CHEVERLY
GREEN INFRASTRUCTURE
PLAN

Full Text

Preserving a thriving, healthy environment
for a sustainable community

Cheverly Green Infrastructure Plan Steering Committee

September 2011

www. GreenCheverly.org

Cheverly Green Infrastructure Plan

Cheverly Green Infrastructure Plan Steering Committee

(Includes all who have served at any time over the period from May 2008 to September 2011)

Jeremy Coon, Co-Chair; Chair, Cheverly Planning Board
  Chair, Land Use and Built Environment Working Group

R.J. Eldridge, Co-Chair; Cheverly Town Council
  Chair, Mapping Working Group

Joe Fontana, Owner, MOSAIC Printing Company
  Chair, Finance Working Group

Michael Giese, Cheverly Garden Club

David Kneipp, Cheverly Garden Club

Melanie Hartwig-Davis, Cheverly Parent Resource Center

Stephen Johnson, Fourth Ward Civic Association

Nathan McElroy, Cheverly Tree Commission
  Chair, Tree Canopy Working Group

Norman Oslik, Progressive Cheverly

Leila Price, Fourth Ward Civic Association

Cynthia Robinson, Progressive Cheverly
  Chair, Education and Outreach Working Group

Matt T. Salo, Friends of Lower Beaver Dam Creek
  Chair, Science Advisory Committee

Sheila Salo, Cheverly History Club
  Researcher, website manager

Dan Smith, Friends of Lower Beaverdam Creek
  Chair, Stormwater Management Working Group

Facilitator: Wink Hastings, Project Manager, Chesapeake Bay Program, National Park Service

INTRODUCTION

Cheverly is known as a green oasis in an ever urbanizing world, a small-town refuge with tree-lined streets to which people gravitate to get away from the heat, noise and congestion of big city life. Cheverly is also part of a highly developed metropolitan area that has suffered environmental degradation that impacts quality of life, property values, and equitable access to environmental benefits.

Cheverly has an opportunity to preserve and enhance the richness of its natural areas which provide us with clean air, water, fertile soil, plants and wildlife which together maintain the conditions necessary for our health and quality of life – indeed our very lives.

A green infrastructure plan helps elected officials, town staff, community organizations and residents to consider the town's needs as a whole. It provides a comprehensive framework for protecting green space, managing water resources, and making land use decisions. A plan endorsed by town government provides context to evaluate projects and new initiatives and assess how they reinforce or extend the aims of the plan. It also will aid in efforts to obtain grants and other support. Adoption of a Cheverly Green Infrastructure Plan will enable us to better meet future challenges and to recognize and take full advantage of future opportunities.

The goal of the Green Infrastructure Plan is to achieve a balance between the fulfillment of human needs and the sustainability of natural resources so that these needs can be met, not only in the present, but in the indefinite future. The primary purpose of the plan is to expand, enhance and restore Cheverly's natural environments as intact and healthy ecosystems capable of providing the multiple ecological and economic resources and services that are necessary to sustain our community.

Successful implementation of the Cheverly Green Infrastructure Plan requires commitment and collaboration by the town, community organizations, businesses and institutions, and Cheverly citizens, as well as cooperation with other levels of government. This summary of the Cheverly Green Infrastructure Plan provides a brief description of Cheverly's natural resources, a map of the natural areas network, and a table summarizing recommendations for different stakeholders and time frames for implementation.

The Cheverly Green Infrastructure Plan is intended as a living document that can be modified as needed. It is expected that the body appointed to coordinate implementation of the plan will report to the Town Council and citizens annually. Modifications to the plan can follow the same schedule.

> ### *Green Infrastructure*
>
> Green Infrastructure is an interconnected network of waterways, wetlands, grasslands, woodlands and other natural areas that support native plant and animal diversity; maintain natural ecological processes; sustain soil, air and water resources; stabilize our climate; and contribute to the health and quality of life for our community and region.
>
> Green infrastructure functions can also be supplemented by green roofs, rain gardens and urban tree cover that provide ecosystem services in the built environment. By contrast, the roads, buildings, water systems, sewers, schools, rails and other physically engineered underpinnings of modern life are called gray infrastructure.
>
> The basic building blocks of a green infrastructure network are hubs and corridors. Hubs are ecologically significant natural areas that provide habitat for plant and animal life. Corridors are the linear features connecting hubs to help animals and plant material move between the hubs.

BACKGROUND

Concerned about the loss of natural habitat and deteriorating environment, in early 2008 members of Friends of Lower Beaverdam Creek urged the Cheverly Town Council to appoint a committee to develop a green infrastructure plan supported by the best available scientific information, guided by green infrastructure principles and practices, and informed by community input.

The Town Council appointed the Green Infrastructure Plan Steering Committee in May 2008. It began by establishing working groups to research and address key issues to create a comprehensive green plan, map, and implementation recommendations. The working groups reviewed existing information on Cheverly's natural areas and resources, collected additional data, assessed the health of Cheverly's environment, and gathered citizens' perspectives on the kinds of problems that could be addressed by creating a green plan.

Citizens voiced concerns about sprawl and polluted waterways; invasive species and loss of trees, plants and animals; too few and disconnected walking and biking trails; traffic noise and congestion; flooding and erosion; diminished air quality and increasing temperatures; and a decline of areas to enjoy nature. Citizens consistently expressed a unified commitment to preserve and maintain Cheverly's natural environment and urban tree cover.

This input, along with comprehensive, detailed reports issued by the Science Advisory Committee and the Land Use and Built Environment Working Group, and a review of some of the green infrastructure practices and initiatives of similar communities across the country, served as the basis for the Cheverly Green Infrastructure Plan.

The Cheverly Environment

The area that today is Cheverly was a land of plantations and farms in the early 1800s. When farming ceased, woods grew back in the former fields, and then were cleared again for development. Founded in 1918 and incorporated in 1931, today Cheverly is home to a diverse population of more than 6,300 residents and about 2,400 housing units across a 1.27 square mile area located one mile outside of Washington, DC.

Much of Cheverly is now surrounded by three major highways, Routes 50, 295, and 202, and three rail lines, which fragment the population and lands and partly isolate our natural areas from the larger natural network of our region. Air quality has also suffered from increased traffic, industrial and residential emissions.

The area hydrology has been disturbed by excavation and impervious surfaces. Many stretches of streams have been rerouted and piped, and all are subjected to large volumes of polluted runoff. Maryland Department of Natural Resources studies show that most of Cheverly's streams support little or no aquatic life. The streams show overt signs of erosion and siltation, and accumulate large quantities of trash that is flushed from our streets through the county-maintained storm water system.

Our forests are fragmented and suffocated by invasives, which are destroying our trees and native plants. Very few old trees remain; currently most large trees fall within the 50-80 year old range. Native herbaceous vegetation is greatly reduced in diversity, with many species existing only in scattered isolated patches. Our wildlife is increasingly threatened by a disconnected and ever-diminishing habitat and subjected to additional stress from noise and light pollution.

These problems dramatically affect quality of life as habitats lose their ability to provide ecosystem services that benefit the community. Local environmental degradation also impacts adjacent communities, the Chesapeake Bay and the larger region.

A Botanically Rich Region

Cheverly is located in one of the most botanically rich regions in the country. We live at a crossroads for northern and southern plant communities . Huge losses to this diversity have occurred in recent years from intense and widespread development, and also from invasive species and deer browsing. Despite the damage, there are still many valuable sites that can and should be protected. Experts say that conserving the best of what's left – to protect fully functioning nature – is the most important thing we can do.

Building on Accomplishments

The Cheverly Green Infrastructure Plan is strengthened by and builds on past and current efforts and accomplishments of town government, community groups and citizens, and regional initiatives.

The Town of Cheverly has acquired natural areas; instituted mandatory recycling and introduced electronics recycling. It collects yard waste and converts it to mulch for local use. In 2010 rain cisterns were installed at Town Hall, and a wind turbine at the Department of Public Works, the first of its kind in the county. The town also conducts street and residential tree plantings; and it supports community and citizen initiatives such as the creation of the Cheverly Community Gardens, stream cleanups, and education programs including rain barrel and composting workshops.

