



*Climate Change Impacts: Water & Rain Harvesting*

## A Resource List

---

### ACT WEBCAST SERIES

The ACT Webcast Series is a webcast held at the lunch hour on Thursdays, and is made possible through support from The Home Depot Foundation and USDA Forest Service. The goal is to provide training opportunities for local urban and community forestry practitioners. The trainings highlight successful programs and practices that you may want to adapt in your communities. Webcasts are open to all.

Correctly planting and protecting trees is a good thing to do. However, planting and protecting trees also requires coordinating time and resources. ACT minimizes such requirements by sharing the innovative ideas and organized approaches of successful projects and models for members to replicate. We invite you to join the Alliance for Community Trees for more ways to get involved. Together, we create a strong voice on behalf of the urban forest and make a great difference in the health, beauty, and livability of our communities. We strengthen communities by offering action-oriented approaches that bring people together around a common purpose.

### TOPIC

Rainwater harvesting is the capture, diversion, and storage of rainwater for a number of purposes from landscape irrigation and storm water abatement, to drinking and domestic use. Rainwater harvesting can be as simple as diverting rain runoff to planted landscape areas across a contoured landscape, or to rain barrels or cisterns from gutters and downspouts. The practicality of rainwater harvesting can be applied to small residential projects as well as large facilities such as parking lots, parks, and commercial or industrial buildings. These strategies can help solve a variety of pressing water concerns about storm water runoff, pollution, potability, river diversion, and energy consumption. Its potential is especially attractive in helping to mitigate impacts on the environment and climate in places like California, where pumping water is the number one use of electricity.

### TRAINERS

Jason Schmidt  
Program Associate  
TreePeople  
12601 Mulholland Drive  
Beverly Hills, CA 90210  
818-623-4884  
jschmidt@treepeople.org

Brenda Smith  
Executive Director  
Nine Mile Run Watershed Association  
702 South Trenton Avenue  
Pittsburgh, PA 15221-3477  
412.371.8779 X113  
brenda@ninemilerun.org

**Jason Schmidt** brings several years of watershed management experience to TreePeople's Natural Urban Systems Group. After working on salmon habitat restoration in the rivers of the Northwest, Jason now works on "urban rivers"—roads and rights of way that serve as the 'natural drainage' systems in the heavily impermeable area of Los Angeles. Jason is passionate about watersheds and sees his work in rainwater harvesting and stormwater management as critical to restoring the watershed and ecological functions to the Los Angeles River basin. He also sits on the City of Los Angeles' Low Impact Development Technical Assistance Committee which is currently writing the City's LID Handbook for homeowners and developers.

**Brenda Smith** joined the Nine Mile Run Watershed Association (NMRWA) as Executive Director in January 2008. A graduate of the University of Pittsburgh, Brenda co-founded and served as President of Global Links, a nonprofit organization that provides hospitals with an environmentally responsible alternative to disposal or incineration of surplus equipment and supplies. She currently co-chairs the Green Infrastructure Network's Pilot Projects. NMRWA is part of a coalition working to pass legislation in Pittsburgh to require publicly funded development to meet a higher standard for managing stormwater on site through the use of green infrastructure.





*Climate Change Impacts: Water & Rain Harvesting*

## A Resource List

---

### SUCCESS STORIES

#### **TreePeople (Beverly Hills, CA)**

Based in L.A., TreePeople has initiated numerous programs to enhance the urban environment to make it safe, healthy, and sustainable. At the Hall House, a single-family home in South Los Angeles, TreePeople tackled obstacles like impermeable paving and hard ground surfaces that presented challenges to reducing urban runoff. Using a number of creative rain-capturing techniques, a team designed four best management practices for the site. On a larger scale, TreePeople, in collaboration with the Los Angeles Department of Water and Power, has built five demonstration sites in Los Angeles, which include a large hilltop cistern at the organization's Coldwater Canyon Park headquarters. "When it rains an inch," said, Andy Lipkis, founder of TreePeople, "those five little projects capture 1.25 million gallons." Lipkis and TreePeople imagine a future where as many as a million homes and businesses have rainwater cisterns all electronically networked and ready to provide treated drinking water to the public. TreePeople believe that now is the time to bring a large-scale cistern and rainwater infiltration project to the desert of the West for the environmental benefits and the 50,000 new jobs that would be created by a sustainable infrastructure system.

