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# Green Infrastructure Resource Directory

New England Environmental Finance Center

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# Green Infrastructure Resource Directory

Water Infrastructure Capacity Building Team | Capacity Building for Sustainable Communities | June 2012



## Background and Purpose

Green infrastructure is an approach for managing stormwater that uses vegetation and soils to capture and treat rainwater where it falls. Unlike single-purpose gray infrastructure, green infrastructure realizes multiple benefits at once, including flood mitigation, improved water and air quality, community beautification, provision of recreational opportunities, and energy and cost savings. This resource directory is intended to help communities design, implement, fund, and monitor green infrastructure practices and programs. It was compiled by the Environmental Finance Center Network through the Capacity Building for Sustainable Communities program funded by U.S. Department of Housing and Urban Development and U.S. Environmental Protection Agency. Through this program, EFCN is providing capacity building and technical assistance to recipients of grants from the federal Partnership for Sustainable Communities. Learn more about the Partnership and its work to help towns, cities, and regions develop in more economically, environmentally, and socially sustainable ways: [www.sustainablecommunities.gov](http://www.sustainablecommunities.gov).

## Contents

Economics and Cost / Benefit .....	2
Policy Guidance .....	3
Regulatory Programs .....	6
Design and Implementation.....	6
Performance.....	8
Funding and Finance.....	9
For More Information.....	10

# Economics and Cost / Benefit

Title	Link	Date	Author	Type	Description
Banking on Green: A Look at How Green Infrastructure Can Save Municipalities Money and Provide Economic Benefits Community-Wide	<a href="http://www.asla.org/ContentDetail.aspx?id=31301">http://www.asla.org/ContentDetail.aspx?id=31301</a>	2012	American Rivers and others	Report	Looks at the most cost-effective options for managing polluted runoff and protecting clean water, and finds that green infrastructure solutions save taxpayer money and provide community benefits by managing stormwater where it falls.
Landscape Performance Series Benefits Toolkit	<a href="http://www.lafoundation.org/research/landscape-performance-series/toolkit/">http://www.lafoundation.org/research/landscape-performance-series/toolkit/</a>	2012	Landscape Architecture Foundation	Online tool	Collection of online tools (calculators) for measuring landscape performance. Various calculators for end of project benefits estimation or during the design phase. Useful calculators for comparing conventional to sustainable design features and life-cycle costs.
Forging the Link	<a href="http://www.unh.edu/unhsc/forging-link-topics">http://www.unh.edu/unhsc/forging-link-topics</a>	2010	University of New Hampshire Stormwater Center	Report	Illustrates the advantages of low-impact development (LID) in the economic terms of how municipal land use decisions are commonly made. See especially Chapter 3, Economics and Low Impact Development, which discusses the cost effectiveness of LID designs.
Integrating Valuation Methods to Recognize Green Infrastructure's Multiple Benefits	<a href="http://www.cnt.org/repository/CNT-LID-paper.pdf">http://www.cnt.org/repository/CNT-LID-paper.pdf</a>	2010	Center for Neighborhood Technology	Research paper	Reviews current methods, tools and case studies of valuation of the economic and social benefits produced by green infrastructure practices, particularly in urban settings. It begins to define a framework for assessing the economic benefits of LID practices at the site and community scale.
The Value of Green Infrastructure: A Guide to Recognizing its Economic, Environmental, and Social Benefits	<a href="http://www.cnt.org/repository/gi-values-guide.pdf">http://www.cnt.org/repository/gi-values-guide.pdf</a>	2010	Center for Neighborhood Technology and American Rivers	Report	Cumulatively assesses the multiple benefits of low-impact development (LID) and green infrastructure (GI) as a municipal or private investment. Since methods and tools for assessing benefits have been lacking, municipalities more easily can assess gray infrastructure cost-benefits and favor those solutions. This guide provides simplified ways to assess the full benefits of GI to aid decision-makers in evaluating options for water management.
Reducing Stormwater Costs through Low Impact Development (LID) Strategies and Practices	<a href="http://www.epa.gov/owow/NPS/lid/costs07/documents/reducingstormwatercosts.pdf">http://www.epa.gov/owow/NPS/lid/costs07/documents/reducingstormwatercosts.pdf</a>	2007	US EPA	Report	Contains 17 case studies that examine the economic viability of green infrastructure practices compared to traditional stormwater management design practices. Highlights examples in which GI practices were shown to be both fiscally and environmentally beneficial to communities by reducing costs and improving environmental performance.
The Economics of Low-Impact Development: A Literature Review	<a href="http://www.econw.com/our-work/publications/the-economics-of-low-">http://www.econw.com/our-work/publications/the-economics-of-low-</a>	2007	ECONorthwest	Article	Reviews methods for evaluating the financial benefit of green infrastructure compared to traditional "gray" stormwater mitigation practices.