Since 2004, Friends of Lower Beaverdam Creek has recruited volunteers for stream cleanups; restored native plant species; removed invasive species and trash from our parks; and installed and maintained trails in Woodworth Park. It has been an advocate for better county policies. It has organized nature hikes and school field trips; stream, plant and animal surveys; water quality research; annual bird counts, and published *Birds of Cheverly*.

The Cheverly Garden Club links people to the environment through gardening and education. It conducts an annual plant sale featuring many local native species. Progressive Cheverly's Environmental Committee promotes active participation in green initiatives via green home and garden tours, and rain barrel and composting workshops. It instituted Cheverly's green home certification program, and led the establishment of the community gardens in Boyd Park in 2009. The Cheverly Community Market has been offering fresh food and strengthening community since its founding in 2007. Other community groups and citizens have been active in a range of activities, including installation of storm drain signs across Cheverly.

The Cheverly Green Plan contributes toward implementing the *Prince George's Countywide Green Infrastructure Plan*, the *Water Resources Functional Master Plan*, *Tuxedo Road–Arbor Street–Cheverly Metro Area Sectional Map Amendment, the Subregion 4 Master Plan, and the Countywide Master Plan of Transportation*. It is also broadly in keeping with the *Maryland Wildlife Diversity Conservation Plan* of 2005.

The Cheverly Green Plan also addresses Chesapeake Bay Program restoration recommendations, including reduction of residential stormwater runoff, decrease in residential fertilizer use, reduction of pet waste runoff, and support for watershed organizations. It will also help the Town of Cheverly, Prince George's County and the State of Maryland to meet specific new "pollution diet" limits now being established for the Chesapeake Bay.

OVERVIEW OF RECOMMENDATIONS

Based on prior achievements, accumulated scientific data, information on best green practices and strategies, input from citizens and civic groups and participation in county-level meetings, the Steering Committee presented this report and recommendations for endorsement by the Cheverly Town Council. Specific recommendations of the green plan pertaining to the natural areas network and water management, land use and the built environment are detailed below .

Adopt and Sanction Implementation of the Cheverly Green Infrastructure Plan

● Appoint a formal town body to coordinate comprehensive implementation of the recommendations of the Green Infrastructure Plan.
  ○ Establish benchmarks and timelines for achieving goals; monitor and assess progress; and report annually to the Town Council and citizens.
  ○ Dedicate and pursue funding for implementation.
● Consider the Green Infrastructure Plan goals when reviewing or revising the municipal code and in prioritizing resources, for example, expenditures from Program Open Space or to protect the tree canopy and encourage stormwater retention on-site.
● Increase effectiveness in planning, evaluation, and implementation by consulting specialists as appropriate.

Establish and preserve a natural areas network of hubs and connecting corridors

● Establish and preserve a natural areas network including a system of five hubs and connecting corridors, to be managed as functioning ecosystems capable of providing multiple ecoservices.

Preserve, maintain, and improve Cheverly's natural capital

● To manage stormwater and improve water quality, adopt on-site stormwater management as the optimal approach and reduce impervious surface area by a minimum of 5 percent from the current 23 percent.
● T o maintain the services provided by Cheverly's urban tree cover, adopt a town-wide tree canopy goal of 40%: 50% for residential areas and 25% for commercial, industrial and institutional (i.e. town, church and school) areas to be achieved by 2035.

Implement Public Awareness, Education and Stakeholder Engagement Activities

● Coordinate initiatives to educate and engage citizens, organization, businesses, towns, schools, and institutions and other local and regional partners in actions that achieve the Green Infrastructure Plan goals.
● Together with community organizations, create an online Cheverly Green Guide with practical suggestions for homeowners, businesses, and institutions: information on Cheverly's natural areas; native vegetation and soils; wildlife management, local hydrology and stormwater management; and environmentally friendly building practices.

Cheverly by the Numbers

The Green

5 wooded areas of 8 to 34 acres each
6 open waterways totaling 2.3 miles of stream
3 known active springs
3.5 acres of wetlands
68 total acres of contiguous back-yard and alley woodlands

The Gray

27 acres of flat-roofed industrial, institutional, and apartment buildings
41 acres of impervious-surfaced parking areas

BENEFITS OF ECOSYSTEM SERVICES

Green infrastructure provides us many benefits free of cost, including multiple services of which we often become aware only after they are lost. The benefits of maintaining natural areas as functioning ecosystems generally far exceed those we might get from putting the same domain to other uses. In Cheverly these ecosystems are at work primarily in the five natural areas, our streams and the three wetlands, assisted by the trees, shrubs and other vegetation in the built-up parts of the town. Green infrastructure resources providing these free benefits are discussed in subsequent sections and a more detailed list will be available on the web site, www.GreenCheverly.org, a sampling of the more significant ones follows.

- **Forests and other vegetation** generate the oxygen we breathe, cleanse air of pollutants, keep temperatures within a range we can tolerate, buffer us from heavy winds, regulate local hydrology, rainfall, humidity to maintain a stable climate without extreme fluctuations. Plants remove carbon dioxide and other greenhouse gases that cause climate overheating. In urban areas trees reduce surface temperature ameliorating heat island effects created by sun-heated asphalt, bricks and concrete. Plants recycle waste, convert and store nutrients necessary for continuation of life. Trees also buffer the force of heavy rain reducing soil damage and erosion. Water is held on site by vegetation and leaf litter, preventing runoff and gullying, until it percolates into the soil.

- **A naturally operating water cycle** recharges our aquifers, regulates water flow and velocity to minimize erosion and excessive silting. As water cycles through the atmosphere, soil, vegetation and bodies of water, it is filtered, oxygenated and cleansed of contaminants and cooled. During this cycle it also picks up and transfers organic nutrients that support aquatic and other life. Healthy streams and wetlands in Cheverly, in addition to providing local benefits, help restore the Anacostia River and Chesapeake Bay.

- **Animal life**, ranging from microbes and insects to birds and larger animals, run and regulate our ecosystems from energy capture, nutrient transfer, waste management, pollination, fertilization, seed dispersal and maintenance of balance among species through population control, herbivory and predation, so that none become overly dominant to the detriment of the system. This process generates and maintains the biodiversity that in turn generates the ecosystem services that benefit us.

- **The economic benefits** of these free ecosystem services are enormous and many of them are beyond our current ability to replicate. When we destroy or degrade our environment and are forced to supply or substitute services such

Biodiversity

Biodiversity includes all organisms, species, and populations; the genetic variation among these; and all their complex assemblages of communities and ecosystems. – Ecological Society of America

as water and air purification, cleanup of contaminated soils, flood control, assuring a reliable supply of water, removing greenhouse gases and storing carbon, cooling and regulating the humidity of our buildings, waste removal, pollution abatement, pollination management, fertilizing soil, and many others that nature performs much more efficiently, they cost us billions of dollars.

Plan implementation will also demonstrate how individual and community actions that protect, restore and preserve environmental assets also foster community vitality and help to cost-effectively guide many policy decisions. And because protecting and enhancing our green infrastructure is much cheaper in the long run than major and repeated capital expenditures to achieve the same ends, it also makes economic sense. Implementing green infrastructure strategies are real investments in our future health and happiness that will help ensure that our community becomes even more livable and sustainable.

