

What is a Green Corridor Analysis?

A GREEN CORRIDOR IS A CREATIVE PLANNING AND IMPLEMENTATION APPROACH THAT FOCUSES ON EXPANDING NATURAL SYSTEM SERVICES AND ECONOMIC OPPORTUNITIES THROUGH HABITAT MANAGEMENT AND PROTECTION

Habitats and watershed health and the economy are closely linked. Rural, suburban and urban residents all benefit from habitat and natural system services that are provided free of charge. However, as forests are lost to sprawling development or degraded, the public health, quality of life and environmental quality of a region or township declines. Acre for acre, wetland and forest habitat are the most beneficial land use for water quality and every loss of habitat contributes to the increased nutrient loading of our waterways and healthy populations of wildlife and migrating birds. The health of habitat also impacts natural system services and the quality of life of every resident.

The negative effects of habitat loss include rising asthma rates, community discontent, increases in taxes, and decline in financial health of communities. Communities are forced to spend millions of dollars each year for services that are provided free of charge naturally—such as air pollution control, flood mitigation, stormwater management, and drinking water filtration.

Like it or not money talks. Natural systems provide a wide range of services that avoid costs, increase revenue from earning and reduce tax dollars. A Return on Environment study (ROE) uses several peer reviewed methods to determine the relative financial values of natural systems within a township or county. These values can be mapped to see which areas provide the highest annual financial returns.

A healthy watershed can be measured by its ability to:

- Intercept and store rainwater
- Recharge groundwater and base flow in streams
- Protect soil loss and erosion
- Sequester and recycle nutrients
- Support natural riparian habitat and flood plain functions
- Increase habitat and provide successful breeding opportunities for a wide variety of birds.
- Provide food sources for a diversity of migrating birds.

The extent and health of habitat and forest in a watershed will ultimately determine how well a watershed can provide natural system services. The critical measures of a watershed function include:

1. The total amount of forest land or a percentage of a watershed that is forested.

2. The extent to which critical landscapes remain forested (riparian corridors and wetlands, headwaters, steep slopes, erodible soils and groundwater recharge areas)
3. The size and connectivity of remaining habitats
4. The health and regeneration of remaining habitat including the amount of fragmentation
5. The extent of Land stewardship

Natural resource protection is very often an excellent business strategy.

The value of these services is rarely considered in private or public decision making or land use decisions, open space referendums or as part of economic development investment strategies, but it should be. When riparian areas are connected with parks, natural reserves and larger

forests either directly or within close proximity, they sustain healthy wildlife populations and provide a wide range of financial services such as water supply and water pollution control, and they create recreational opportunities and enhance property values. The concept of maximizing financial value through natural system services is called "Green Corridors."

A Green Corridor identifies areas to protect and where to connect strategic areas of high natural conservation and economic value. These green ribbons of riparian areas, forests, parks and preserves ensure more green spaces, enhancing and expanding natural system services and our quality of life, health, cost of living, economy and sense of place. In addition these areas:

Nature is serious business and policymakers, land use and economic development planners, businesses and homeowners play a critical role in ensuring that everyone gets the highest financial return on the environment.

- Ensure the continuation of natural services that help clean the air and water.
- Reduce the need for expensive storm water management, potable water treatment, flood control and restoration projects by protecting water resources including streams, wetlands and riparian corridors.
- Ensures long-term financial benefits and resilience to changes in climate.
- Supplement the size of existing protected natural areas and parks increasing their overall size.
- Provide an additional buffer for interior dwelling species in existing protected natural areas and parks.
- Maintain the biological capacity and natural life support systems.
- Provide close access to nature for many adults and children.
- Maintain community character and ecological address (sense of place).
- Provide a green regional image and beautiful vistas.
- Increase property value

Habitat fragmentation, due to the location and patterns of roads, development, pipelines, transmission lines and other forms of transportation, is an ever-increasing threat to [biodiversity](#), and the financial benefits of natural system services. Protecting critical habitat corridors, zoning

for open space near critical habitat areas, connecting, restoring and expanding green infrastructure and teaching good stewardship, using native plants in strategic locations, can mitigate some of the worst effects of [habitat fragmentation](#) and invasive species.

Once lost, natural services are difficult, if not impossible, to replace. Even though these services are inherently renewable, they require that natural system productivity and diversity remain intact. A natural system service cannot be re-established at the same performance levels for many years. While residential, commercial and industrial areas require public investment for services, natural areas require little more than protection.

Miles of interconnected streams and rivers and their associated riparian areas form the circulatory system in a watershed. Although riparian forests comprise only about 5% of the total land area, they are disproportionately important to the healthy functions of a watershed. The most effective way to realize the full value of natural system services is to connect larger forest and grassland habitats with riparian land. Riparian habitats are ecologically diverse and home to a wide range of animals, plants, insects and [amphibians](#) that make them ideal for different species of birds. Riparian forests and habitat corridors are used as breeding and wintering habitat, as well as stop-over habitat during spring and fall migration. Avian density in riparian areas is often double that of adjacent uplands, although there are regional variations throughout North America.¹



The wider the corridor, the better the bird habitat and the higher the financial return to the local economy.² Without connected systems, these valued benefits may be significantly diminished or lost forever. Maintaining connected, healthy riparian areas, headwaters, wetlands and larger upland habitats (150-600 acres or larger) as well as parks, wooded public property and areas protected as open space, creates a supporting network of sustainable biological integrity.³ It also provides benefits in the form of green infrastructure, sustainable wildlife populations, recreation and enhanced property value.

Strategies for implementation include:

1. Buy land
2. Land Easements
3. Official maps

¹ Brinson, M.M., Swift, B.L, Plantico, R.C., and Barclay, J.S. 1981. Riparian Ecosystems: Their ecology and status. FWS/OBS-81/17, Office of Biological Services, U.S. Fish and Wildlife Service, Washington, DC.

² U.S Army Corp of Engineers. ERDC/EL TN-EMRRP-SI-09 January 2000.

³ U.S. Environmental Protection Agency, (2012). *The Economic Benefits of Protecting Healthy Watersheds*.

4. Economic development plans
5. Comprehensive plans
6. Native plant ordinances
7. Riparian buffer ordinances
8. Conservation zoning
9. Tax incentives for riparian areas
10. Natural parks
11. Green Neighborhoods
12. Backyard Conservation Design Programs

Green Corridors are helpful in:

- Comprehensive planning
- Open Space referendums
- Recreation and Greenway Planning
- Zoning
- Backyard Conservation Design sing native plants