepping up to stabilize the site since there are two other landowners who have not participated.

Municipalities pass land use ordinances for the good of their

residents and businesses as well as the safety and accessibility of roadways used by residents and visitors. Over 50 variances were granted for the Kilbuck project. Learning from the mistake of not upholding existing land use ordinances, we hope municipal representatives will approach land use decisions differently in the future, challenging development on sites that would result in higher likelihoods of flooding and landslides based on scientific studies.

Area businesses and thousands of commuters endured losses ranging from major inconveniences to millions of dollars as a result of the Kilbuck landslide. ALT is committed to finding solutions for responsible land use practices and working with municipalities to help prevent this kind of loss again. For an example, please see "An Ounce of Flood Prevention is Worth a Pound of Flood Control" on page 6.



Lessons learned from a landslide

1. Similar to waterways, steep and slide prone slopes need to be regulated by the county or state to provide greater protection of these geologically sensitive areas.
2. Municipalities should be held accountable for their decisions that have significant negative impacts on adjoining property owners or downstream communities.
3. Developments of Regional Impact (DRIs) should be reviewed and perhaps approved by the County, and surrounding affected municipalities should have standing in the decision making process.
4. Increased coordination among state agencies is needed so one agency's decision doesn't create problems for another.

“Sycamore Island”, continued from page 1

Here’s some science on Sycamore:

From *Three Rivers Second Nature*: Sycamore Island is mostly composed of Silver Maple Floodplain Forest...Hardwood floodplain forests are among the most rare plant community types globally. The Pennsylvania Natural Diversity Index (PNDI) considers all floodplain forest to be imperiled in the state of Pennsylvania...Large intact stretches should be conserved for this reason.

Allegheny County Natural Heritage Inventory includes Sycamore Island as part of the “Allegheny River BDA (Biological Diversity Area) Natural Heritage Area” which has a ranking of “High Significance.” One of its most unique characteristics is that the 14-acre island is actually growing in size due to its location on the inside of a river bend where silt and sediment is deposited by high water.

Closing on the Sycamore Island acquisition is anticipated to take place before the end of the year with stewardship activities to follow in 2008. To contribute to the long-term care of ALT’s conserved properties including Sycamore Island, visit our website and click on “How to Help”.



ALT Welcomes Stewardship Coordinator Doug France and Director of Development Rhonda Hagins

Rhonda joins the staff of ALT with over seventeen years of nonprofit development and public relations experience. She most recently oversaw efforts to raise support and awareness for The Trust for Public Land’s conservation work in the Mid-Atlantic region. A native of northwestern Pennsylvania with nearby family ties, Rhonda has relocated permanently to the Pittsburgh area. “I’m so glad to be back and really looking forward to increasing awareness for land conservation in the area I am most passionate about preserving.”

Doug has rejoined the staff of ALT to provide the properties we protect with physical presence and natural lands management. Since 1987 he has been working in our region with the Independence Conservancy, The Audubon Society of Western Pennsylvania, The Allegheny County Conservation District and Department of Environmental Protection and many other groups. Doug has enjoyed working with nonprofits and with volunteers for a long time and he loves to share his enthusiasm for the environment with children. “It feels great at the end of a workday to think about the woodlands we saved for future generations to enjoy.”



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A CASE *for* LAND CONSERVATION



The Process

Step 1. Collect Information

The team located and collected information from 13 entities that provided 170 data sets, two reports and one survey.

Step 2. Filter and Compile

Data was filtered for relevance, consistency and reliability. Usable data was compiled into twenty-one GIS data sets representing Physical Features and interpretive studies (Modifiers).

Natural Physical Features such as streams and woodlands were plotted to reveal an overall pattern of remaining natural land across the county. Based on the team's professional experience and input from the Advisory Committee, Modifiers were interpreted and categorized into three categories: Biodiversity, Water Resources and Management, and Landscape Character.

Step 3. Analyze

Physical Features were then overlaid with Modifiers to help rank or prioritize them. Where Physical Features and Modifiers overlap represents the highly functional lands. A composite representing Physical Features and Modifiers was created for each category: Biodiversity, Water Resources & Management, and Landscape Character.

Step 4. Synthesize

The final composite represents where all three categories overlap. These ALT GREENPRINT Focus Areas are the highest and best natural systems in the county, and are of primary importance to protect because they provide the greatest public benefit for the county and region. ALT GREENPRINT Properties are parcels within ALT GREENPRINT Focus Areas.