Cheverly has the opportunity to implement green infrastructure policies and practices that result in real and meaningful improvements for the environmental, economic and social well being of all its residents and the community as a whole. These actions will also extend benefits to neighboring towns, the county and the larger Chesapeake Bay region. Comprehensive implementation of the Cheverly Green Infrastructure Plan will serve as a positive example of citizen initiative and wise government in Prince Georges County and the region.
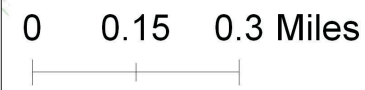
THE NATURAL AREAS NETWORK

Cheverly is part of the Maryland Upper Coastal Plain, characterized by gently rolling hills and valleys, and primarily by oak-pine forests with diverse microhabitats, including pine barren type terrain and open woodland glades that support prairie type vegetation, such as Indian or Little Bluestem grass species. Overall this description applies well to the natural areas of Cheverly. However, each of the five hub areas also has some unique vegetation.
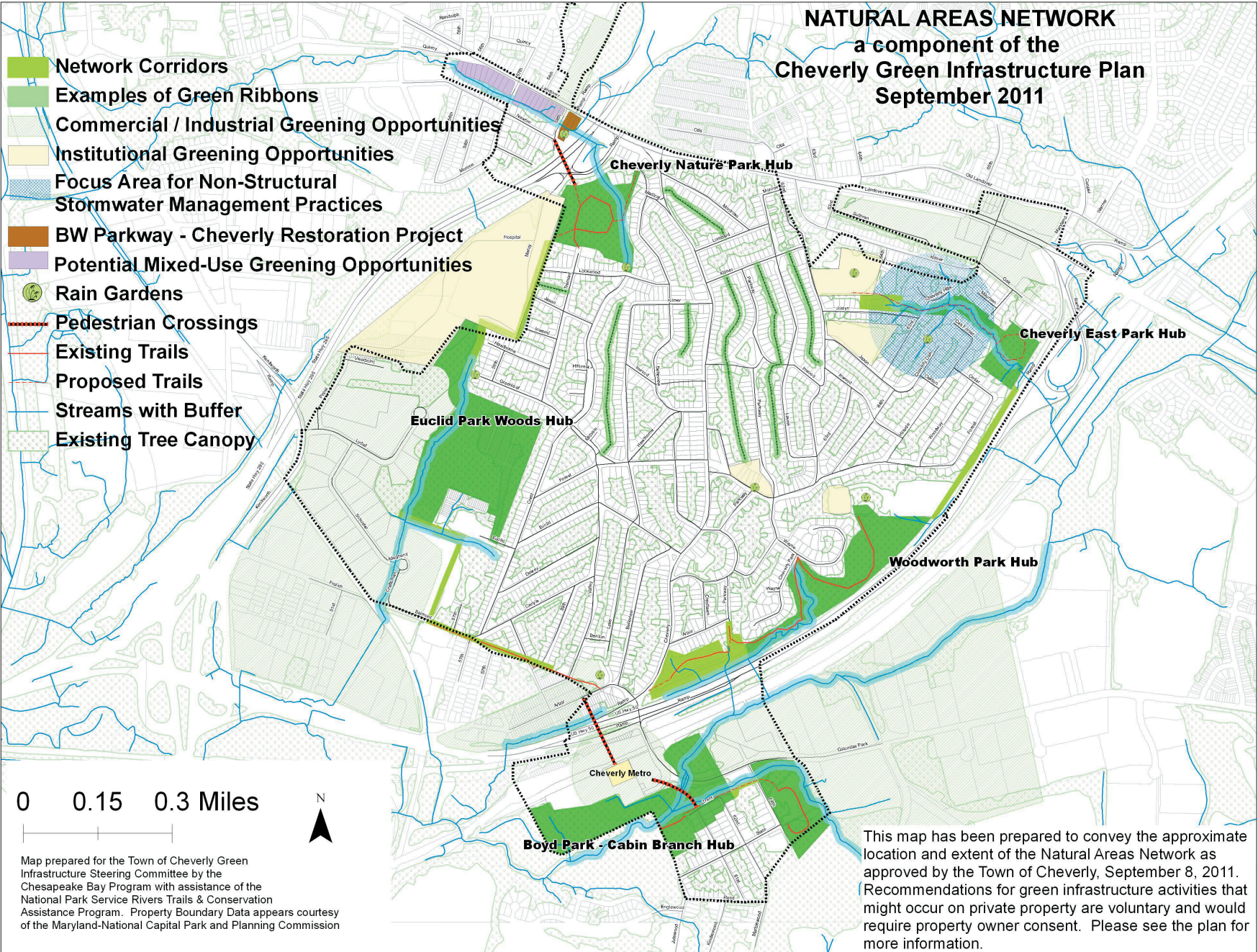
Cheverly is within the Anacostia River watershed, which is one of the most polluted in the Chesapeake Bay region. Lower Beaverdam Creek and Quincy Run, which run through parts of Cheverly, flow into the Anacostia river. Four small tributaries, draining the largest part of Cheverly, flow into Lower Beaverdam Creek, either directly or through pipes. Cabin Branch also runs through the

NATURAL AREAS NETWORK
a component of the
Cheverly Green Infrastructure Plan
September 2011

Legend

- Network Corridors
- Examples of Green Ribbons
- Commercial / Industrial Greening Opportunities
- Institutional Greening Opportunities
- Focus Area for Non-Structural Stormwater Management Practices
- BW Parkway - Cheverly Restoration Project
- Potential Mixed-Use Greening Opportunities
- Rain Gardens
- Pedestrian Crossings
- Existing Trails
- Proposed Trails
- Streams with Buffer
- Existing Tree Canopy

Map labels:

- Cheverly Nature Park Hub
- Cheverly East Park Hub
- Euclid Park Woods Hub
- Woodworth Park Hub
- Boyd Park - Cabin Branch Hub
- Cheverly Metro

0   0.15   0.3 Miles

N

This map has been prepared to convey the approximate location and extent of the Natural Areas Network as approved by the Town of Cheverly, September 8, 2011. Recommendations for green infrastructure activities that might occur on private property are voluntary and would require property owner consent. Please see the plan for more information.

southern part of Cheverly and then into Lower Beaverdam Creek. Three non-tidal wetlands are also part of the area water resources: the federally protected floodplains of Cabin Branch and Lower Beaverdam Creek; a marsh formed by the former beaver pond at Woodworth Park, continuing along the Pepco right-of-way, is also marked as federally protected. The least known unprotected Mill-brook wetland, just west of Tributary 1 adjoining the Springmill Addition. These wetlands are of considerable value to the Cheverly area in that they are virtually the only major filters and purifiers of the highly polluted waterways that flow through our area. They are also the only habitats for aquatic and hydrophytic plants that provide nutrients to support aquatic life.

Within Cheverly there are five natural areas that can form the hubs of an infrastructure network. Connecting the hubs by corridors to form a single network will facilitate migration and genetic interchange among the areas and thereby enrich biodiversity. When functioning together as an integrated system, these hubs will constitute a natural treasure that will provide significant environmental benefits by supporting the basic plant and animal resources required to maintain life.

Conservation biology has determined that linkage is essential for fragmented natural systems to function properly and preserve biodiversity. In green infrastructure networks it is this connectivity that provides resiliency in the face of natural and human disturbance and counteracts the adverse effects of fragmentation, particularly genetic transfer, loss of ecosystem functions, and increase in exotic and edge species.

Furthermore, the surrounding landscape matrix of adjacent properties can provide an added dimension of support as buffers for the protected areas as long as they remain ecofriendly.

Hubs and Corridors

Boyd Park-Cabin Branch. The largest of Cheverly's natural areas, the Boyd Park-Cabin Branch Hub, includes the flood-plains of Lower Beaverdam Creek and Cabin Branch, and Boyd Park. The floodplains preserve the largest patches of wildflowers in Cheverly, perhaps only because they are mostly inaccessible for much of the year. The creeks support species found only around water, such as ducks, herons and kingfishers and even the occasional otter. Boyd Park contains a small patch of hardwoods, a hard surface fitness path, a playing field and picnic area, and the Cheverly Community Gardens. The floodplain is already under federal protection, but its vegetation is severely threatened by invasive species.

Euclid Park. The Euclid Park Hub adjoins Cheverly Euclid Park, an active-recreation area. Comparatively it is the richest area in both plant and animal species and thus functions as a source area for biodiversity that can generate a surplus to replenish the smaller hubs. It is especially rich in tree and shrub

Ecosystem: It's all connected

An ecosystem consists of all living and nonliving components of a particular area that interact and exchange material with one another. It is a set of interacting and inter- dependent components forming an integrated whole. Because all of its parts contribute to the system, the loss of any one of them can have serious detrimental effects on the function of the system as whole.

species and the herbaceous plant layer is slowly returning as invasive species are being removed. A deep stream ravine, gullies, scrub pine stands and prairie type grassy glades offer unique microhabitats for a diversity of vegetation. Tributary 1, which runs along the park's western border, is essentially devoid of aquatic life due to heavy siltation from a construction site. The wetland adjacent to the creek is also affected by sediment runoff and disturbed hydrology and needs to be protected. The park playing field runoff is also eroding gullies in the woods. Euclid Woods has been the site of a youth science study and an historical-archaeological survey.