More information at: [http://actrees.org/site/news/newsroom/cisterns\\_save\\_rainwater\\_quench\\_environmental.php](http://actrees.org/site/news/newsroom/cisterns_save_rainwater_quench_environmental.php)

#### **Nine Mile Run Watershed Association (Pittsburgh, PA)**

The Nine Mile Run Watershed Association is installing rain barrels throughout the Watershed, with a focus on barrel installations at homes in four "study neighborhoods". These study neighborhoods will help the Association demonstrate the effectiveness of rain barrels on lowering the amount of stormwater runoff into the waterways that comprise the Nine Mile Run watershed. Residents in the four study neighborhoods are offered free rain barrels, free installation, and free technical support for two years. NMRWA staff first assess the property to see if there is an appropriate location for a barrel. The Rain Barrel Initiative currently features the associations' own locally produced barrels with an improved design; holding 133 gallons of stormwater and with a removable lid, the barrel is easy to install and maintain. The benefits of the rain barrel is to reduce the amount of water rushing into Nine Mile Run during a rainstorm and keep as much rainwater on the homeowners lot. By doing so, the rain is prevented from flowing over hard surfaces such as roads and driveways, picking up pollutants, and flooding and eroding Nine Mile Run. The water can instead slowly soak through the soil and into the water table, being cleansed by soils and plants along the way.

More information at: <http://www.ninemilerun.org/rain-barrel-initiative/>

#### **City of Tucson (Tucson, AZ)**

On October 14, 2008, the City of Tucson Mayor and Council adopted the Commercial Rainwater Harvesting Ordinance No. 10597, the first of its kind in the country. New commercial construction and facilities subject to the ordinance must meet 50% of their landscape demand using harvested rainwater, prepare a site water harvesting plan and water budget, meter outdoor water use and use irrigation controls that respond to soil moisture conditions at the site. Facilities have 3 years to establish plants before the 50% requirement must be met, and the requirement is waived during periods of drought. Both passive water harvesting systems (systems that passively infiltrate rainwater into soil or porous pavement for use by vegetation), and active systems (systems that store water in tanks for future distribution to beneficial uses) are addressed in the Development Standard. To assist applicants in preparing the site water budget and water-harvesting plan required by the Ordinance and described in the Development Standard, the Commercial Rainwater Harvesting Water Budget Spreadsheet was prepared.

More information at: <http://www.tucsonaz.gov/ocsd/sustainability/water/rainwaterharvesting.php>





*Climate Change Impacts: Water & Rain Harvesting*

## A Resource List

---

### SUCCESS STORIES (continued)

#### **Casey Trees, DC Greenworks, and District Department of Environment (Washington, DC)**

RiverSmart Homes is a District Department of Environment Program whereby District homeowners can receive up to \$1,200 in funding to install native landscaping and other Low Impact Development (LID) features to help reduce stormwater runoff from their property. There are five features available through the program: 1) Rain Barrels, 2) Shade Trees, 3) BayScaping, 4) Rain Gardens, and 5) Pervious Pavers. Rain Barrels (also referred to as above-ground cisterns) collect stormwater from roofs for use as irrigation water for landscaping and gardens. DC Greenworks coordinates and installs the rain barrels obtained through the RiverSmart Homes Program at a cost of \$30 per barrel (maximum of two per property) paid by the homeowner. DC Greenworks is installing over 50 rain barrels every month. Casey Trees focuses on the shade tree component of the program by planting shade trees that mitigate stormwater on private properties. Through the District Department of The Environment, Casey Trees allows property owners to request for trees to be planted on their property for \$50.00 per tree. Upon request a Casey Trees representative will visit the property with the owner and help determine the best locations for planting and which of the 14 environmentally beneficial tree options would be best suited for the area. Casey Trees has successfully planted almost 1,000 trees as a part of the RiverSmart Homes program.