Green Values National Stormwater Management Calculator	<a href="http://greenvalues.cnt.org">http://greenvalues.cnt.org</a>	Ongoing	Center for Neighborhood Technology	Online calculator	An interactive tool that can be used to compare the performance, costs, and benefits of green infrastructure compared to conventional stormwater practices. The calculator generates alternative scenarios based on user-provided, site specific data.
Get More Green	<a href="http://green.americanrivers.org/">http://green.americanrivers.org/</a>	Ongoing	American Rivers	Online tool	Lets users virtually "green" a roof in their community; identifies runoff reduction and costs savings from reduced heating and cooling needs.
Economics and LID Practices Fact Sheet	<a href="http://www.unh.edu/unhsc/sites/unh.edu/unhsc/files/docs/FTL_FactSheet3%20LR.pdf">http://www.unh.edu/unhsc/sites/unh.edu/unhsc/files/docs/FTL_FactSheet3%20LR.pdf</a>	Undated	University of New Hampshire Stormwater Center	Fact sheet	Two-page fact sheet summarizing the economic benefits associated with LID; provides three short case studies.

## Policy Guidance

Title	Link	Date	Author	Type	Description
Rooftops to Rivers II	<a href="http://www.nrdc.org/water/pollution/rooftopsII/default.asp">http://www.nrdc.org/water/pollution/rooftopsII/default.asp</a>	2011	Natural Resources Defense Council	Report	Builds on Rooftops to Rivers, providing case studies for 14 geographically diverse cities that are all leaders in employing green infrastructure solutions to address stormwater challenges. The report identifies 6 salient actions that cities should take to maximize green infrastructure investments.
Using Local Codes to Cultivate Green Infrastructure and Foster Sustainable Stormwater Management	<a href="http://water.epa.gov/infrastucture/greeninfrastructure/gi_training.cfm">http://water.epa.gov/infrastucture/greeninfrastructure/gi_training.cfm</a>	2011	US EPA, Region 5	Webcast	Describes the interaction of zoning and building codes with water quality; presents several examples of code audits conducted in Illinois, Ohio, and Minnesota; and highlights the top 10 obstacles to green infrastructure in local codes and ordinances.
Green Infrastructure Case Studies: Municipal Policies for Managing Stormwater with Green Infrastructure	<a href="http://www.epa.gov/owow/NPS/lid/gi_case_studies_2010.pdf">http://www.epa.gov/owow/NPS/lid/gi_case_studies_2010.pdf</a>	2010	US EPA	Case studies	Examines the policies adopted by 12 local governments that have successfully promoted green infrastructure, as well as the policy drivers and policy outcomes. A menu of policy options is presented and barriers and lessons learned are summarized.
Rebuilding America: APA National Infrastructure Investment Task Force Report	<a href="http://www.planning.org/policy/infrastructure/pdf/finalreport.pdf">http://www.planning.org/policy/infrastructure/pdf/finalreport.pdf</a>	2010	American Planning Association	Report	Section 3, Green Infrastructure, provides guidance to planners on implementing green infrastructure. Includes examples, case studies, and references for more information.
Water Quality Scorecard	<a href="http://www.epa.gov/smartgrowth/pdf/2009_1208_wq_scorecard.pdf">http://www.epa.gov/smartgrowth/pdf/2009_1208_wq_scorecard.pdf</a>	2009	US EPA	Online tool	A program evaluation tool that local governments can use to collaboratively identify the barriers to green infrastructure in local codes and ordinances. The scorecard guides municipal staff through 230 policies, codes, and incentives that could be adapted to promote sustainable stormwater management. Also provides extensive references and case studies.