Woodworth Park. The Woodworth Park Hub is unique in having a wide variety of terrain from hilly upland to a marsh being fed by Tributary 3. The marsh filters and purifies the water, enabling the downstream part of the creek to support a variety of aquatic life. The park also includes some very old trees, mountain laurel, native azaleas and a small population of wildflowers. Woodworth Park has been the focus of educational, stream restoration and invasives removal activities by Friends of Lower Beaverdam Creek.

Nature Park. The Cheverly Nature Park Hub, with its alternating ridges and ravines, provides adequate cover for smaller animals and woodland birds. Pine and hardwood trees dominate, with chestnut oak being the most plentiful. Mountain laurel is common and along with other shrubs has recently filled in the shrub layer. Ground level vegetation includes locally rare Indian cucumber-root, spotted wintergreen, ground pine and partridgeberry. It is also the free-flowing headwaters of Quincy Run. English Ivy and Oriental Wisteria are the predominant invasive plants.

Cheverly East Park. The Cheverly East Park Hub borders Tributary 4, with a wooded area adjacent to Route 50. It also has some very old trees and a well developed shrub layer. Removal of the invasive plants could allow the previously rich herbaceous layer to recover. Tributary 4 is another dead creek bereft of aquatic life, largely due to the fact that it derives most of its input from several outfalls channeling polluted water from town streets. Some creek restoration is planned by M-NCPPC. Additional tree buffer will help filter pollutants and prevent erosion of the stream banks.

Corridors. Connecting corridors between the separated natural area hubs are essential to maintaining a healthy biodiversity. Cheverly's currently available corridor routes (see map) can be enhanced in the future to complete the links among our natural areas. Directly connecting hubs with natural area corridors is preferred. Where this is not possible or practical due to other uses (such as roads and buildings) some landowners already voluntarily maintain these sites result-ing in fewer gaps between hubs.

Backyard Woods. Many of Cheverly's deep backyards, utility corridors and little-used alleys provide rich and largely underappreciated habitat and corridors for plants and wildlife. The voluntary protection of these "green ribbons"of con-tiguous wooded areas will greatly reduce corridor gaps and significantly increase valuable habitat and tree canopy.

Network Recommendations

● Recognize, preserve, restore and manage five natural areas as hubs and functioning ecosystems within the green infrastructure network: The Cheverly Nature Park Hub, the Boyd Park-Cabin Branch Hub and the Cheverly East Park Hub as community woodlands; the Euclid Park Woods Hub as a natural resource area and the Woodworth Park Hub as an environmental education area.

● Establish, preserve and manage corridors connecting the natural area hubs to allow free exchange of animal and plant life to occur and maintain essential biodiversity.
● Establish and manage "green ribbons"of back yards and utility alleys.
● Promote the protected areas and linking corridors, improve access as appropriate, install educational signage, and develop programs engaging residents to enjoy, appreciate and conserve these community resources.
● Collaborate with Pepco and other appropriate authorities to preserve trees and other plants to the extent possible and manage the utility rights-of-way and alleys as viable natural resource corridors.
● Develop a system of walking and bicycle trails for Cheverly, with connections to existing and planned trails in surrounding jurisdictions.
● Apply Green Plan criteria and priorities to enlarge the network and fill gaps.
● Develop guidelines and incentives to protect wooded areas surrounding the hubs and corridors.
● Use natural vegetative cover to buffer natural areas and corridors against visible disturbances, noise, trash, noxious emissions and wind, as needed.
● Increase tree buffers along streams.
● Keep public access modifications to natural areas low impact; do not remove native vegetation or disturb wildlife.

FRAMEWORK FOR MANAGING CHEVERLY'S NATURAL AREA NETWORK			
	ENVIRONMENTAL EDUCATION AREA	**COMMUNITY NATURAL AREA**	**NATURAL RESOURCE AREA**
Management	Inform and educate citizens about ecosystem function and value; sustainable natural resource management; and effects of land use on water resources	Support outdoor recreation activities in a natural setting suitable for low to moderate intensity use	Community demonstration area for sustained natural resource stewardship: sustain optimal conditions for native flora and fauna, eliminate invasive species
Visitor Experience	Good exposure to natural conditions; general sense of quiet to promote learning	Natural setting to accommodate wildlife observation, passive recreation, personal contemplation	Direct exposure to natural environment; low to moderate level of contact with other visitors
Activities	School field trips; maintenance work; exercise (walking, trail bicycling)	Individual and small group walks; exercise in Boyd Park	Observation of plant and animal life; guided educational tours; research study site
Facilities	Natural surface trails, interpretive displays, resource protection measures such as fencing	Natural surface trails; hard surface ADA accessible trail in Boyd Park only	Natural surface unimproved pedestrian trails

Cheverly's Green Ribbons

Many of Cheverly's residential back yards help form connected wooded areas -- our "green ribbons."These areas range from less than an acre to nearly three acres in size. Protecting nature in your own back yard can contribute to keeping Cheverly green.

- Join with your neighbors to preserve, maintain, and increase these natural treasures.
- Form "block parties"to share ideas, plan, and carry out your block's green management.
- Community organizations can help block groups survey their trees and other vegetation, provide information about removal of invasives, trees to plant or to avoid, and best practices.
- The town will provide incentives to homeowners to preserve their backyard woodlands, replace downed trees, or plant trees to fill gaps in the woodland connection; encourage homeowners planning building additions to preserve rather than cut trees; and post information on the town web site and other town media.

CHEVERLY'S NATURAL CAPITAL
Natural Resources of Cheverly

Natural resources are fundamental components of our environment that are necessary or beneficial to our existence and well-being. Some that are perpetual, such as solar or wind energy, are not in danger of being depleted. However, other renewable resources, such as ecosystems, fresh air and clean water, wildlife and productive soil, are in danger of being used up faster than they can be regenerated, unless carefully stewarded. The central purpose of the Cheverly Green Infrastructure plan is to assure that these resources are sustainable and remain available to future generations.

Soil

Soil is the foundation of all green infrastructure. Soil microorganisms modify chemicals into nutrients plants can use. Soil also retains gases necessary for life and stores carbon, which is a contributor to global warming. Soil holds, filters, purifies and releases water slowly to replenish our aquifers thus reducing flooding and erosion. It also captures waste and toxic substances.

Degradation of productive soils by development is of increasing concern as our population keeps growing and soil is used up faster than it is being replenished. Degradation is caused predominantly by human activities that contaminate soil and disturb soil layers, aeration, hydrology, nutrient content and the

ability of the microorganisms to carry on energy and nutrient transfers. Soils in Cheverly are affected primarily by 1) development involving clearcutting, excavation, grading and construction; 2) creation of highly impervious paved or compacted surfaces such as parking lots, driveways and playing fields; 3) erosion caused by stormwater runoff; and 4) chemical pollution and waste from industry, commercial establishments, vehicles and residences. Application of green infrastructure practices would help replenish and protect the soil which nourishes our natural environment.

Recommendations

- Minimize topsoil disturbance to protect natural hydrology and aeration, soil micro-organisms, plant roots, and dormant seed banks. Avoid deep land disturbance that can release sulfuric acid that kills vegetation, corrodes pipes and concrete and generates acidic runoff which is extremely damaging to stream waters.
- Use permeable surfaces where feasible to allow water absorption, filtering and storage.
- Minimize use of machinery or vehicles that compact the soil and reduce its capacity to circulate water, oxygen and nutrients
- Maintain vegetated surfaces to preserve the soil ecosystem and reduce excessive heating, evaporation and erosion.
- Minimize the use of lawn fertilizers, pesticides, salt or other toxic substances and prevent their leaching into the ground or contaminating streams.

