THE CONSERVATION FUND
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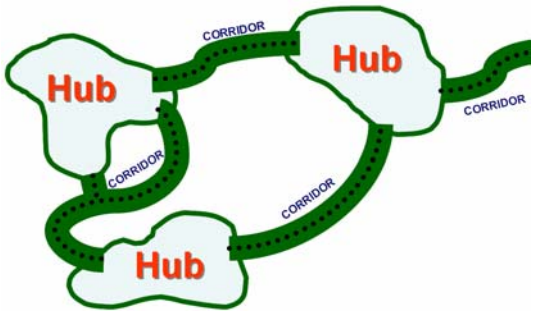
Cecil County Green Infrastructure

EXECUTIVE SUMMARY - DRAFT

Green infrastructure is our natural life-support system – an interconnected network of natural areas and other open spaces that conserves natural ecosystem values and functions, sustains clean air and water, and provides a wide array of benefits to people and wildlife. In November of 2006, the Cecil County Board of Commissioners asked The Conservation Fund to formulate a green infrastructure plan for the County. Based on the approach outlined in *Green Infrastructure: Linking Landscapes and Communities*, (Benedict and McMahon, 2006) the Fund has developed a draft plan which includes 4 key components that identify the County's critical green infrastructure and describes strategies to protect this valuable asset. A summary of those elements is presented below.



Green Infrastructure Network Design: The Fund has updated the green infrastructure hub and corridor network developed originally by the Maryland Department of Natural Resources in its statewide Green Infrastructure Assessment. The updated network, which represents 37% of the County's land, takes into account recent land use change and includes a new hub ranking scheme and new corridor connections where development and fragmentation had removed other linkages. 39 of 46 hubs entirely or partially within Cecil County were affected by development between 1992 and 2002. 36 corridor or hub connections were broken by development, including almost all those north of Interstate 95. Only 23% of the updated network is in some form of protected status, leaving over 63,000 acres currently unprotected. The green infrastructure network identifies and prioritizes the areas of greatest ecological importance within the County's natural ecosystems and provides a scientifically defensible framework for green infrastructure protection. Opportunities were identified for near term action to protect elements of the network on the eastern and western ends of Interstate 95, Elk Neck and North East Creek.

Water Quality Maintenance and Enhancement Analysis: The Fund studied how to protect the natural ability of the green infrastructure network to maintain water quality by assessing land cover types, impervious surfaces, and other factors that protect water quality and quantity. The analysis found that water quality was highest in watersheds with less than 7% impervious surface and greater than 50% forest and wetland land cover, areas primarily within the County's green infrastructure hubs. The Fund identified 16 Conservation Focus Watersheds where maintenance of forest and wetland land cover should remain above 40% within each watershed. Those watersheds between 40-50% forest and wetland cover should be brought up to 50% through restoration efforts. Further, 10 Reforestation Focus Watersheds were identified where water quality enhancement through reforestation strategies should be directed to achieve at least 40% of the land cover (currently between 30-40%). Conservation strategies were recommended for incorporation into future comprehensive plan objectives, performance zoning standards, and other land use planning tools. The Fund also provided recommendations on nutrient reduction best management practices for Maryland tributary strategy efforts and guidance on managing total maximum daily load (TMDL) caps.

Some principal strategies included:

- upgrades of the county's wastewater treatment plants
- incentives for the installation of denitrifying septic systems
- construction of tertiary treatment wetlands
- offset nutrient loads by planting 0.43 acres of riparian forest for each acre of agriculture developed & 1.43 acres of riparian forest for each acre of forest developed

Ecosystem Services Assessment: The Fund has completed a comprehensive identification of the natural services (ecosystem services) provided by the County's green infrastructure network, provided at no cost to current residents and future generations. These services include: cleaning the air, filtering and cooling water, storing and cycling nutrients, conserving and generating soils, pollinating crops and other plants, regulating climate, sequestering carbon, protecting public and private property and infrastructure against storm and flood damage, and maintaining hydrologic regimes that support wildlife and plant diversity. The assessment found that 81% of the ecosystem service value of the County fell within the network which accounts for 37% of the land area and that the network provided an estimated $1.7 billion in ecosystem services per year. Large contiguous blocks of forests and wetlands (i.e. green infrastructure hubs) are more likely to contain fully functioning ecosystems, and more likely to provide these corresponding values to humans. The assessment confirmed that protection of these areas is a vital investment.

Implementation Quilt Analysis: Utilizing the information from the three plan elements above, the Fund has developed an innovative set of policy and funding strategies that advance the protection and enhancement of the County's green infrastructure. These recommendations include

- Leverage key state and federal conservation incentive programs
- Incorporate green infrastructure analysis into landscape and site level land use decisions
- Develop a green infrastructure tracking and reporting system
- Initiate a new County department focused on protection of green infrastructure, water quality, and natural resources
- Explore a potential nutrient trading system
- Explore new mechanisms for obtaining conservation capital, including a new local transfer tax
- Foster partnerships and educate the public about green infrastructure

Taken together, the plan components outline a comprehensive approach to green infrastructure protection in Cecil County. Cecil County is at a crossroads. Given recent trends in land use change and that only 23% of the County's green infrastructure network is in some form of protected status, now is the time to take tangible steps towards implementation of these recommendations. Using green infrastructure as the organizing framework for resource protection in Cecil County will provide an array of benefits to County residents, including a legacy of clean water, habitat protection, lands for human enjoyment, and protection of ecosystem services.