Revising Local Plans, Codes, and Ordinances	<a href="http://cfpub2.epa.gov/npdes/courseinfo.cfm?program_id=0&amp;outreach_id=409&amp;schedule_id=1045">http://cfpub2.epa.gov/npdes/courseinfo.cfm?program_id=0&amp;outreach_id=409&amp;schedule_id=1045</a>	2009	US EPA	Webcast	One of six two-hour webcasts on green infrastructure offered by EPA in the spring and summer of 2009. Presented by Abby Hall of US EPA, Chris Kloss of the Low Impact Development Center, and Bill Davis of Progressive Design and Planning.
Managing Wet Weather with Green Infrastructure Municipal Handbook	<a href="http://water.epa.gov/infrastucture/greeninfrastructure/gi_policy.cfm">http://water.epa.gov/infrastucture/greeninfrastructure/gi_policy.cfm</a>	2008	US EPA	Handbook	Provides local governments with a step-by-step guide to growing green infrastructure in their communities. The handbook's five chapters discuss funding options, retrofit policies, green streets, rainwater harvesting policies, and incentive mechanisms.
Smart Growth and Green Infrastructure	<a href="http://water.epa.gov/learn/training/wacademy/archives.cfm#CP_JUMP_460186">http://water.epa.gov/learn/training/wacademy/archives.cfm#CP_JUMP_460186</a>	2007	US EPA	Webcast	Discusses how various Smart Growth and green infrastructure tools are being used at the regional, watershed and site levels to preserve, enhance, and protect our water resources. Speakers also discuss various approaches, including messaging, research, and partnering to ensure that these tools are successfully implemented.
Rooftops to Rivers	<a href="http://www.nrdc.org/water/pollution/rooftops/contents.asp">http://www.nrdc.org/water/pollution/rooftops/contents.asp</a>	2006	Natural Resources Defense Council	Report	Provides an overview of the impacts and strategies for managing stormwater and combined sewer overflow; and policy recommendations for optimizing the development of green infrastructure management strategies.
Using Smart Growth Techniques as Stormwater Best Management Practices	<a href="http://www.epa.gov/smartgrowth/stormwater.htm">http://www.epa.gov/smartgrowth/stormwater.htm</a>	2005	US EPA	Report	Reviews nine common Smart Growth techniques and examines how these techniques can be adapted to prevent or manage stormwater runoff.
Energy Down the Drain - The Hidden Cost of California's Water Supply	<a href="http://www.nrdc.org/water/conservation/edrain/edrain.pdf">http://www.nrdc.org/water/conservation/edrain/edrain.pdf</a>	2004	Natural Resources Defense Council	Report	Evaluates the connections between energy and water systems in California. Three case studies highlight the use of energy in urban and agricultural systems. Evaluation provides recommendations for conservation and policy making.
Reevaluating Stormwater: The Nine Mile Run Model for Restorative Development	<a href="http://www.rmi.org/Knowledge-Center/Library/W99-22_ReevaluatingStormwater">http://www.rmi.org/Knowledge-Center/Library/W99-22_ReevaluatingStormwater</a>	1999	Rocky Mountain Institute	Case study	Presents a model for resolving a history of chronic sewer overflows into the public streets, parks, and waters of the Pittsburgh region, while simultaneously restoring and revitalizing the region's urban communities and watersheds. The model uses physical measures that remove stormwater from sewers and produce additional benefits such as beautification of neighborhoods, creation of public recreational amenities, support of wildlife habitat, cleaning and cooling of urban air.
Using Rainwater to Grow Livable Communities: Sustainable Stormwater Best Management Practices	<a href="http://www.werf.org/liveablecommunities/index.htm">http://www.werf.org/liveablecommunities/index.htm</a>	Ongoing	Water Environment Research Foundation	Toolbox	Provides resources for effective communication and implementation of green infrastructure concepts, as well as case studies that examine successful efforts in cities across the United States.