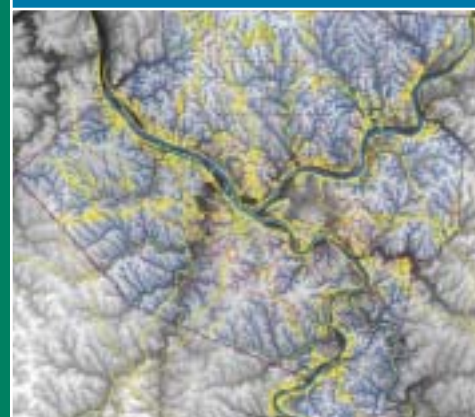
Land with the BEST capacity for BIOLOGICAL DIVERSITY in Allegheny County



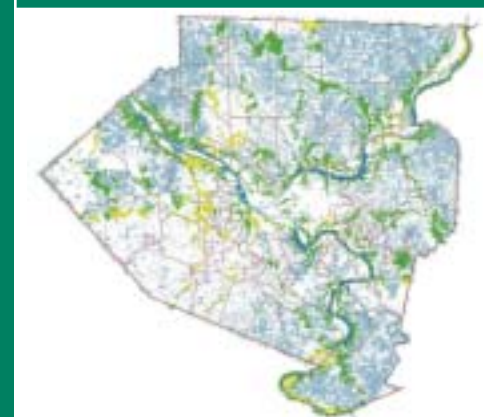
Land with the BEST capacity for WATER MANAGEMENT in Allegheny County



THE BEST LANDSCAPE CHARACTER in Allegheny County



GREENPRINT FOCUS AREAS in Allegheny County



The Value of Land

Land has intrinsic value embedded in the natural functions and benefits it provides for the public. These functions, known as ecosystem services, vary within the landscape and among the specific services the land provides. However, all land is not created equal. Therefore, ALT developed the ALT GREENPRINT to identify the best and highest functioning lands based on their capacity to perform three primary functions—harboring biodiversity, managing water resources, and providing scenic character.

The methodology involved collecting, analyzing and compiling a vast set of available research and reports on the region's land and water resources. Using GIS technology to process and integrate the information, the lands with the highest capacity to perform the ecosystem services that directly address the regional threats to biodiversity, the threat of flooding and threats to scenic character were identified.

Conserving the lands that harbor diverse or unique plant and animal species, lands that naturally manage rainwater before it becomes stormwater, and conserving lands with highly visible physical features that shape the region's scenic landscape character directly addresses the threats. Lands that do all three are the lands recommended and prioritized for conservation in this Regional Conservation Agenda.

The ALT GREENPRINT was completed for Allegheny County but can be applied to different spatial scales from a single watershed to a grander multi-county area.

Conclusions

Wooded slopes and ridgelines are the region's most visually prominent natural feature. It is also the landscape most vulnerable to over-development. The region's current green image is due in part to the dense vegetation surrounding and weaving throughout the city, neighborhoods and along the meandering three rivers. Wooded slopes following the river corridors are a visually dominant natural feature that contrasts and complements the built environment. When the built and natural environment combine they create a distinct physical image for the region. This development pattern is globally unique and should be maintained to preserve the county's and region's distinct identity.

Wooded slopes can intercept up to 50% of the annual rainfall, therefore helping to prevent rainwater from becoming stormwater in our streams and floodwater in our streets. Large woodland masses and northern facing wooded riverfront slopes harbor many of the county's biologically significant lands.

Watersheds with a relatively lower percentage of development have correspondingly higher water quality, fewer flood events, greater likelihood of biological diversity, and better water management and hydrologic cycling.

Property values adjacent to unpolluted streams have higher market values. Property values in flood-prone areas will trend below the market resulting in less property tax revenue for the host municipality.

Because local government controls land use their cooperation is critical to conserve watershed and landscape scale features to help solve regional water problems.

Intent

Allegheny Land Trust intends to use its ALT GREENPRINT to promote strategic land conservation and to directly conserve highly functional landscapes that harbor biological diversity, manage water resources, and maintain the region's scenic landscape character.

The ALT GREENPRINT consolidates decades of research and provides a scientifically grounded case for strategic land conservation. Lawmakers can use this durable information to support conservation-oriented land use ordinances to maintain the natural infrastructure within their communities.

Key Roles

Land Trusts

Direct conservation of land; planning assistance; site assessment; policy development and advocacy; education; research; land bank.

Municipalities

Planning and land use management; integrate ALT GREENPRINT into Comprehensive Plans; adopt and enforce conservation-oriented zoning and land development codes; create Transfer Development Rights programs.

County Government

Integrate ALT GREENPRINT into Comprehensive Plan to advocate conservation of highly functional green infrastructure; create incentives for conserving ALT GREENPRINT areas; promote awareness and share ALT GREENPRINT mapping; funding.

