Low Impact Development Practices Protect downstream waters by controlling runoff—slow it down, spread it out, and soak it in!



Did you know? Storm drains carry large amounts of runoff to nearby waterways, causing erosion and destroying habitat. The runoff also carries pollutants such as oil, dirt, chemicals, and lawn fertilizers directly to streams and rivers, where they harm water quality.









Low impact development practices protect water

You Can Make A Difference!

- Install a rain barrel or rain garden in your yard.
- Replace pavement with porous surfaces.
- www.epa.gov/npdes/greeninfrastructure.
- Spread the word about low impact development in your neighborhood.



Learn more about polluted runoff at www.epa.gov/nps/lid and

Green Infrastructure Links Landscapes and Communities It Means Nature Working for You

What is Green Infrastructure?

Green Infrastructure is the interconnected network of land and water that sustains all life. It provides habitat for plants and animals. It links natural lands, working lands such as farms and ranches, and other open spaces. Green Infrastructure is our natural life-support system, providing water to drink, air to breathe, and food to eat.

Connectivity is the key to the benefits we receive from Fishing with Dad natural systems. Just as a road needs to be connected to other roads to provide effective transportation, so too ecosystems must be connected in order to allow plants and animals to mix and migrate, water to flow, and nutrients to cycle. Green Infrastructure connectivity is important from the broad landscape scale (spanning cities, counties, and states) down to the scale of individual neighborhoods, yards and buildings.

Green Infrastructure is not always green. It can be blue, brown, and other hues. The United States is home to a diversity of ecosystems, including tidal marsh landscapes, evergreen mountains, tall grass prairies, and deserts. Each provides services essential to our well-being.

Did you know?

- In 2001, 82 million people spent more than \$140 billion on nature-based tourism. That includes watching and photographing wildlife, hunting, and fishing. Protecting Green Infrastructure can help sustain local and regional economies. (Benedict & McMahon 2006)
- acres each day. (US Forest Service)

Community of Practice

The Green Infrastructure Community of Practice is a growing national network of partners working techniques that support healthier ecosystems and communities.

Green infrastructure connects people and nature





Grey Wolf

• America loses more than 2 million acres of open space to development every year – a rate of 4,000

Current partners include: Appalachian Trail Conservancy - Bureau of Land Management - Centers for Disease Control - DC Department of Transportation - Defenders of Wildlife - EcoAgriculture Partners - Environmental Finance Center -Federal Highways Administration - Green Infrastructure Center - LandCare Center - Low Impact Development Center - Low Impact Development Center - Minnesota Department of Natural Resources - National Association of Local Government Environmental Professionals -National Association of Regional Councils - National Oceanic and Atmospheric Administration - National Park Service - SvR Design - The Conservation Fund - Trust for Public Land - US Department of Agriculture - US Department of Defense -

Everybody needs nature



Kids Marvel Over Bugs

Green infrastructure can be blue ... or even brown!



Farms form part of green infrastructure

North Carolina Bean Harvest

THE CONSERVATION FUND



Greenways and trails connect people and nature



Forests provide clean drinking water



New Hampshire Trout Stream

This exhibit was created and supported by













US Environmental Protection Agency - US Fish and Wildlife Service - US Forest Service - World Resources Institute

Green Infrastructure in States and Regions Nature Working for You

To states, counties, large cities, and metropolitan areas, Green Infrastructure is the network of forests and parks, trails, streams, shorelines, and farmland that sustain people, wildlife, and natural systems, and are vital to health and quality of life.

Cecil County (Maryland)

Sonoran Desert Conservation Plan (Arizona)

Larger than many states—and home to the hottest and most biologically diverse desert in the US—Pima County, Arizona has sponsored an ambitious, multi-million acre conservation strategy. There are 23 threatened or endangered plant and animal species in the County, from the tiny cactus ferruginous pygmy owl to the graceful Sonoran pronghorn and the stealthy jaguar. Linking the need to protect endangered species habitat and precious water resources with the desire to guide growth and preserve historical and cultural resources, the area's Green Infrastructure network is comprised of biological reserves, parks, working ranches, and wildlife corridors.

Concerned with the health and supply of its water in the face of continuing population growth and land development, Cecil County has forged a Green Infrastructure plan to identify priority water resource areas and effective strategies for their conservation. The network identified by the plan includes 94% of the area's wetlands and 75% of its forests, the benefits from these ecosystems totaling \$1.7 billion annually. These benefits, or ecosystem services, include filtering and cleaning water as well as flood protection. Since the County is located where the Susquehanna River enters the Chesapeake Bay, the health of its waters has a direct impact on Bay water quality and wildlife.