# Codes and Ordinances

Title	Link	Date	Author	Type	Description
Kentucky Wet Growth Tools for Sustainable Development: A Handbook on Land Use and Water for Kentucky Communities	<a href="http://louisville.edu/landuse/healthy-watersheds-land-use-initiative.html">http://louisville.edu/landuse/healthy-watersheds-land-use-initiative.html</a>	2009	Center for Land Use and Environmental Responsibility, University of Louisville	Handbook	Provides extensive tools and resources for local communities to achieve "wet growth" -- land use and development that is sustainable with respect to water. Appendices include examples of ordinances, regulations, and other legal documents from many communities throughout Kentucky and the US.
SmartCodes: Model Land-Development Regulations	Available for purchase: <a href="http://www.planning.org/a/pastore/search/default.aspx?p=3960">http://www.planning.org/a/pastore/search/default.aspx?p=3960</a>	2009	American Planning Association	Report with model regulations	A guide to the development of model smart growth ordinances, including models that may be adapted by local governments to implement special planning policies for multimodal transportation, infill development, affordable housing, and other best practices in planning and development regulation.
21st Century Land Development Code	Available for purchase: <a href="http://www.planning.org/a/pastore/Search/Default.aspx?p=3743">http://www.planning.org/a/pastore/Search/Default.aspx?p=3743</a>	2008	American Planning Association	Model code	A complete planning and law model code integrating traditional Euclidean zoning with green codes, new urbanism, and smart growth. It covers sustainability, traditional neighborhood development, transit-oriented development, mixed use centers, subdivision regulations, official mapping, adequate public facilities, variances, conditional uses, religious uses, adult uses, telecommunications, and complete forms and procedures.
Stormwater Model Ordinance for NC Local Governments	<a href="http://www.efc.unc.edu/projects/stormwater_ordinance.htm">http://www.efc.unc.edu/projects/stormwater_ordinance.htm</a>	2007	University of North Carolina Environmental Finance Center	Model ordinance	Developed for Phase II stormwater regulations as implemented in North Carolina. Designed to be used by local governments to develop a post-construction program that best fits their long term growth and fiscal needs and that complies with requirements of Phase II stormwater regulations.
Blackberry Creek Watershed Zoning Code Analysis and Ordinance Language Recommendations	<a href="http://www.co.kane.il.us/kcstorm/blackberry/zoning/FinalReport.pdf">http://www.co.kane.il.us/kcstorm/blackberry/zoning/FinalReport.pdf</a>	2004	Conservation Design Forum	Case study	Provides suggested changes to subdivision and zoning codes for municipalities and counties in the Blackberry Creek watershed. Good model for other watersheds to use.
Better Site Design: A Handbook for Changing Development Rules in Your Community	<a href="http://www.cwp.org/documents/cat_view/77-better-site-design-publications.html">http://www.cwp.org/documents/cat_view/77-better-site-design-publications.html</a>	1998	Center for Watershed Protection	Handbook	Covers everything from basic engineering principles to actual vs. perceived barriers to implementing better site designs. Outlines 22 guidelines for better developments and provides detailed rationale for each principle. Also includes case studies from across the country.
Better Site Design Code & Ordinance Worksheet	<a href="http://www.cwp.org/documents/cat_view/77-better-site-design-publications.html">http://www.cwp.org/documents/cat_view/77-better-site-design-publications.html</a>	1998	Center for Watershed Protection	Worksheet	Allows users to enter data to see how the local development rules in their community stack up against the model development principles outlined in the Better Site Design Handbook (above).
Growing Greener Model Ordinance Version 2.0	<a href="http://www.natlands.org/wp-content/uploads/downloads/2011/10/GrowingGreenerVer2-0SeprPgs.pdf">http://www.natlands.org/wp-content/uploads/downloads/2011/10/GrowingGreenerVer2-0SeprPgs.pdf</a>	Undated	Natural Lands Trust	Model ordinance	This model ordinance, consisting of model language for both zoning and subdivision and land development ordinances, provides regulations that can be added to typical, existing ordinances to implement the principles and standards of conservation subdivision design.