Water

Clean water sustains the natural environment, provides essential services for the community, and supports recreation, and educational and leisure activities. Natural seeps, springs and groundwater provide clean water to area streams. When neglected and abused, water resources become a detriment rather than an asset. The most serious and damaging water pollution and degradation in the region is caused by unchecked stormwater runoff. Implementing and maintaining a green infrastructure plan provides a proactive, cost-effective approach to reduce runoff and to restore area waterways. The replacement of forests and wetlands with the impervious surfaces of roads, parking lots, and buildings prevents the natural infiltration of rainwater. Past practices to quickly pipe runoff to nearby streams are being replaced by methods that maximize on-site infiltration and retention of water in ways that mimic natural systems and provide ecosystem services in the built environment. According to the Center for Watershed Protection, stream quality declines when impervious surface area in a watershed exceeds 10 percent, with severe degradation anticipated beyond 25 percent impervious cover. A 2009 analysis reported impervious surface area in Cheverly at 23 percent, at the threshold for severe degradation.

Increased stormwater volume and velocity causes erosion and sedimentation that kills aquatic species, increases water temperature, causes water damage and flooding, and pollutes waterways. Deforestation of stream buffers can also increase runoff up to 40 percent. Lack of trees to shade streams also increases water temperature. Most of our water pollution is caused by stormwater runoff flushing nutrients, chemicals, litter and sediments from industrial and commercial sites, streets, parking lots, driveways and patios, as well as lawns and highly compacted surfaces such as playing fields.

Department of the Environment Stream Corridor Assessments of Tributaries 1 and 4 have cited stream bank erosion, stormwater outfalls, and inadequate stream buffer as deficiencies, the latter two especially for Tributary 4.

Lower Beaverdam Creek, which flows along the south side of Route 50 and receives most of Cheverly's stormwater, has been channeled and reshaped to accommodate three rail lines, a major highway, power substations, and extensive commercial and industrial development. Clearly Cheverly cannot clean up the stream on its own, but can be a catalyst and partner for long-term commitments to restore the health of this and other area streams.

Recommendations

- Improve water quality of Lower Beaverdam Creek and other local water bodies through storm water management, land protection, and reduction of fertilizers and pesticides
- Reduce town-wide impervious surface area by a minimum of 5 percent from the current 23% by 2020.
- Adopt on-site retention as the optimal community approach to storm water management.
- Implement a storm water management program to reduce volume, velocity, and temperature of runoff.
- Protect streamside lands and headwater areas of streams to mimic natural flows and reduce flooding and erosion.
- Provide incentives to land owners for increasing stream buffers.
- Pursue green streets practices such as curb cutouts, permeable sidewalks and driveways and bioretention.
- Increase awareness and stewardship of local streams as valued environments and community amenities through improved access and signage.
- Divert downspouts; install rain barrels; install rain gardens; consider vegetated rooftops.
- Establish rain gardens on public lands (see map for examples).

- Consider daylighting stretches of currently piped streams; remove concrete linings from streams.
- Continue Town Park restoration as a stormwater infiltration demonstration project and to reduce soil erosion.
- Reduce trash and sediment input to streams; implement street cleaning practices.
- Plant trees to shade and cool stream water.
- Initiate study of alternative stormwater management in Tributary 4 and other streams.
- Assess the extent, characteristics, and health, of our three wetland areas.
- Complete assessment of stream biological health and corridor characteristics.
- Monitor and report siltation from construction sites.
- Advocate for county and state clean water services, programs and incentives. Examples: Audits of residential property runoff and how to reduce it; tax incentives for rain gardens.
- Advocate for Lower Beaverdam Creek and other streams to be included as signature natural features at redevelopment projects such as the New Carrollton Metro.

Vegetation

The vegetation of our natural areas provides us with many free ecoservices. Trees and other plants help retain and filter stormwater, reducing flooding and soil erosion. They also remove polluting gases and particulates to purify the air and provide shade to ameliorate heat island effects. Tree leaves moderate the impact of heavy downpours that can erode soil, and root systems hold water, decreasing runoff volume and velocity. Our woods produce oxygen and sequester carbon to reduce climate warming and moderate temperature and humidity to help maintain a stable climate. Forested areas retain phosphorus and other nutrients required by plant life. The organic plant layer in soil breaks down waste materials, recycles nutrients and forms new soil .

Cheverly's tree and shrub diversity remains good, but there has been a decline in other native plants as well as animals dependent on them. Due to habitat destruction or disturbance many plants are now extinct or seriously endangered. Invasive plant species have taken over much of the area formerly supporting native vegetation, forming thick mats of monoculture instead of the previous critical diversity. Pollution has weakened many of our forest trees, making them vulnerable to storms, insects and disease. Street trees also suffer from disturbed or compacted soil, pollution, physical damage, drought, and many other ills and as a result live only one-tenth as long as trees growing under natural conditions. The more mature the tree, the more services it can deliver.

Exotic ornamental trees and shrubs contribute little or nothing to the functioning of our native ecosystems.

Nevertheless all Cheverly's natural areas still have remnants of previous wildflower and other plant populations and their seed banks also retain the potential to repopulate much of the former vegetation. These areas in combination possess sufficient diversity that with care will regenerate most of the plant populations native to this region. They also help preserve biodiversity by providing wildlife habitat.

A directive calling for Urban Tree Canopy goals to be established in Bay communities was issued by the Chesapeake Executive Council in 2003. Since then the Bay program has been working with communities to establish goals to maintain or increase their "urban forests" to reduce polluted stormwater runoff. Bowie, Greenbelt, and Hyattsville are among the nearby Maryland municipalities to have conducted detailed tree canopy assessments and adopt Urban Tree Canopy goals. The Chesapeake Bay Trust Community Greening grants support communities to conduct assessments to establish UTC goals and for efforts to plant and maintain trees to meet goals once established.

Recommendations

● Establish a town-wide tree canopy goal of 40%; 50% for residential property and 25% for industrial and institutional property, supported by goal-specific management plans
● Establish a dedicated program for the continuing replacement of downed or hazardous public and private trees as a tree canopy insurance policy. A qualified arborist can advise which trees can be saved.
● Join the Baltimore Washington Partners for Forest Stewardship to collaborate on common goals with this growing network of forest managers, and encourage other forest owners in and adjacent to the town to join.
● Participate in the State of Maryland Chesapeake Bay Urban Tree Canopy goal effort
● Implement a Bay-friendly native vegetation (tree, shrubs and other plants) restoration and management program including elimination and replacement of invasive species. Mow high, leave grass clippings on your lawn, reduce areas devoted to lawn. Lawn care activities (fertilizing, mowing, leaf blowing) create four times the amount of greenhouse gases than are taken out by the grass.

● Give preference to native trees and plants and avoid highly invasive species.
● Plant largest canopy trees appropriate to specific sites.
● Foster street and park tree health and longevity through best management practices, for example, standards formulated by the International Society of Arborists.
● Explore a program to cost share services of a consulting arborist to provide residents with reduced cost tree health advice, for example, a few days each fall and spring.
● Provide incentives to promote native plants in backyard habitats.
● Remove invasive plants.
● Engage residents, organizations and businesses in environmentally-oriented activities and events designed to build awareness and support for natural lands while improving ecosystem function.
● Work with Pepco to manage Parkway extension - Wayne Street right-of-way as a planned native grass meadow.
● Complete an assessment of vegetative health, soil conditions, water and air quality.
● Conduct a detailed urban tree canopy assessment.
● Conduct an inventory and assessment of street trees and trees in parks and designated hubs.
● Conduct an inventory and assessment of trees on private property.
● Maintain natural resource database to inform and guide optimal resource management.