Land of Sky (North Carolina)

Green Infrastructure in the Land of Sky Region in North Carolina (Madison, Buncombe, Henderson and Transylvania Counties, City of Asheville) provides economic, environmental and social benefits. The network protects against floods, purifies the region's drinking water, provides forested corridors for wildlife migration, provides food and fiber from working farms and forests, and creates recreation opportunities through its regional trail system. The Land of Sky Green Infrastructure network includes such significant elements as the Appalachian Trail and Blue Ridge Parkway, the French Broad

Des Moines Area Metropolitan Planning Organization (lowa)

After enduring damaging floods from the Mississippi and Missouri Rivers in 1993, the City of Des Moines took steps to establish a green infrastructure network that protects its drinking water resources and mitigates against future flooding. The 1993 floods left 250,000 people without drinking water for 19 days and caused \$716 million in damages. Now Green Infrastructure protects the city's river and stream corridors, providing both flood and water quality protection. The City's network of riverside trails and parks also connects residents and visitors to nature, providing extensive recreational outlets in an otherwise heavily urbanized area.



River, Pisgah National Forest, and the Great Smoky Mountains National Park.



Kansas City Metropolitan Region (Missouri)

Booming growth in this part of the US is expected to bring another 350,000 people over the next 25 years. Choosing to confront this challenge and improve local air and water quality, the Kansas City Metropolitan Region has adopted a Green Infrastructure approach to conservation. Working with many other partners, the Mid-America Regional Council is actively creating a connected network of forests, glades, prairies, streams, rivers, lakes and wetlands—ecosystems that serve and will continue to serve the population.

• More than 200,000 acres of forests and grasslands are being protected, restored and managed around the City of Chicago by a coalition called Chicago Wilderness.

• Washington DC's urban tree canopy can absorb over 60% of the particulates generated by motor vehicles yet cover only one third the land; more forests and trees mean greater pollution control benefits.

What you can do

 Participate in local planning workshops and decision making. • Get outside! Explore your parks and trails and learn about local wildlife and plants.



Green Infrastructure in Your Own Backyard Nature Working for You

With every breath, every drink of water, every bite of food, we rely on Green Infrastructure. Healthy forests keep our air and water clean. Working farms provide nutritious food. Local parks and urban trees cool hot streets and sidewalks. Look around and you will see interconnected networks of blue and green—stream corridors, trails, community parks and regional preserves—that provide opportunities for walking, bicycling, fishing, and boating—while also providing wild creatures with a safe means for moving across the landscape.



You can find Green Infrastructure right in your backyard. Green Infrastructure provides natural connections across the landscape. It starts at our homes, schools, workplaces, and on our streets. Rain gardens, set with beautiful native plants, catch rainfall and snowmelt. They help water seep slowly into the ground, filtering out dirt, chemicals, and fertilizer that might otherwise reach our waterways and drinking water supplies. Street trees provide many of the same services. And green roofs—covered with soil and plants—can reduce stormwater runoff, provide habitat for wild creatures, and help cool the buildings in our cities and towns.

Rain Garden







Green Roof

SvR Design Urban Garden

SvR Design

Did You Know?

- Rain gardens can reduce the pollutants running into creeks and streams by up to 30 %. (US EPA)
- Time spent in nature helps relieve mental fatigue and reduce aggression. (Frances Kuo, University of Illinois)

Forest Restoration

County, MD Rain Garde



Kids Planting Trees

• A neighborhood park helps form social ties that produce a stronger, safer neighborhood. (Peter Harnik, Center for City Park Excellence at the Trust for Public Land)

What You Can Do

- Plant trees, especially those native to your region.
 Install a backyard rain garden or rain barrel.
 Get outside to enjoy your local greenways, rivers and parks... and help keep them clean!
- Work with your neighbors to conserve and share green spaces.

Cherishing the Chesapeake Watershed

Watersheds work like a system of giant pipelines, carrying water from distant yet connected streams to larger rivers and ultimately to the ocean. Water flows through this 64,000 square mile watershed into the Chesapeake Bay, which is the nation's largest estuary.







Protecting green infrastructure..



WASHINGTON, DC





farms and nature...

The Chesapeake Bay Watershed's Green Infrastructure provides habitat for wildlife species, including threatened and endangered ones, stores and filters water, supports sustainable forest products and agriculture industries, and offers many recreational opportunities.

HARRISBURG, PA

BALTIMORE, MD

Did you know?

- clean drinking water.

Map Copyright © 2005 National Geographic Society

throughout the Bay.

Middleton Evan

BINGHAMTON, NY

 Nearly 17 million people depend on the forests of the Chesapeake Bay watershed for

 More than 750,000 acres were lost to development in the Chesapeake Bay watershed between 1982 and 1997, an area 20 times the size of Washington DC.

 Less nutrient pollution runs off of an acre of forest than any other type of land use. Many of these nutrients can choke out fish, crabs and other aquatic life.

(State of the Chesapeake Forests, 2006)