Incorporating Model Subdivision Language to Meet Your Community's Water Quality Goals	<a href="http://www.pca.state.mn.us/index.php/component?option=com_docman/task,doc_view/gid,7429">http://www.pca.state.mn.us/index.php/component?option=com_docman/task,doc_view/gid,7429</a>	Undated	Northland NEMO	Model ordinance	Provides sample subdivision ordinance language addressing street design and impervious surface, lot layout, and green infrastructure.
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## Regulatory Programs

Title	Link	Date	Author	Type	Description
Federal Regulatory Programs	<a href="http://water.epa.gov/infrastructure/greeninfrastructure/gi_regulatory.cfm#permittingseries">http://water.epa.gov/infrastructure/greeninfrastructure/gi_regulatory.cfm#permittingseries</a>	Ongoing	US EPA	Website	Part of EPA's GI clearinghouse, this website contains a comprehensive list of resources and discussions on integrating green infrastructure into federal regulatory programs for municipal separate storm sewer systems (MS4s), combined sewer overflows (CSOs) and Total Maximum Daily Loads (TMDLs).
LID Strategies and Tools for NPDES Phase II Communities	<a href="http://www.lowimpactdevelopment.org/lidphase2/">http://www.lowimpactdevelopment.org/lidphase2/</a>	Ongoing		Website	Contains various resources to assist stormwater Phase II communities integrate low impact development (LID) strategies into their compliance programs.

## Design and Implementation

Title	Link	Date	Author	Type	Description
Designer's Guide for Low Impact Development Construction (draft)	<a href="http://www.creditvalleyca.ca/sustainability/lid/images/CVC%20LID%20Manual-DRAFT%209-23-11.pdf">http://www.creditvalleyca.ca/sustainability/lid/images/CVC%20LID%20Manual-DRAFT%209-23-11.pdf</a>	2011	Credit Valley Conservation	Design manual	Includes an overview of common LID construction errors, a discussion of how construction procedures and sequencing for LID sites differs from conventional sites, and recommendations for improving contracts, plans, and communication to avoid construction errors.
Designing LID to Work: Lessons Learned from North Carolina	<a href="http://water.epa.gov/learn/training/wacademy/archives.cfm#CP_JUMP_511102">http://water.epa.gov/learn/training/wacademy/archives.cfm#CP_JUMP_511102</a>	2010	US EPA	Webcast	Features a discussion of barriers to LID implementation and the progress that is being made to address them from a "boots on the ground" perspective of the NC State Cooperative Extension, as well as a landscape architect who is making LID a reality.
Re-Visioning Landscapes with LID: The Houston Experience	<a href="http://water.epa.gov/learn/training/wacademy/archives.cfm#CP_JUMP_484553">http://water.epa.gov/learn/training/wacademy/archives.cfm#CP_JUMP_484553</a>	2010	US EPA	Webcast	Discusses a national low impact development design competition held by the Houston Land/Water Sustainability Forum. Design teams participating in the competition, most of whom had no previous experience with LID, created designs for three real developments being planned around greater Houston—a green roadway, urban redevelopment, and a suburban residential design.



