Delmarva Conservation Corridor Initiative

This analysis is based on Maryland's Green Infrastructure Assessment methodology. The "Hub" areas, connecting corridors, and adjacent agricultural land represented on this map were developed by using GIS data and tools to identify the best of the remaining open space as an interconnected system that provides opportunities for wildlife protection and restoration, recreational opportunities, and helps to maintain the Eastern Shore's quality of life.

The "hubs" were built up from four building blocks: 1) large (250 acres or more of interior forest - defined as 300 feet from the forest edge) forest tracts, 2) large (250 acres plus a 550 foot buffer for forested wetlands and a 325 foot buffer for emergent wetlands) wetland tracts, 3) rare species occurrences (plants buffered .25 miles; animals, natural communities and other elements buffered .50 miles), and 4) existing protected areas. These building blocks were combined to form preliminary hubs. The preliminary hubs were then refined through a process of adding adjacent wetland and forest tracts; smoothing edges, removing major roads, etc. Finally, the hubs were assigned a unique identifier and ranked for ecological value using 15 parameters, weighted for importance.

The ■corridors• were created by first developing a "corridor suitability" layer, based on land cover, road, stream, and other "impedances" (the inverse of "suitability") to animal and seed movement. Impedance measures the degree to which the landscape parameter inhibits wildlife use and movement. For example, urban land cover has a much higher impedance than forest. For aquatic organisms, water is required. Then a least-cost path analysis was used to determine the best ecological paths between core areas. Stream corridors were buffered 550 feet on each side and non-stream corridors were buffered 550 feet on either side, resulting in a 500 foot ■core• and a 150 foot buffer on either side.

The concept behind the corridors is to allow wildlife (terrestrial, wetland, and/or aquatic) to pass more easily between hubs, thus increasing available habitat and movement of animal populations (Forman and Godron, 1986). They also ease movement of native plant seeds. Corridors linking habitat patches in a landscape are believed important for the persistence of metapopulations in fragmented landscapes (Dunning et al, 1992; van Dorp et al, 1997). Bier and Noss (1998) reviewed published studies of corridor impacts on population viability. The evidence from well-designed studies demonstrated positive impacts of wildlife corridors on immigration rates, colonization rates, patch occupancy, and species diversity. Ten of the 12 studies allowing meaningful inferences of conservation value, offered persuasive evidence that corridors connecting habitats provide sufficient connectivity to improve population viability.

This blue print for protecting our "Green Infrastructure" can guide land protection and restoration efforts. It can serve as the overall strategy for coordinating the many programs and initiatives at Federal, State and Local levels. By focusing these efforts into a unified framework, we can better protect the quality of life on the Eastern shore.