More information at: <http://ddoe.dc.gov/ddoe/cwp/view,a,1209,q,499740.asp>

#### **City of Los Angeles (Los Angeles, CA)**

The City of Los Angeles, Department of Public Works, Bureau of Sanitation, Watershed Protection Division (Stormwater Program) rolled out the City's first free Rainwater Harvesting pilot program in July 2009. Residents that sign up for the program will be eligible for complimentary installations of (1) rain barrel (2) downspout disconnections, or (3) custom-made planter boxes for businesses. The captured rainwater will then be either routed to pervious surfaces or used for on-site irrigation. The Program is designed to help homeowners learn to capture rainwater for beneficial use, and reduce the amount of rainwater flowing from their roofs into the storm drain system. The Program calls for disconnecting downspouts that discharge to impervious areas and redirecting them to areas where rainwater can percolate into the soil, or collect into rain barrels. Due to heavy groundwater usage in Southern California, approximately 3.2 million-acre feet of space are available for groundwater recharge. A recent study described soil conditions in most of the Southern California region as highly permeable, allowing for rapid infiltration into groundwater basins. Andy Lipkis, founder of TreePeople, already installed a rain barrel that holds up to 60 gallons of rainwater at his house thanks to the L.A. Rainwater Harvesting Program!

More information at: <http://www.larainwaterharvesting.org/>

#### **City of Philadelphia (Philadelphia, PA)**

In October 2009, the City of Philadelphia announced an ambitious \$1.6 billion plan to transform the city over the next 20 years by embracing its stormwater. As an alternative to "gray" water management solutions like massive underground overflow tunnels or sewage plant expansions, this proposal re-imagines the city as an oasis of rain gardens, green roofs, thousands of additional trees, porous pavement, and more. The key elements of the plan will replace the city's concrete and asphalt with plants in gardens, roofs, heavily planted curb extensions, vegetated swales in parking lots, and mini-wetlands. Everything from impervious streets to basketball courts would be replaced with paving made out of larger particles that let rainwater flow through and leave no puddles behind. As for residences, officials hope rain barrels on household downspouts become as common as the city's blue recycling buckets.

More information at: [http://actrees.org/site/news/newsroom/breaking\\_ground\\_with\\_a\\_16\\_billion\\_plan\\_to\\_tam.php](http://actrees.org/site/news/newsroom/breaking_ground_with_a_16_billion_plan_to_tam.php)





*Climate Change Impacts: Water & Rain Harvesting*

## A Resource List

---

### SUCCESS STORIES (continued)

#### **Friends of Trees (Portland, OR)**

The purpose of Neighborhood Trees, a program of the Portland-based nonprofit Friends of Trees, is to curb environmental problems by reducing stormwater runoff, combined sewer overflows (and resulting discharge into the Willamette River), energy use in households, and air pollution. In Portland, paved streets constitute 19% of the total paved area and produce 66% of the stormwater runoff. The city's Combined Sewer Overflows into the Willamette River and Columbia Slough are a major source of pollution. Between 2003 and 2005, Friends of Trees planted 5,671 trees in 62 neighborhoods. They also worked directly with the Bureau of Environmental Services to plant trees to create buffers and restore vegetation along streams. The trees in the Neighborhood Trees project, when mature, are estimated to reduce runoff by more than 4.3 million gallons each year, with savings of \$10 per tree in reduced waterflow treatment and control over its lifespan.

More information at: [http://actrees.org/files/Case\\_Studies/friendsoftrees.pdf](http://actrees.org/files/Case_Studies/friendsoftrees.pdf)

#### **UC Davis Parking Lot Project (Davis, CA)**

In this parking lot project, trees, their root systems, and the new-engineered soil that supports them combine to form a mini-reservoir for capturing stormwater. The "Davis soil" traps, cleans, and slowly releases stormwater, reducing pollutant loads, runoff, and flooding. At the same time, the trees shade the parking lot, lowering pollutant emissions from cars and reducing the ambient temperature, absorb pollutants from the air, capture additional stormwater, and beautify their environment. The Department of Land, Air and Water Resources at UC Davis and the U.S. Forest Service's Center for Urban Forest Research worked together to design the mini-reservoir system. Stormwater from a parking lot drains toward an 8-ft-wide, 4-ft-deep swale planted with London planetrees and filled with Davis soil, a mixture of 75% lava rock and 25% clay-loam soil. The swale provides a growing medium for trees and shrubs and a storage area for runoff, while the soil itself helps trap pollutants as the rainwater filters through it. The system is designed to capture all runoff from a 10-year storm (3.1 inches of precipitation) or 97% of all rainfall events. In initial laboratory results, the Davis soil removed 47–99% of nutrients and 75–96% of heavy metals from the runoff.