Green Infrastructure in Arid and Semi-Arid Climates: Adapting Innovative Stormwater Management Techniques to the Water-Limited West	<a href="http://www.epa.gov/npdes/pubs/gi_arid_climate_fs.pdf">http://www.epa.gov/npdes/pubs/gi_arid_climate_fs.pdf</a>	2010	US EPA	Fact sheet	Describes how communities in water-limited regions can utilize green infrastructure as a cost-effective approach to stormwater management that conserves water.
Sustainable Sites Initiative (SITES)	<a href="http://www.sustainable-sites.org/report">http://www.sustainable-sites.org/report</a>	2009	American Society of Landscape Architects and others	Report	Credit system similar to LEED for buildings in format and rigor, for outdoor spaces with or without buildings. Provides info on protecting natural systems and the benefits of maintaining essential ecosystem services. Includes criteria for sustainable landscape design, construction, operations, and maintenance. New guidelines based on feedback from pilot studies expected early 2013.
Design Principles for Stormwater Management on Compacted, Contaminated Soils in Dense Urban Areas	<a href="http://www.epa.gov/brownfields/tools/swdp0408.pdf">http://www.epa.gov/brownfields/tools/swdp0408.pdf</a>	2008	US EPA	Report	Details design considerations for managing stormwater on compacted soils and provides sources for additional information.
Design and Implementation Resources	<a href="http://water.epa.gov/infastructure/greeninfrastructure/gi_design.cfm">http://water.epa.gov/infastructure/greeninfrastructure/gi_design.cfm</a>	Ongoing	US EPA	Website	Provides resources on the design, construction, and maintenance of GI features. Includes state-specific design manuals as well as ideas for overcoming common design challenges such as clay or glacial till, poor urban soils, cold weather, and space constraints.
How Can I Overcome the Barriers to Green Infrastructure?	<a href="http://water.epa.gov/infastructure/greeninfrastructure/gi_barrier.cfm">http://water.epa.gov/infastructure/greeninfrastructure/gi_barrier.cfm</a>	Ongoing	US EPA	Website	Identifies common barriers to green infrastructure that arise throughout the development process, from design to installation, and suggests strategies to overcome them.
Landscape Performance Series	<a href="http://www.lafoundation.org/research/landscape-performance-series/">http://www.lafoundation.org/research/landscape-performance-series/</a>	Ongoing	Landscape Architecture Foundation	Website	A collection of existing resources that show landscape performance using sustainable practices, including LID and Green Infrastructure. Included are: case study briefs, a benefits toolkit, fast facts library and a library database.
Modeling Tools	<a href="http://water.epa.gov/infastructure/greeninfrastructure/gi_modelingtools.cfm">http://water.epa.gov/infastructure/greeninfrastructure/gi_modelingtools.cfm</a>	Ongoing	US EPA	Modeling tools	List of models that can be used to assess the costs and environmental outcomes associated with green infrastructure approaches. Ranging from simple to more complex, these models can help designers select, size, and place GI practices.



## Operations and Maintenance

Title	Link	Date	Author	Type	Description
Regular Inspection and Maintenance Guidance for Bioretention Systems/Tree Filters	<a href="http://www.unh.edu/unhsc/sites/unh.edu.unhsc/files/UNHSC%20Biofilter%20Maintenance%20Guidance%20and%20Checklist%201-11_0.pdf">http://www.unh.edu/unhsc/sites/unh.edu.unhsc/files/UNHSC%20Biofilter%20Maintenance%20Guidance%20and%20Checklist%201-11_0.pdf</a>	2011	University of New Hampshire Stormwater Center	Fact sheet	Includes a list of inspection and maintenance activities for bioretention systems and tree filters and a checklist for inspection.
Regular Inspection and Maintenance Guidance for Porous Pavements	<a href="http://www.unh.edu/unhsc/sites/unh.edu.unhsc/files/UNHSC%20Porous%20Pavement%20Routine%20Maintenance%20Guidance%20and%20Checklist%202-11.pdf">http://www.unh.edu/unhsc/sites/unh.edu.unhsc/files/UNHSC%20Porous%20Pavement%20Routine%20Maintenance%20Guidance%20and%20Checklist%202-11.pdf</a>	2011	University of New Hampshire Stormwater Center	Fact sheet	Includes a list of inspection and maintenance activities for porous pavements and a checklist for inspection.
Green Stormwater Operations and Maintenance Manual	<a href="http://www.seattle.gov/util/groups/public/@spu/@usm/documents/webcontent/spu02_020023.pdf">http://www.seattle.gov/util/groups/public/@spu/@usm/documents/webcontent/spu02_020023.pdf</a>	2009	Seattle Public Utilities	Manual	Provides a summary of routine maintenance activities for rain gardens, vegetated swales, and permeable pavements. The charts included in the manual describe four levels of service from excellent effort (Service Level A) to poor effort (Service Level D).

