

# Water Is One Of Earth's Most Precious Commodities

The scarcity of water can be abated by various water harvesting methods. Below is a list of techniques that can be used to recycle and reuse water: 1. Water harvesting- This is the process of capturing storm-water runoff and rain water. Rainwater is usually harvested from rooftops, concrete patios, driveways and other impervious surfaces. Roof systems can be as simple as directing gutters to a lidded garbage can or as complex as a concrete cistern, roof washer, and filtration system. But whatever your application, the water you retrieve will be some of the purest--and cheapest--water around.

Rainwater can be used for potable water (drinking, cooking, and bathing) or non-potable uses such as landscape irrigation, livestock watering, and washing. Collecting and using rainwater has numerous benefits, ranging from improved water quality to reduced stress on underground aquifers. Buildings and landscapes can be designed to maximize the amount of catchment area, thereby increasing rainwater harvesting possibilities. Intercepted water then can be collected, detained, retained and routed for use in evaporative coolers, toilet flushing, pet and car washing, indoor plant watering, pet and livestock watering, and for lawn and garden irrigation. Water catchment storage can sometimes satisfy fire marshal permit requirements for tank storage.

Grey water is any water that has been used in the home, except water from toilets. Fifty-eighty percent of residential "waste" water is comprised of dish, shower, sink, and laundry water. This "waste" water can be reused for other purposes such as landscape irrigation. Some of the benefits of grey water recycling include: lower fresh water use, less strain on a failing septic tank or treatment plant, effectiveness of grey water treatment in topsoil, your ability to build in areas unsuitable for conventional treatment, less energy and chemical use, groundwater recharge, plant growth, and reclamation of otherwise wasted nutrients. All of these benefits provide us with great reasons to incorporate grey water recycling systems into our own homes (information taken from Oasis Design <http://www.oasisdesign.net/>).

Black water is any water that may contain sewage. Some states include any water that has compost particles such as from a garbage disposal as black water. Black water can be reused just like grey water, it just requires more filtration. Home filtration systems are easy to find and purchase, and it is even possible to have an all-natural filtration system based on plants and charcoal. Examples of this can be found with the Earthship houses in Taos, New Mexico. Visit [www.earthship.org](http://www.earthship.org) / [biotecture@earthship.org](mailto:biotecture@earthship.org)

The desalinization process removes dissolved minerals (like salt) from ocean water, brackish water, or treated waste water. There are various different kinds of technologies that have been

developed for the purposes of desalination, including reverse osmosis (RO), distillation, electro dialysis, and vacuum freezing. Both RO and distillation are two technologies being considered by municipalities, water districts, and private companies for development of ocean water desalination in California. For more information visit <http://www.water.ca.gov/desalination/>

Fog harvesting is an innovative technology that can collect water from fog. Full-scale fog collectors are simple, flat, rectangular nets of nylon supported by a post at either end or arranged perpendicular to the direction of the prevailing wind. For further information visit <http://www.oas.org/dsd/publications/unit/oea59e/ch12.htm#TopOfPage>

Bioremediation is technique that adds naturally occurring microbial organisms as well as accelerates the chemical environment of a body of water, such as a pond, in order to purify the water. Often times, people use bioremediation when they are using grey water for irrigation. The level of purification depends on the amount of such organisms. Some use this technique so extensively that the water that comes out of their treatment area is cleaner than their tap water. For further information visit <http://en.wikipedia.org/wiki/Bioremediation>

Both the United Nations and the United States government estimate that by 2015, at least 40 percent of the world's population will lack an adequate water supply. Experts predict that water shortages will affect the livelihood of one-third of the world's population by 2025. Clean water is increasingly becoming scarcer, as demand and contamination continue to plague our water supplies. In recent years, groups, associations and government agencies have begun to focus on the issues surrounding our earth's water. The following is a list of some of the top groups trying to combat our water issues:

- International Water Resources Association- IWRA strives to improve water management worldwide through dialogue, education and research. The organization actively promotes the sustainable management of water resources worldwide. <http://www.iwra.org/>
- International Water Association- IWA aims to connect the broad community of water professionals around the globe in hopes of creating sustainable solutions. <http://www.iwahq.org.uk/template.cfm?name=home>
- International Water and Sanitation Center- aims to facilitate the sharing, promotion and use of knowledge so that governments and professionals can better support those most in need. <http://www.ircwash.org/home>
- For information on water conferences worldwide visit <http://www.conferencealerts.com/topic-listing?topic=Water>