"If the biota, in the course of aeons, has built something we like but do not understand, then who but a fool would discard seemingly useless parts? To keep every cog and wheel is the first precaution of intelligent tinkering."
— Aldo Leopold, American scientist, ecologist, forester, environmentalist and author of *A Sand County Almanac*

Animal Life

The importance of animal life is often neglected in assessments of what should be conserved. Both plant and animal kingdoms provide us the basic ecoservices we need, and the interdependence of plants and animals make their and our continued existence possible. Without animals there would be no waste removal, decomposition, detoxification, pest control, nutrient recycling, nitrogen fixation, or production of organic fertilizer. All the vital natural chemical transfers such as carbon, nitrogen, sulphur or phosphorus cycles, include stages mediated by members of the animal kingdom. The presence of microbial life in

natural soils permits nutrient and other chemical transfers to occur and the mobility of animal life enables pollination of plants and seed dispersal on a greater scale and over wider areas than can be done by other means. Larger browsing animals such as deer maintain a balance among vegetative species by not allowing any one species to become overly dominant. Both mammalian and avian predators control rodent populations that could otherwise reproduce explosively and cause harm to property and spread disease. Birds maintain control of insects that harm our gardens or carry West Nile fever or Lyme disease.

The five network areas with natural vegetation have varying amounts of wildlife proportional to their size, shape, food and water resources. These fragments do not provide the area or interior depth to adequately support species requiring deep woods. We have lost many species of even common animals. Such losses are indicators of major disruptions in the local food chains. Habitat preservation is the key recommendation for preserving animal life. Keeping our natural areas natural and unpolluted will also keep them populated by wildlife. Wildlife corridors enable animals to move freely among the hubs to provide their services, such as seed dispersal, more equitably among them and reduce over-exploitation of any one area. Avoiding indiscriminate use of pesticides protects insectivorous animals such as shrews and moles. Because healthy ecosystems require all their constituent parts to function effectively we need to restore their components, both plant and animal.

Recommendations

- Implement a wildlife protection plan tied to species, especially seasonal needs (e.g. bird nesting time, fawning season). Habitat preservation is the key to preserving animal life.
- Encourage bird feeding in wintertime; provide water, especially during hot dry periods. Add brush piles and plant shrubs for cover and food. Recommend bat houses and bird nest boxes and feeders.
- Plant native plant species that will attract butterflies and other pollinators into your yards and gardens.

LAND USE AND OUR BUILT ENVIRONMENT

Green infrastructure connects land conservation and land use planning, promoting more efficient and sustainable land use and development patterns, and protecting natural ecosystems and the many benefits and services they provide. Cheverly benefits from past land use practices, such as the layout of town streets to complement the natural topography and deep lots allowing some backyard areas to remain in a natural state. The town's use of state Program Open Space funds to purchase park land and other efforts to prevent inappropriate land use have contributed to the natural areas we have today.

Cheverly also bears the burden of the virtual wall of highways and rail lines around and through much of the town that bring pollution, are barriers for hiking and biking trails, and have seriously altered the character and functioning of Lower Beaverdam Creek and the adjacent floodplain. The deleterious environmental and health effects of development near Cheverly have resulted in action by community groups and the Town of Cheverly. The town has joined litigation against a proposed concrete batching plant that would add to air pollution in the region.

The Cheverly Green Infrastructure plan identifies sites that due to their special nature or location are valuable to the community as natural areas and corridors linking those areas. The unbuilt lots on Joslyn Street, at the headwaters of Tributary 4, can provide a natural corridor linking to the Cheverly East Park hub. The plan also identifies sites that where "green" redevelopment practices can help maximize the ecosystem values and services they could provide. The deep lots on the south side of Landover Road west of the Baltimore-Washington Parkway adjacent to a currently piped section of Quincy Run could be redeveloped as attractive commercial properties complementing use of a restored stream as an amenity and greenway that improves Cheverly's connection to adjacent communities while reducing flooding in the area.

Green building techniques can make our homes and commercial buildings more energy-efficient, limit our carbon footprint and significantly reduce our impact on area streams. We can work with the county, for example, to encourage the widespread replacement of flat asphalt roofs with pollution-fighting cool vegetated roofs (or solar or white reflective roofs where that is not feasible) on nearby commercial and industrial buildings. Asphalt roofs need replacement every 20 years, while green roofs last twice as long in addition to the energy, water and clean air benefits they provide.

The sooner we establish and implement green development policies and strategies the sooner we will realize the benefits, including long term cost savings.

Recommendations

- Inform and guide land use decisions by the principles of green infrastructure, land stewardship guidelines and the Prince George's County water resources functional master plan.
- Convert underutilized and/or abandoned properties, as appropriate, to contribute to green ribbons and designated hubs and/or the natural storm water management system.

● Create incentives for the voluntary restoration and stewardship of private open space and residential properties and integration with the natural lands network.

● Promote natural practices, green building techniques, and green infrastructure principles into neighborhood design, urban environments, and commercial/institutional areas. Future development projects, for example the Prince George's County Hospital property, Arbor Street/Tuxedo Road, and the 202 corridor, may be opportunities to advocate for these practices.

● Encourage the use of permeable surface materials through retro-fit incentives, permit approval process, and innovative zoning mechanisms.

● Replace impervious parking lots with permeable materials; consider rain gardens and green roofs. Specific projects include redevelopment of commercial areas along Landover Road to increase permeable surface and decrease street entrances and exits.

● Restore the 58th place lots abutting the Baltimore-Washington Parkway to aid in stormwater management and create a community amenity.

● Revise transportation and streetscape standards improving conditions for street tree growth and increasing tree canopy

● Encourage the adoption of green infrastructure principles in building development and redevelopment, for example to achieve better stormwater retention.

● Explore leasing industrial or institutional flat roof space to a Cheverly solar energy cooperative.

● Extend the hubs by acquisition of the Joslyn Street lots, the water tower lot, and the State Highway Administration cloverleaf which we now use as part of Woodworth Park.

● Encourage consideration of "green"building methods and materials for residential uses.

● Seek opportunities to build pedestrian/bicycle crossings to improve connectivity within Cheverly.

● Collaborate with community and area organizations and government agencies on demonstration projects and educational initiatives.

● Reduce noise and light pollution.

● Encourage best practices to reduce ground level ozone by discouraging vehicle idling, especially by trucks and buses. Install "no idling"signs at places where idling has been observed.

● Promote the use of public transportation and car pooling, bicycling and walking; bundling errands; proper car maintenance (e.g. emission controls and tire pressure); driving at designated speeds.

● Monitor particulate pollution levels emanating from industrial sites in and around Cheverly.

● As an inside-the-beltway family community directly impacted by poor air quality, especially vehicular emissions, advocate for full implementation and enforcement of the Clean Air Act.

The Air We Breathe

Air pollution harms living organisms and damages both the natural and manmade environment. As an inside-the-beltway family community, Cheverly is directly impacted by poor air quality, especially from vehicular emissions. Reduced air quality is among the causes of a rapid increase in respiratory illness among children. Asthma rates in Prince George's County are higher than Maryland's statewide average, which is above the national average. The Prince George's Hospital Authority has reported that respiratory illnesses are among the top causes of death in our region.

ACHIEVING THE GREEN VISION

Applying Cheverly's Green Infrastructure Plan as a framework for conservation and investment decisions provides broad and equitable benefits. Successful implementation of the Green Plan is ultimately dependent upon the leadership of Cheverly's Town government, its citizens, commercial property owners and businesses, and our local community organizations, churches and schools all working as collaborative partners for the future. From the mayor to our schoolchildren, all have an important role in sustaining a thriving, healthy environment.

Studies underscore the importance of local action in preserving, improving and maintaining ecosystems. A sense of place and connection builds a stewardship ethic that supports action, and Cheverly is known for its community spirit and civic engagement, It counts more than a dozen citizen groups with nearly a third of those focusing on environmental conservation activities. It also is fortunate to have involved elected leaders and a town administration that has already demonstrated significant progress implementing environmental initiatives.

There are many well-tested strategies and examples demonstrating the benefit of applying green infrastructure, and fortunately many of the methods and practices are inexpensive and simple to apply. Others require larger investments of time and effort. Green infrastructure networks provide an excellent framework for informing and guiding public decisions. By its very structure, network

plans address a range of community actions, involve committed partners, and strategically focus activities. This approach also makes good economic sense by achieving multiple priorities with a few strategically placed investments, thus stretching limited budgets while maximizing investment returns. In addition, a network plan with a strategic approach to implementation is highly valued by prospective funders.