State Agencies

Restrict new sources of stormwater and sewage inputs into failing systems; regulate geologically hazardous areas; funding.

Federal Agencies

Promote and fund flood prevention strategies; evaluate performance of outdated flood control facilities.

An Ounce of Flood Prevention is Worth a Pound of Flood Control

excerpted from a presentation to Allegheny County Council on September 13, 2007 by Roy Kraynyk, ALT Executive Director

“Local, county and state government needs to spend more time and money on how to prevent floods from happening by preventing rainwater from becoming stormwater.”

Floodplains, Wetlands and Woodlands

Floodplains and their companion wetlands are acknowledged as providing valuable environmental functions, wildlife habitat, recreational opportunities and flood management as they store floodwater once it overflows the stream bank.

Allegheny Land Trust (ALT) has acquired such a floodplain property, Wingfield Pines, in South Fayette and Upper St. Clair Townships along Chartiers Creek. We estimated there were 50 million gallons of water stored there during Hurricane Ivan that didn't make it to Carnegie, Heidelberg, Bridgeville and other downstream communities devastated by the flood. These communities endured \$60 million dollars worth of damage. If Wingfield Pines was developed with houses as permitted under local zoning that number would have been higher because all would have been lost under 15 feet of floodwater. Since WP was not developed **there was no economic loss, no insurance claims were filed, no federal, state or county funds were necessary to clean up the property or assist the property owners.**

ALT paid \$500,000 for Wingfield in 2001, which we raised from foundations, Allegheny County, the local community and a grant from DCNR. Based on that cost, the 50 million gallons were stored there for about \$0.01 per gallon. I challenge any engineer to design, construct and maintain a detention facility to hold 50 million gallons of water for \$0.01 per gallon.

We need to turn our attention to another landscape feature that is prevalent in our region and almost entirely overlooked for the contribution it makes to stormwater management. It's our woodlands.

Woodlands do more to prevent floods than floodplains because woodlands intercept rainfall before it reaches the streams. Undeveloped floodplains provide emergency overflow areas. Woodlands are water interception and retention areas.

I just want to underscore a few stats on the water management function of woodlands. These are from *The Journal for Surface Water Quality Professionals* in an article titled “Not all Green Space is Created Equal”.

Rainfall interception of a lone oak tree can be up to 27% of total precipitation—27% of the rain that falls on an oak tree doesn't reach the ground.

Rainfall interception of a forest canopy ranges from 15% to 40% of annual precipitation in conifer stands, and 6% to 48% in hardwood stands.

Total forest (meaning tree canopy, understory and ground litter) interception can range from 13% to 76% of total annual precipitation.

“Rainfall interception of one lone oak can be up to 27%...Total forest interception can range from 13% to 76% of total annual precipitation.”

When these rain absorbing woodlands, which act like sponges, are replaced with impervious surfaces, lawns and steep highly compacted cut and fill slopes, runoff volumes can increase by a range of 6 to 50 times depending on slope. When woodlands are displaced, it's a lose-lose situation. The watershed loses its natural water interception/detention capacity and runoff is increased.

One of the most obvious, cost effective and sustainable solutions to help address the upward trend in flooding is all around us: protecting the woodlands.

Woodlands are our region's greatest water management resource and need to be treated as such. Conservation of strategic woodlands needs to be the centerpiece of a multifaceted, inter-governmental, watershed-based flood prevention plan. Through coordinated public and private actions steep wooded slopes can be maintained to provide invaluable flood prevention functions.

Summary of Problems

Let me summarize with a short list of problems as I see it from almost 20 years working in land planning, development and conservation.

1. Municipalities are not cost accounting for the incremental loss of highly functional, natural infrastructure such as woodlands as development occurs.
2. Detention facilities are not maintained and over time they lose their capacity to store and release water.
3. Municipalities make decisions that will impact downstream neighbors.
4. We desperately need durable economic data that quantifies the economic services provided by highly functional natural infrastructure.

Summary of Possible Solutions

1. We need to enlist, and in some cases educate, local government on how to be a key part of the solution.
2. Stormwater detention facilities need to be audited to determine if they are functioning as designed.
3. Downstream communities need to have a say, and perhaps even legal standing, in the land use decisions of upstream communities.
4. Explore temporary land banking of developable land in flood prone and combined sewer overflow (CSO) watersheds until infrastructure is upgraded to accommodate the additional stormwater and sanitary inputs that new development brings.

Tasks for Municipalities

1. Strictly regulate woodland resources especially on slopes exceeding 25%.
2. Prohibit breaching of wooded ridges; when the ridgeline is denuded of vegetation runoff is increased and the risk of landslides can increase.
3. Don't subsidize development in the form of tax incentives or even zoning variances in flood prone watersheds and slide prone areas, and don't subsidize development that displaces wooded slopes, ridgelines or woodland masses.
4. Audit detention facilities to determine if they are functioning as originally designed.

