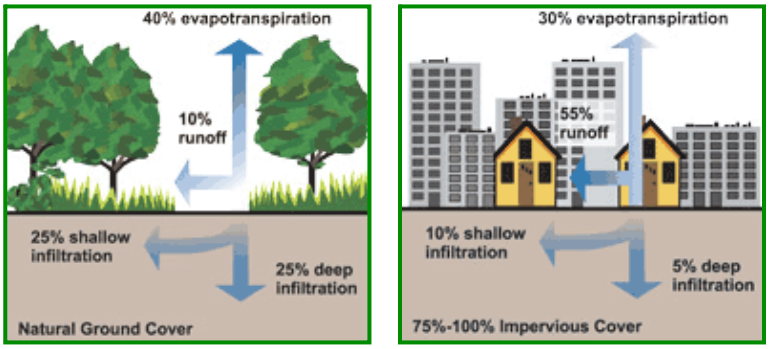
Growing Green: Stormwater Management

Smart Growth principles, sustainable development techniques, and stormwater management work together to promote better water quality. Stormwater management programs have been developed in an effort to reduce pollution found in stormwater runoff. Land development concerns when considering stormwater management include: preserving natural hydrology and open spaces, preserving ecologically sensitive areas, and minimizing land disturbances and impervious cover. Below are Smart Growth techniques that can be used as best management practices for stormwater management.

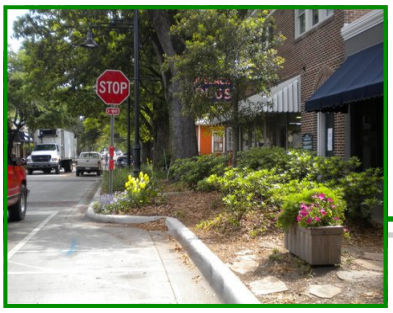
- Infill & Redevelopment
- Road & Parking Restrictions
- Regional Planning



Compare stormwater runoff in natural & urban settings. Graphic provided by EPA.

Infill & Redevelopment

Promoting infill projects and redevelopment reduces the amount of impervious surfaces, reduces sprawl, and protects open spaces. Infill and redevelopment projects can be promoted on a local level by zoning (setbacks, mixed-use, smaller minimum lot sizes) and incentives such as density bonuses, and financial perks. The EPA provides a resource for Protecting Water Quality with Higher Density Development. Advantages to water quality include decreased imperviousness within the watershed. Protection of open spaces provides areas for natural infiltration processes, while reduced sprawl creates less vehicular traffic and associated pollution.



Parking policies and Smart Growth street design are implemented to help minimize land disturbances and reduce stormwater runoff. Photos by K. Miller, AICP.

> Promoting the natural hydrological process of infiltration improves water quality by reducing polluted runoff.

Road & Parking Restrictions

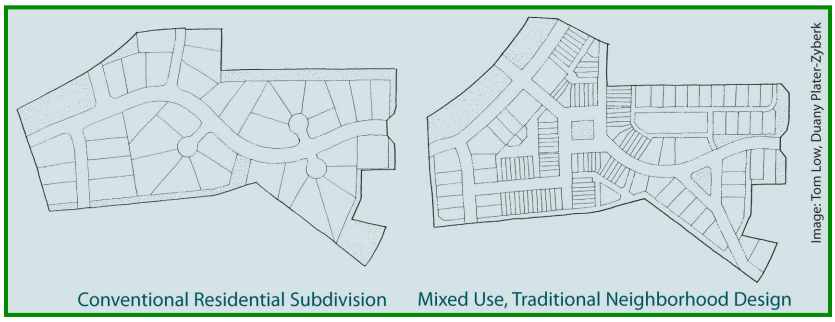
Land disturbances and impervious surfaces can be minimized through redevelopment, parking policies, and Smart Growth street designs. Promoting the natural hydrological process of infiltration improves water quality by reducing polluted runoff. The City of Portland is working through a Grey to Green Initiative to address stormwater management.

Growing Green: Stormwater Management

Regional Planning

Regional planning with an emphasis on stormwater management uses the watershed as the region of planning. This planning technique identifies critical ecological areas for conservation within the watershed and outlines development and redevelopment districts. Directing development away from ecologically sensitive areas protects those areas from stormwater runoff pollution and ultimately reduces stormwater costs. The U.S. EPA provides more information on Regional Planning from a Watershed approach in its Plan Builder and other tools.

Open Space Design with protection of natural features. Photo by Jim Morris, MDEQ.



Compact growth helps achieve conservation by reducing the amount of pavement needed, thus producing new opportunities for stormwater retention and detention. Graphic by DPZ.

Tools

Actions	Policies • Tools • Techniques
Mix Land Uses	Identify construction and post-construction Best Management Practices (BMP) with Mississippi Department of Marine Resource Stormwater Toolbox. The EPA provides an educational module on Smart Growth and Water Resource Protection at the Watershed Academy Web The St. Louis Storm Water Group has put together guidance for Planning and Zoning Strategies for Water Quality Protection which outlines in-fill projects
Preserve Open Space, Farmland, Natural Beauty, and Critical Environmental Areas	Identify your watershed with EPA's Surf Your Watershed tool Identify coastal zone management areas at NOAA's Coastal Management website Consider a watershed approach to Stormwater Management
Strengthen and Direct Development Toward Existing Communities	Design zoning ordinances around preserving open spaces Reduce impervious surfaces by promoting Smart Growth for Stormwater Management including infill and redevelopment Connect Smart Growth and Brownfields Redevelopment

**For a complete list of tools and resources, please see the "Tools & Resources Index" section of the Smart Growth and Sustainability Toolbox.*