The Town of Cheverly and its environmentally focused community organizations have demonstrated significant achievement on environmental and green infrastructure initiatives to date, and have been successful in securing a range of funding and resources to support its progress. Time and effort will continue to focus on fundraising through grants as an effective approach for particular actions.

Education of all sectors of our community is an important way to implement the Cheverly Green Infrastructure Plan. Educational programs will convey the significance of green infrastructure, the need to preserve fully functioning ecosystems, and provide resources for residents and other constituents. Such programs may include:

● Enriching nature education for children and youth by directly conducting, partnering to provide, and communicating resources for a wide range of experiential, online, classroom and home-based programs.
● Providing information and educational resources about living with urban wildlife.
● Conducting educational nature activities such as annual bird counts, bio-blitzes, wildlife monitoring, black light insect counts or aquatic surveys that engage students and other citizens in biological monitoring and conservation activities.
● Engaging citizens, local organizations, businesses and regional partners in environmental volunteer activities, such as stream cleanups, trail building and maintenance, trash pick-up and invasives species removal.

Dedicated local financing will be necessary and valuable for both one-time projects (such as support for composting workshops) and for the longer-range administration, management, maintenance and monitoring of Cheverly's green infrastructure. The town has already made direct strategic investments and should continue to do so when feasible and appropriate.

Limited town funds may be augmented through a number of vehicles including establishing a local revolving low-interest loan program to support resident and organizational initiatives, and through county tax incentives and rebates. Nearby counties have already implemented tax breaks for installing insulation and high-efficiency doors and windows to reduce energy consumption; and for installing rain barrels and rain gardens to retain water on-site and reduce storm water velocity, flooding and erosion. Cheverly should pursue these options with Prince George's County government leaders.

Achieving the Green Plan goals requires the active and sustained participation of the full range of stakeholders and collaborative partners. The table of recommended actions shows the groups responsible for implementation and the suggested time frames for accomplishing the recommendations.

A LOOK AHEAD

In a small town such as Cheverly even seemingly small losses of natural areas, native plants and animal life and street trees can have a big and long-lasting impact. Our neighborhood streets, alleys, utility avenues, nature trails and yards form a connecting network of green conservation corridors that also serve for recreation, relaxation and access. We have the opportunity to restore yards to green oases attracting important bird and insect pollinators and other animal life; to turn church and schoolyards into green gathering and learning centers; to establish utility alleys and underdeveloped parcels into green corridors linking natural hubs and creating walking trails; to incorporate green building practices that reduce use of valuable natural resources and lower energy bills; and even to transform roofs into habitats that help retain water at the source and scour pollutants.

Implementing a comprehensive Green Infrastructure Plan will extend many significant benefits to Cheverly and beyond. It will support and contribute to the goals of several important broader initiatives. Creating the natural lands network will address the intent and spirit of the *Prince George's Countywide Green Infrastructure Plan*, the *Good to Green to Great Initiative* of County Executive Rushern Baker, and of *Envision Prince George's*. Many of these recommendations will also implement aspects of the *Prince George's County Water Resources Functional Master Plan*. At the regional level, the Green Infrastructure Plan will contribute directly to the healthy watershed goals of the Chesapeake Bay Program and help the county meet stringent new water quality requirements. Finally, it sets a positive example for our residents and for other towns in Prince George's County, especially those in the designated Developed Tier that is largely inside the beltway.

	Recommendations	Target Period	Implementation					
			Town	Green Infrastructure Implementation Committee	Community Groups	Residents	Businesses/ Institutions	Other Agencies
Overview	Adopt the Cheverly Green Infrastructure Plan and establish a formal body to coordinate its implemention.	Short	X					
	* Establish benchmarks and timelines for achieving goals; report annually to the Town Council and citizens.	Short	X	X				
	*Dedicate and pursue funding for implementation	Medium	X	X				
	*Coordinate initiatives to educate and engage citizens, organization, businesses, towns, schools, and institutions and other local and regional partners in actions that achieve the Green Infrastructure Plan goals.	Ongoing	X	X	X	X	X	X
	*Monitor and assess progress; report annually to the Town Council and citizens	Long	X	X				
	Establish and preserve a natural areas network including a system of five hubs and connecting corridors.	Establishment, short; implementation, long	X	X				
	Adopt on-site stormwater management as the optimal approach and reduce impervious surface area by a minimum of 5 percent from the current 23 percent.	Adoption, short; Implementation, long	X					
	Adopt a town-wide tree canopy goal of 40%: optimally 50% for residential areas and 25% for commercial, industrial and institutional (i.e. town, church and school) areas, to be achieved by 2035.	Short	X					
	Consider the Green Infrastructure Plan goals when reviewing or revising the municipal code and in prioritizing resources, for example, expenditures from Program Open Space or to protect the tree canopy and encourage stormwater retention on-site	Long	X					

	Recommendations	Target Period	Town	Green Infrastructure Implementation Committee	Community Groups	Residents	Businesses/ Institutions	Other Agencies
	Create an online Cheverly Green Guide with practical suggestions for homeowners, businesses, and institutions: information on Cheverly's natural spaces; native vegetation; stormwater runoff reduction; and environmentally friendly building practices.	Medium	X	X	X			
	Increase effectiveness in planning, evaluation, and implementation by consulting specialists as appropriate.	Ongoing	X	X				X
Natural Area Network	Protect/manage Cheverly Nature Park Hub, Boyd Park-Cabin Branch Hub and Cheverly East Side Park Hub as community woodlands; Euclid Park Hub as a natural resource area; and Woodworth Park Hub as an environmental education area	Designation: short; Implementation: long	X	X	X			
	Establish, preserve and manage corridors connecting the natural area hubs.	Short/Long	X	X	X			
	Establish and manage "green ribbons" of back yards and utility alleys.	Medium	X	X	X	X		
	Promote the protected areas and linking corridors, improve access, install educational signage, and develop programs engaging residents to enjoy, appreciate and conserve these community resources.	Medium	X	X	X			
	Collaborate with Pepco and other appropriate authorities to preserve and manage utility rights-of-way and alleys as viable natural resource corridors.	Medium	X	X	X			X
	Develop a system of walking and bike trails for Cheverly, with connections to existing trails in surrounding jurisdictions.	Long	X	X				X
	Apply Plan criteria and priorities to enlarge the network and fill gaps.	Medium	X	X	X			
	Develop guidelines and incentives to protect wooded areas surrounding the hubs and corridors.	Medium	X	X	X			

	Recommendations	Target Period	Implementation					
			Town	Green Infrastructure Implementation Committee	Community Groups	Residents	Businesses/ Institutions	Other Agencies
	Use natural vegetative cover to buffer natural areas and corridors against noise, trash, noxious emissions and wind.	Medium	X	X	X	X	X	
	Increase tree buffers along streams.	Medium	X	X		X		
	Keep public access modifications to natural areas low impact, do not remove native vegetation or disturb wildlife	Medium	X	X	X	X		
Soil	Preserve topsoil layer and minimize deep excavation to protect soil health.	Long	X	X		X	X	
	Use permeable surfaces where feasible to allow water absorption, filtering and storage	Long	X	X		X	X	
	Minimize use of machinery or vehicles that compact the soil and reduce its capacity to circulate water, oxygen and nutrients	Long	X	X		X	X	X
	Maintain vegetated surfaces to preserve the soil ecosystem and reduce heating, evaporation and erosion	Long	X	X		X	X	
	Minimize the use of lawn fertilizers, pesticides, salt or other toxic substances and prevent their leaching into the ground or contaminating streams.	Long	X	X		X	X	
Water	Improve water quality of Lower Beaverdam Creek and other local water bodies through storm water management, land protection, and reduction of fertilizers and pesticides	Medium	X	X	X	X	X	X
	Reduce town-wide impervious surface area by a minimum of 5 percent from the current 23 percent.	Long	X	X		X		X
	Adopt on-site retention as the optimal approach to stormwater management	Short	X	X				
	Implement a storm water management program to reduce volume, velocity, and temperature of runoff	Mixed	X	X			X	
	Protect streamside lands and headwater areas of streams to mimic natural flows and reduce flooding and erosion.	Long	X	X				X