More information at: [http://actrees.org/site/resources/research/engineered\\_soils\\_study.php](http://actrees.org/site/resources/research/engineered_soils_study.php)





*Climate Change Impacts: Water & Rain Harvesting*

## A Resource List

---

### PUBLICATIONS

#### ***Stormwater Impacts of Greening (Washington, DC)***

In 2007 Casey Trees released the results of a yearlong study modeling the stormwater impacts of greening scenarios, including enhanced tree canopy and the increased use of green roofs in the District of Columbia. Green roofs present a unique opportunity in DC because of the prevalence of high-density town houses with flat roofs that could accommodate green roofs. Per unit area, green roofs intercept and store almost four times more rainwater than trees. For an average year, the "Green Build-out" or high-end scenario prevented over 1.2 billion gallons of stormwater from entering the sewer system resulting in a reduction of 10 percent or over one billion gallons in discharge volumes to DC's rivers and a 6.7 percent reduction in cumulative CSO frequency (74 discharges). The model also showed that the city could achieve up to a 54% reduction in stormwater runoff within several high volume sewersheds. More information at: [http://actrees.org/site/resources/research/stormwater\\_impacts\\_of\\_greening.php](http://actrees.org/site/resources/research/stormwater_impacts_of_greening.php)

#### ***Rainwater as a Resource: A Report on Three Sites Demonstrating Sustainable Stormwater***

TreePeople released a 2007 report offering a candid description of the integrated, multi-partner process used to implement three projects that showcase alternative technologies for capturing and using stormwater. The case studies, which include a single-family home and two school campuses, reveal the feasibility of retrofitting existing sites to function as miniature watersheds by using stormwater best management practices such as cisterns, swales, infiltration basins and strategically-planted trees. By incorporating stormwater best management practices (BMPs) such as swales, retention grading, cisterns, infiltrators and strategically-planted trees in building and landscaping designs, a multitude of benefits can be realized, including: improved water quality; a decreased risk of flooding; a reduced need for water importation; heat-island effect mitigation; a reduction in contributions to global climate change; and an augmented supply of local groundwater. These are just some of the benefits that are possible when urban sites are allowed to work in concert with nature's cycles of flood, drought and waste - and together, they create a sharp improvement in the quality of life in the neighborhoods in which we live, learn, work and play.

More information at: [http://actrees.org/site/resources/research/rainwater\\_as\\_a\\_resource\\_a\\_report\\_on\\_three\\_sit.php](http://actrees.org/site/resources/research/rainwater_as_a_resource_a_report_on_three_sit.php)

#### ***A Homeowner's "How-To" Guide***

Produced to help increase local water resources by promoting groundwater recharge by the City of Los Angeles Rainwater Harvesting Program, the Homeowner's "How-To" Guide will aid homeowners in implementing the first steps of harvesting rainwater. It contains "How-to" information for the homeowner interested in disconnecting downspouts to capture and use rainwater. By following the step-by-step instructions homeowners can: (1) disconnect existing downspouts; (2) extend downspouts to areas that can infiltrate rainwater; (3) install a rain barrel; and (4) construct a rain garden or other infiltration mechanisms. Homeowners looking to implement additional rainwater harvesting methods, or seeking supplemental "How-to" or troubleshooting information should refer to Additional Resources provided in this guide.

More information at: [http://www.larainwaterharvesting.org/images/Homeowner\\_How-To\\_Guide.pdf](http://www.larainwaterharvesting.org/images/Homeowner_How-To_Guide.pdf)

#### ***California 2009 Water Plan: Chapter 19- Urban Runoff Management***

A chapter in California's 2009 Water Plan, urban runoff management is a broad series of activities to manage both storm water and dry weather runoff. Dry weather runoff occurs when, for example, excess landscape irrigation water flows to the storm drain. Traditionally, urban runoff management was viewed as a response to flood control concerns resulting from the effects of urbanization. Concerns about the water quality impacts of urban runoff have led water agencies to look at watershed approaches to control runoff and provide other benefits. This has resulted in urban runoff management now being linked to other resource management strategies including, Pollution Prevention, Land Use Planning and Management, Watershed Management, Urban Water Use Efficiency, Recycled Municipal Water, Recharge Area Protection, and Conjunctive Management. More information at:

[http://www.waterplan.water.ca.gov/docs/cwpu2009/0310final/v2c19\\_urbrunoffmgmt\\_cwp2009.pdf](http://www.waterplan.water.ca.gov/docs/cwpu2009/0310final/v2c19_urbrunoffmgmt_cwp2009.pdf)





*Climate Change Impacts: Water & Rain Harvesting*

## A Resource List

---

### PUBLICATIONS (continued)

#### ***Create an Oasis with Greywater***

In this 2006 book, Art Ludwig describes how to quickly and easily choose, build, and use a simple greywater system. Some can be completed in an afternoon for under \$30. It also provides complete instructions for more complex installations, how to deal with freezing, flooding, drought, failing septic, low perk soil, non-industrialized world conditions, coordinating a team of professionals to get optimum results on high-end projects, and “radical plumbing” that uses 90% less resources. This book offers underlying design principles as well as design specifics. Most of the world’s aquifers are being pumped faster than replenished, and all reservoirs are slowly diminishing in capacity as they fill with sediment. Simultaneously, natural surface waters and groundwaters are being degraded by the wastewater continually dumped into them. Greywater reuse enables one to do more with the same amount of water, to increase their water security, and to reduce the problems of supply and pollution for everyone. Any greywater system will realize some benefits, but obtaining all the potential benefits is trickier than it seems. Many pitfalls await the unwary. The purpose of this book is to provide information to help people have a higher quality of life with lower environmental impact.

More information at: <http://www.oasisdesign.net/greywater/createan oasis/>

#### ***Managing Wet Weather with Green Infrastructure Municipal Handbook; Green Infrastructure Retrofit Policies***

Existing development, especially in urbanized areas, is responsible for currently degraded water quality and stream conditions. Changes in land cover and the increased imperviousness of the urban environment have resulted in larger volumes of runoff traveling at faster velocities. Many of these areas were developed without adequate stormwater controls and must be addressed if urban streams are to be restored and water quality is to be improved nationwide. Using green infrastructure for urban stormwater retrofits can reduce stormwater pollution while simultaneously reducing the burden and demand on existing infrastructure. However, water quality and quantity benefits are not the only advantages. Green infrastructure enhances communities by bringing aspects of the natural environment into inhabited space. Green infrastructure provides additional environmental and economic benefits for the investment rather than traditional stormwater management approaches that literally bury the investment out of sight.

More information at: [http://actrees.org/files/Research/epagi\\_retrofit.pdf](http://actrees.org/files/Research/epagi_retrofit.pdf)

#### ***Green, Clean, and Dollar Smart***

This 2010 guidebook by Lynn Scarlett and the Environmental Defense Fund offers cities options for urban greening initiatives at a time that is considered to be a turning point for our nation, its cities, and its countryside. The guide provides insight into how the rapid urbanization and specialization of federal, state, and local agencies during the 20<sup>th</sup> century are, today, outstripping the capacities of both infrastructure and governing structures. The cumulative negative impacts of this infrastructure and its transformation of ecosystems point to the need to rethink the nexus of city and countryside; people and places; ecosystems and economies. The guide analyzes four areas, integration, metrics, regions, and policy tools, that present significant opportunity to enhance urban greening and contiguous regional ecosystem restoration efforts. The tools described and proposed in this paper can assist urban greening efforts, while providing mechanisms to integrate urban greening with broader landscape-scale conservation and restoration.

More information at: [http://actrees.org/site/resources/research/green\\_clean\\_and\\_dollar\\_smart.php](http://actrees.org/site/resources/research/green_clean_and_dollar_smart.php)





*Climate Change Impacts: Water & Rain Harvesting*

## A Resource List

---

### INSTALLING A RAIN BARREL

#### *How to capture rainwater*

You can harvest rainwater that falls from rooftops so it does not become wasted runoff by collecting and storing the water in a rain barrel. Capturing rainwater reduces stormwater runoff, can be used to irrigate trees and plants in dry weather, and lowers the water bill. Rain barrels are a sustainable solution. These large containers capture rainwater at the end of the downspout. Using the rainwater stored in rain barrels for watering the landscape can actually help improve the health of the gardens, lawns, and trees because the water is softer and devoid of chemicals. However, it is important to investigate which harvesting system is right for the property before purchasing a rain barrel or water harvesting system. Harvesting systems can vary from the simple use of barrels aided by gravity to transport the water, to more complex systems such as cisterns, pumps, and flow controls.