Worn Out Hiking Shoes

Doug France, ALT Stewardship Coordinator

Stewardship of Allegheny Land Trust properties requires that I see the property in person, and that I greet many a person I meet on Trust properties so that I may gain perspective on the use of each property.

When I was on the trails at the end of September this year I vividly remember the excitement of one small child with her caterpillar. She loved caterpillars, she told me, although her brother said she had loved another type of insect last week. However, it was her smile, how the sunlight through the trees shone on her face, and the caterpillar chewing on the leaf in her hand that I took note of. She located the insect while her brother and father were looking at frogs in the creek; in our conversation we both expressed a true love of the woodlands in Dead Man's Hollow.

While conversation continued, the possibility of Monongahela native peoples camping on the top of the hollow, using the commanding views of the Youghiogheny and Monongahela Rivers, led into other thoughts of how long the hollow may have been a special place. There is no doubt that this place leads

me to special people feeling good about nature; I know it's true because this special father offered up his contact information for the Trust so he can volunteer with ALT.

At this point I started out to meet other volunteers, some young men from Scout Troop 99, at their campout up on the ridge above the hollow. The Scouts, during a planning session in the summer of 2007, had voted to adopt Dead Man's Hollow as an environmental project. A troop leader introduced me as the landlord and that gave me an opportunity to inspire young minds. I described my life career move to the group not as a landlord but of becoming a natural lands manager, then of my dream as a young man their age to one day retire and still work with the forest service. I told them of my big dream to ride horses and drive a Jeep protecting the forest, and helping people learn about its resources.

This is where I am today. It is not the same picture I had as a young dreamer, but this is much more rewarding. I took some pictures of these Boy Scouts of America and hope that someday we will notice one of them fulfilling their big dream of working for the environment.



Future environmentalists, members of Troop 99.

Lower Chartiers Watershed Tour at Wingfield Pines, September 6, 2007



A group led by consultant Bob Hedin visits the AMD outflow.



Tom Gourley and Bob Baron.



ALT's Roy Kraynyk makes his stormwater presentation at the site.



Ched Metz, Chairman of USC Board of Commissioners, speaks about USC and the REEC's role at Wingfield Pines.

A busload of elected officials, foundations and state agency representatives visited Wingfield Pines during a tour of the Chartiers Watershed designed to inform stakeholders about the water quantity (flooding) and quality (abandoned mine drainage and sewage) problems in the watershed. Participants were shown the 2,000 gallon per minute mine discharge and the high water mark from Hurricane Ivan located at Wingfield. This was a great opportunity to showcase the work of ALT. Roy Kraynyk presented a talk entitled "Flood Prevention vs. Flood Control", which appears on page 6. ALT Board Chair Jack Ubinger participated in the whole tour. "Several tour participants approached me after the Wingfield visit to say how impressed they were with our work and how interesting the site is," states Jack Ubinger. Thanks to the University of Pittsburgh Institute of Politics Regional Water Resources Task Force for organizing the trip. Also, a great big thanks to ALT Board member Rob MacLachlan, ALT Stewardship Coordinator Doug France and ALT Operations Manager Sue Gold for helping to prepare the site.



ALT Board President Jack Ubinger speaks about the importance of lands like Wingfield Pines.

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Check www.alleghenylantrust.org for more information.



Foundations and Others Support ALT's Growth

Thanks to recent capacity-building grants from several foundations, ALT has been able to move forward with implementing our Strategic Plan. We've hired our first Development Director and Stewardship Coordinator, and moved into more productive office space. We also want to thank the Western Pennsylvania Conservancy for their generous gift of office furniture that saved us thousands of dollars.

Finally, a much-deserved thank you to all of the families and individuals who've contributed to us. Your support has sustained ALT and has been the catalyst for the substantial foundation grants that we have received.

THANK YOU from all of us at ALT.

What will be your legacy?

This land was here before us and will exist long after we're gone, but we can choose the mark we leave on it.

You can make sure that generations after us will be able to enjoy the same views and activities we do today by helping to conserve the land we cherish.

Allegheny Land Trust is charged with making the right choices in land conservation, choices that range from biodiversity to stormwater management to simply preserving the unique landscape of our region.

Consider including a donation to the Allegheny Land Trust in your will or trust, and help us protect the land we cherish for those who will follow us. Call 412-741-2750 or visit www.alleghenylantrust.org



Their first canoe trip, on Chartiers Creek in Heidelberg.

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Allegheny Regional Asset District