## Performance

Title	Link	Date	Author	Type	Description
UNH Stormwater Center: 2009 Biannual Report	<a href="http://ciceet.unh.edu/news/releases/unhsc_report_2009/index.html">http://ciceet.unh.edu/news/releases/unhsc_report_2009/index.html</a>	2009	University of New Hampshire Stormwater Center	Report	UNHSC operates a field research facility including three classes of stormwater treatment systems: conventional systems, LID systems, and manufactured devices. Report summarizes the results of four years of monitoring at the research facility. Provides performance summaries of 17 stormwater treatment practices as well as detailed cost and performance data for nine stormwater treatment practices.
Runoff Reduction Method Technical Memo – Appendix F: BMP Research Summary Table	<a href="http://www.cwp.org/documents/cat_view/76-stormwater-management-publications/95-runoff-reduction-method-">http://www.cwp.org/documents/cat_view/76-stormwater-management-publications/95-runoff-reduction-method-</a>	2008	Center for Watershed Protection	Technical memo	Presents the results of more than 100 papers in tabular form. Water quality and quantity results are presented for a range of green infrastructure and conventional controls, including constructed wetlands, bioretention, infiltration, swales, green roofs, and porous pavement.

	technical-memo.html				
Side-by-Side Comparisons of Stormwater BMPs	<a href="http://www.unh.edu/erg/civil_eng_4_06.pdf">http://www.unh.edu/erg/civil_eng_4_06.pdf</a>	2006	Civil Engineering	Article	Compares a variety of stormwater management practices under identical test conditions. Initial results indicate that green infrastructure approaches generally remove the highest levels of key contaminants.
National Pollutant Removal Performance Database	<a href="http://www.cwp.org/documents.html">http://www.cwp.org/documents.html</a>	2000	Center for Watershed Protection	Technical brief	Summarizes the results of more than 150 pollutant removal studies. Includes statistical and graphical representations of removal rates for four types of GI controls: constructed wetlands, bioretention, infiltration trenches, and swales.
International Stormwater Best Management Practices (BMP) Database	<a href="http://www.bmpdatabases.org/BMPPerformance.htm">http://www.bmpdatabases.org/BMPPerformance.htm</a>	Ongoing	International Stormwater BMP Database Project	Website	Summarizes the findings of more than 400 BMP studies. Users of the website can perform custom queries or download technical papers summarizing performance results. Four green infrastructure controls are included in the database: constructed wetlands, bioretention, swales, and porous pavement.
Performance Resources	<a href="http://water.epa.gov/infastructure/greeninfrastructure/gi_performance.cfm">http://water.epa.gov/infastructure/greeninfrastructure/gi_performance.cfm</a>	Ongoing	US EPA	Links to research reports	Provides links to research on green infrastructure performance, including on specific GI techniques: green roofs, permeable pavements, rainwater harvesting, rain gardens and planter boxes, bioswales, urban tree canopies, and constructed wetlands.

## Funding and Finance

Title	Link	Date	Author	Type	Description
Stormwater Utility Dashboard	<a href="http://www.efc.unc.edu/tools/NCStormwaterDashboard.html">http://www.efc.unc.edu/tools/NCStormwaterDashboard.html</a>	2010	Environmental Finance Center, University of North Carolina	Online tool	Allows users to compare residential and non-residential stormwater fees charged in 2010 by all of the NC stormwater utilities. Comparisons are made across subgroups of utilities with similar characteristics, such as location, EPA phase, rate structure, and customer income levels.
Municipal Handbook: Funding Options	<a href="http://water.epa.gov/infastructure/greeninfrastructure/upload/gi_munic_handbook_funding.pdf">http://water.epa.gov/infastructure/greeninfrastructure/upload/gi_munic_handbook_funding.pdf</a>	2009	US EPA	Handbook	Describes strategies and provides case study examples of how local governments are generating reliable funding for green infrastructure.
Municipal Handbook: Incentive Mechanisms	<a href="http://water.epa.gov/infastructure/greeninfrastructure/upload/gi_munic_handbook_incentives.pdf">http://water.epa.gov/infastructure/greeninfrastructure/upload/gi_munic_handbook_incentives.pdf</a>	2009	US EPA	Handbook	Describes a number of incentives that municipalities can offer to promote the implementation of green infrastructure on private properties and reduce their stormwater management costs.
Stormwater Financing Workshops	<a href="http://www.efc.umd.edu/swlidfinancing.html">http://www.efc.umd.edu/swlidfinancing.html</a>	2009 and 2007	Environmental Finance Center, University of Maryland	Workshop presentations	University of Maryland Environmental Finance Center hosted three workshops on financing stormwater management programs. Presentations are available for download.