#### *How to assemble a rain barrel*

A fairly straightforward process, assembling a rain barrel requires hardware and a few simple steps. Any large, waterproof container will work as a rain barrel. Plastic is best because it will not rust.

1. Identify the component parts (two hose fittings for the overflow pipe, a brass spigot pre-wrapped with Teflon tape, a mosquito screen, screws, etc.) and rinse out the container with a hose.
2. In order to connect the spigot to the rain barrel, you will need to set the barrel on a raised surface such as concrete blocks because the mounting receptacle for the spigot is often located at the bottom of the barrel so that all of the water can drain from the barrel.
3. Thread the spigot into the threaded hole in the bottom of the barrel by hand. If you need to, use a wrench, but it does not need to be much tighter than you can get it by hand.
4. Insert the two fittings into the holes located around the top of the barrel. These fittings are to attach hoses to the barrel so that if the barrel overflows you can divert the excess water away.
5. Insert the nylon fitting into the threaded receptacle taking care not to cross thread. If needed, use a wrench.
6. Attach an ordinary garden hose to each fitting and route the hoses away from the house into a flower bed to ensure that water is not continuously routed near the foundation of the house. This could cause damage to the house.
7. Put the lid in place and drop in the mosquito screen. If screws are provided, you can use two short screws to attach the screen, but a small amount of caulk or plumbers adhesive will work too.
8. The entire wide lid of many rainbarrels serves as a funnel and thus it is a simple matter of setting the rain barrel under the drainpipe on a secure surface. Once filled, the barrel will be too heavy to move so ensure that the barrel won't shift positions once filled with rainwater.

#### *How to set up and install a rain barrel*

1. Position the rain barrel near a downspout from your rain gutter.
2. If your downspout is attached to the house by straps, disassemble the straps by removing the screws holding the straps to the downspout. Remove and set aside the downspout for now.
3. With the downspout out of the way, redirect water flow into the top of the rain barrel. Do not simply allow for the water flow to from the gutter into the barrel for any significant distance because this could result in foundation damage. There are several commercial products available for this purpose such as, the Garden Water Saver downspout redirector, or a flexible downspout redirector.
4. Place the rain barrel on a stable and secure surface below the downspout.

*\* Instructions may vary depending on the rain barrel purchased.*

More information at: <http://www.treepeople.org/install-cistern-or-rain-barrel>  
<http://www.rainbarrelguide.com/>





*Climate Change Impacts: Water & Rain Harvesting*

## A Resource List

---

### ONLINE GUIDES

#### **Urban Forest Water Resources**

Ultimately, conservation is about empowering citizens to improve the communities where they live and work. The U.S. Environmental Protection Agency has identified over \$300 billion for nonintegrated water supply and wastewater projects for U.S. cities in the next 20 years. Those single-purpose projects will, for the most part, serve as Band-Aids without improving other related problems facing the cities that build them. On the other hand, this massive investment-informed by integrated approaches- can leverage funds to solve multiple problems and profoundly improve the quality of life of urban residents. By incorporating green infrastructure with stormwater best management practices such as swales, retention grading, cisterns, infiltrators, and strategically-planted trees in building and landscaping designs, a multitude of benefits can be realized.

More information at: [http://actrees.org/site/landing\\_pages/urban\\_forest\\_water\\_resources.php](http://actrees.org/site/landing_pages/urban_forest_water_resources.php)

#### **Which Practices are for you?**

There are many ways to capture rainwater at your home or business. Which techniques are right for you? Some techniques will enable you to store rainwater to irrigate in dry weather. Others will allow the water to slowly infiltrate into the ground to replenish the local aquifer. Some techniques are relatively inexpensive and easy to implement yourself. Others require more resources and assistance. Likewise, some require very little maintenance, while others are more labor-intensive. Keep in mind that there is no "one-size-fits-all" solution. Consider a few simple questions before beginning. Ask yourself why would you like to capture rainfall, will the practices work with your soil, and how much water do you want or need to collect? If you are unsure of the answers to these questions, preliminary steps will help you start answering some of these questions. These steps range from estimating your costs to testing your soil percolation rates to obtaining permits. Beyond the resources presented on this online guide, consult a professional if you need more help planning your project/s.