Recommendations	Target Period	Town	Green Infrastructure Implementation Committee	Community Groups	Residents	Businesses/ Institutions	Other Agencies
Provide incentives to land owners for increasing stream buffers.	Medium	X					
Pursue green streets practices such as curb cutouts, permeable sidewalks and driveways and bioretention.	Short/Ongoing	X					X
Increase awareness and stewardship of local streams as valued environments and community amenities through improved access and signage.	Short	X	X	X			
Divert downspouts; install rain barrels; install rain gardens; consider vegetated rooftops	Short	X		X	X	X	
Install rain gardens on public property	Short	X					
Consider daylighting stretches of currently piped streams	Long	X					X
Continue Town Park restoration as a stormwater infiltration demonstration project and to reduce soil erosion	Medium	X	X	X			
Reduce trash and sediment input to streams; implement street cleaning practices	Medium	X	X	X	X	X	
Plant trees to shade and cool stream water	Medium	X			X	X	X
Initiate study of alternative stormwater management in Tributary 4 and other streams	Medium	X	X				X
Assess the extent, characteristics, and health, of our three wetland areas	Long		X	X			X
Complete assessment of stream biological health and corridor characteristics	Medium		X	X			X
Monitor and report siltation from construction sites	Ongoing	X	X	X	X		
Advocate for county and state clean water services, programs and incentives. Examples: Audits of residential property runoff and how to reduce it; tax incentives for rain gardens.	Medium	X	X	X			

	Recommendations	Target Period	Town	Green Infrastructure Implementation Committee	Community Groups	Residents	Businesses/ Institutions	Other Agencies
	Advocate for Lower Beaverdam Creek and other streams to be included as signature natural features at redevelopment projects such as the New Carrollton Metro	Long	X	X	X			
Vegetation	Establish a Town-wide tree canopy goal of 40%; 50% for residential property and 25% for industrial and institutional property supported by goal-specific management plans	Establishment, short; implementation, long	X	X				
	Establish a dedicated program for the continuing replacement of downed or hazardous public and private trees	Medium	X	X		X	X	
	Join the Baltimore Washington Partners for Forest Stewardship to collaborate on common goals with this growing network of forest managers, and encourage other forest owners in and adjacent to the town to join	Short	X	X				
	Participate in the State of Maryland Chesapeake Bay Urban Tree Canopy goal effort	Short/Ongoing	X	X				
	Implement a Bay-friendly native vegetation (tree, shrubs and other plants) restoration and management program including elimination and replacement of invasive species	Medium	X	X	X			
	Reduce percent of manicured turf area through Bay-friendly landscaping. Mow high, leave grass clippings on lawns	Short	X	X		X	X	
	Give preference to native trees and plants and avoid highly invasive species	Short	X	X		X	X	
	Plant largest canopy trees appropriate to specific sites	Ongoing	X					
	Foster street and park tree health and longevity through best management practices, for example, standards formulated by the International Society of Arboriculture.	Ongoing	X	X				X

	Recommendations	Target Period	Implementation					
			Town	Green Infrastructure Implementation Committee	Community Groups	Residents	Businesses/ Institutions	Other Agencies
	Explore a program to cost share services of a consulting arborist to provide residents with reduced cost tree health advice, for example, a few days each fall and spring.	Medium	X	X	X	X		
	Provide incentives to promote native plants in backyard habitats	Medium	X	X	X			X
	Remove invasive plants	Short/ongoing		X		X	X	
	Engage residents, organizations and businesses in environmentally-oriented activities and events designed to build awareness and support for natural lands while improving ecosystem function	Medium	X	X		X	X	
	Work with Pepco to manage Parkway extension - Wayne Street right-of-way as a planned meadow	Medium	X	X	X			X
	Complete an assessment of vegetative health, soil conditions, water and air quality	Medium	X	X	X			X
	Conduct a detailed urban tree canopy assessment.	Medium	X	X				
	Conduct an inventory and assessment of street trees and trees in parks and designated hubs	Medium	X	X	X			X
	Conduct an inventory and assessment of trees on private property	Medium	X	X	X	X		X
	Maintain natural resource database to inform and guide optimal resource management	Ongoing		X	X			
Animal Life	Implement a wildlife protection plan tied to species, especially seasonal needs (e.g. bird nesting time, fawning season).	Medium	X	X		X		
	Provide information and education resources about living with urban wildlife.	Ongoing	X	X	X			X
	Encourage bird feeding in wintertime; provide water, especially during hot dry periods. Add brush piles and plant shrubs for cover and food. Recommend nesting boxes, bat houses, and bird feeders.	Short	X	X	X	X	X	

	Recommendations	Target Period	Town	Green Infrastructure Implementation Committee	Community Groups	Residents	Businesses/ Institutions	Other Agencies
	Plant native plant species that will attract butterflies and other pollinators into your yards and gardens.	Short			X	X		
Land Use and the Built Environment	Inform and guide land use decisions by the principles of green infrastructure, land stewardship guidelines and County water resources functional master plan	Ongoing	X	X/ Planning Bd				
	Convert underutilized and/or abandoned properties, as appropriate, to contribute to green ribbons and designated hubs and/or the natural storm water management system	Long	X	X				
	Create incentives for the voluntary restoration and stewardship of private open space and residential properties and integration with the natural lands network	Medium	X	X				X
	Promote natural practices, green building techniques, and green infrastructure principles into neighborhood design, urban environments, and commercial/institutional areas. Future development projects, for example the Prince George's County Hospital property, Arbor Street/Tuxedo Road, and the 202 corridor, may be opportunities to advocate for these practices.	Ongoing	X	X/ Planning Bd			X	X
	Encourage the use of permeable surface materials through retro-fit incentives, permit approval process, and innovative zoning mechanisms	Ongoing		X /Planning Bd			X	X
	Replace impervious parking lots with permeable materials; consider rain gardens and green roofs. Specific projects include redevelopment of commercial areas along Landover Road to increase permeable surface and decrease street entrances and exits.	Ongoing	X	X/ Planning Bd		X	X	

	Recommendations	Target Period	Implementation					
			Town	Green Infrastructure Implementation Committee	Community Groups	Residents	Businesses/ Institutions	Other Agencies
	Restore the 58th place lots abutting the Baltimore-Washington Parkway to aid in stormwater management and create a community amenity.	Medium	X	X	X			X
	Revise transportation and streetscape standards improving conditions for street tree growth and increasing tree canopy	Long	X	X				
	Encourage the adoption of green infrastructure principles in building development and redevelopment, for example to achieve better stormwater retention.	Medium	X	X	X		X	
	Explore leasing industrial or institutional flat roof space to a Cheverly solar energy cooperative	Long		X			X	
	Extend the hubs by acquisition of the Joslyn Street lots, the water tower lot, and the State Highway Administration cloverleaf which we now use as part of Woodworth Park.	Long	X	X				X
	Encourage consideration of "green" building methods and materials for residential uses	Medium	X	X	X	X		
	Seek opportunities to build pedestrian/bicycle crossings to improve connectivity within Cheverly.	Long	X	X, Planning Bd				X
	Collaborate with community and area organizations and government agencies on demonstration projects and educational initiatives.	Long	X	X				
	Reduce light and noise pollution	Medium	X	X			X	X
	Encourage best practices to reduce ground level ozone by discouraging vehicle idling, especially by trucks and buses. Install "no idling" signs at places where idling has been observed.	Medium	X	X		X	X	X

Recommendations	Target Period	Implementation				
		Town	Green Infrastructure Implementation Committee	Community Groups	Residents	Businesses/ Institutions	Other Agencies
Promote the use of public transportation and car pooling, bicycling and walking; bundling errands; proper car maintenance (e.g. emission controls and tire pressure); driving at designated speeds	Ongoing		X	X	X	X	
Monitor particulate levels emanating from industrial and construction sites in and around Cheverly.	Ongoing					X	X
Advocate for full implementation and enforcement of the Clean Air Act	Ongoing	X	X	X			X