Stormwater Financing Presentations	<a href="http://www.efc.unc.edu/projects/stormwater.htm">http://www.efc.unc.edu/projects/stormwater.htm</a>	2008 - 2010	Environmental Finance Center, University of North Carolina	Workshop presentations	UNC Environmental Finance Center hosts trainings on how to plan and fund stormwater programs and watershed protection efforts. Downloadable presentation slides provide an overview of funding and financing options, including fees, mitigation banks, nutrient trading, and state revolving funds.
Green Infrastructure Approaches for Managing Wet Weather with Clean Water State Revolving Funds	<a href="http://www.epa.gov/owm/cwfinance/cwsrf/green_if.pdf">http://www.epa.gov/owm/cwfinance/cwsrf/green_if.pdf</a>	2008	Clean Water State Revolving Fund	Fact sheet	Identifies several ways in which states, communities, and individuals can use the Clean Water State Revolving Fund (CWSRF) to finance green infrastructure projects.
Federal Funding Resources	<a href="http://water.epa.gov/infrastructure/greeninfrastructure/gi_funding.cfm">http://water.epa.gov/infrastructure/greeninfrastructure/gi_funding.cfm</a>	Ongoing	US EPA	Website	Lists potential federal funding sources for green infrastructure projects.
Financing Alternatives Comparison Tool	<a href="http://water.epa.gov/grants_funding/cwsrf/fact.cfm">http://water.epa.gov/grants_funding/cwsrf/fact.cfm</a>	Ongoing	US EPA	Online tool	A financial analysis tool that helps identify the most cost-effective method to fund a wastewater or drinking water management project. This tool produces a comprehensive analysis that compares various financing options for these projects by incorporating financing, regulatory, and other important costs.
Stormwater Financing Options	<a href="http://www.efc.umd.edu/SFOUfinoptions.html">http://www.efc.umd.edu/SFOUfinoptions.html</a>	Ongoing	Environmental Finance Center, University of Maryland	Website	Overviews stormwater financing options, including utilities, fees, taxes, bonds, loans, grants, and unconventional funding structures. Provides case studies for each.

## For More Information

Organization	Link	Notes
US EPA – Green Infrastructure	<a href="http://water.epa.gov/infrastructure/greeninfrastructure/index.cfm">http://water.epa.gov/infrastructure/greeninfrastructure/index.cfm</a>	Comprehensive source for tools and information on green infrastructure. The website's library categories include: principles of green infrastructure; economics of green infrastructure; design manuals; plans and policies; impacts on surface water, groundwater, air quality, energy and climate change, habitat, and community.
US EPA – Sustainable Water Infrastructure	<a href="http://water.epa.gov/infrastructure/sustainable/">http://water.epa.gov/infrastructure/sustainable/</a>	Directory with useful information related to sustainable water infrastructure, including financing & pricing, water & energy efficiency, asset management, and effective utility management.
US EPA – Watershed Academy	<a href="http://water.epa.gov/learn/training/watershedacademy/index.cfm">http://water.epa.gov/learn/training/watershedacademy/index.cfm</a>	Provides training and information on implementing watershed approaches. Self-paced training modules, webcast seminars and live training courses provide current information from national experts across a broad range of watershed topics.
US EPA – National Pollution Discharge Elimination System (NPDES) Stormwater Program	<a href="http://cfpub.epa.gov/npdes/home.cfm?program_id=6">http://cfpub.epa.gov/npdes/home.cfm?program_id=6</a>	Provides background technical and regulatory information about the NPDES stormwater program.
Center for Watershed Protection	<a href="http://www.cwp.org/your-watershed-101/stormwater-management.html">http://www.cwp.org/your-watershed-101/stormwater-management.html</a>	Nonprofit organization conducting research and providing training on watershed planning and management topics. See especially their stormwater management resources page.
Low Impact Development Center	<a href="http://www.lowimpactdevelopment.org/">http://www.lowimpactdevelopment.org/</a>	Nonprofit organization advancing low impact development technology.