More information at: <http://www.treepeople.org/which-practices-are-you>





*Climate Change Impacts: Water & Rain Harvesting*

## A Resource List

---

### FUNDING OPPORTUNITIES

#### **American Water Environmental Grant**

American Water state subsidiaries accepted applications for the 2010 Environmental Grant Program. The program offers funds for innovative community-based environmental projects that improve, restore, or protect the watersheds, surface water, and/or groundwater supplies in communities served by American Water in California, Illinois, Indiana, Iowa, Kentucky, Michigan, Missouri, New Jersey, Pennsylvania, and Tennessee. Participating states awarded grants of up to \$10,000 each to support diverse types of environmental sustainability activities such as watershed cleanups, reforestation efforts, biodiversity projects, streamside buffer restoration projects, and hazardous waste collection efforts. To qualify for Environmental Grant funding, a proposed project must be located within an American Water service area and must be a new or innovative community initiative or serve as an expansion to an existing program. More information at: [http://actrees.org/site/resources/funding/american\\_water\\_environmental\\_grant.php](http://actrees.org/site/resources/funding/american_water_environmental_grant.php)

#### **\$38 Million for Water and Sewage projects in New York**

Governor David A. Paterson called for projects to be submitted for a new grant program, funded by the American Recovery and Reinvestment Act (ARRA) and designed to promote water conservation, energy efficiency, green infrastructure and other green innovation projects. The new Green Innovation Grant Program will provide at least \$38 million for local projects. There may be opportunities for communities and urban forestry groups to tap into these Stimulus funds coming from EPA through the State Environmental Facilities Corporation to support local green infrastructure projects that involve urban forestry, trees, and green space. More information at: [http://actrees.org/site/resources/funding/38\\_million\\_for\\_water\\_and\\_sewage\\_projects\\_in\\_n.php](http://actrees.org/site/resources/funding/38_million_for_water_and_sewage_projects_in_n.php)

#### **EPA Funding for Urban and Community Watershed Project**

In May 2010 the EPA announced that it is awarding up to \$600,000 in funding to an entity to manage an Urban Watershed Capability Building Grant through the Targeted Watershed Grants Program. This grant is focused on engaging communities in capacity building activities that will foster an increased connection, understanding and ownership of their waters. Through this program, EPA hopes to encourage local communities and watershed organizations to integrate watershed plans into community development long-range plans. Proposals should address the following project components: (1) establish and manage a competitive urban watershed sub-award program; and (2) provide urban watershed technical services to sub-awardees. Eligible applicants include state and local governments, public and private nonprofit organizations, federally recognized Indian tribal governments and U.S. territories. More information at: [http://actrees.org/site/resources/funding/epa\\_funding\\_for\\_urban\\_and\\_community\\_watershed.php](http://actrees.org/site/resources/funding/epa_funding_for_urban_and_community_watershed.php)

#### **Funding for Bronx River Storm Water Projects**

The Bronx River Watershed Initiative has a total of \$2.7 million available for storm water retrofit projects to address the root causes of pollution from storm water outfalls to improve water quality and river ecology along the Bronx River. The funds come from a \$7 million settlement generated by the New York State Attorney General's Office and New York State Department of Environmental Conservation resulting from violations associated with discharges of raw sewage into the Bronx River from storm sewers. BRWI is intended to support implementation of projects with results that include improving water quality by directly removing pollutants from storm water; increasing rates of storm water infiltration; slowing storm water runoff by reducing flow rates from a site and increasing time for infiltration; improving or adding retention capacity; improving or adding detention capacity; and creating storm water management programs to remove or reduce floatable debris from storm water and/or waste-streams. Federal, state, and local government; nonprofit organizations; educational institutions; and interstate entities or regional water pollution control agencies are eligible to apply for funding. Grant awards will range from \$20,000 to \$350,000 each. Although matching funds are not required under the initiative, preference will be given to projects that approach a 1:1 match. More information at: [http://actrees.org/site/resources/funding/funding\\_for\\_bronx\\_river\\_storm\\_water\\_projects.php](http://actrees.org/site/resources/funding/funding_for_bronx_river_storm_water_projects.php)

