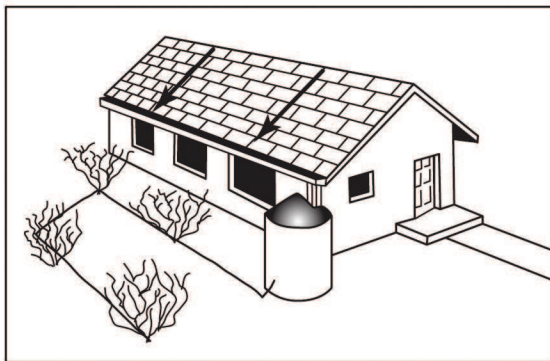


HOW MUCH RAINWATER CAN YOU COLLECT?

You can estimate the amount of rainwater that can be harvested from a catchment surface — that is, any surface used to collect rainwater such as a roof — by using this simple calculation:

$$\begin{aligned} & 1 \text{ square foot of catchment area} \\ & \times 1 \text{ inch of rainfall} \\ & = 0.6 \text{ gallons of water} \end{aligned}$$

For example, if you have a 1,000-square-foot roof, for every inch of rain that falls you could yield 600 gallons of water: $(1000 \times 0.6 = 600)$.



Rainwater harvesting system with roof catchment, gutter, downspout, storage and drip irrigation system.

The Mission of the American Rainwater Catchment Systems Association is to promote sustainable rainwater harvesting practices to help solve potable, non-potable, stormwater and energy challenges throughout the world.

AMERICAN RAINWATER CATCHMENT SYSTEMS ASSOCIATION (ARCSA)

About Us

ARCSA was founded in 1994 in Austin, Texas. It has members in all 50 states in the United States, Canada and several other countries. ARCSA has more than 800 members nationally.

Membership consists of:

- ◆ Professionals working in city, state and federal government
- ◆ Academia
- ◆ Manufacturers, installers and suppliers of rainwater harvesting equipment
- ◆ Consultants and other interested individuals

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RAINWATER HARVESTING

The Forgotten Resource



INTRODUCTION

Rainwater harvesting is not a new concept. For thousands of years, people have been collecting rainwater — it was a common method of providing water for many of the first settlers in America. This simple technology continues to be used today around the world to provide water for drinking, irrigation and other non-potable uses. Collection systems range from 10,000-gallon cisterns to 40-gallon rain barrels.

Much has changed in the last century — cities have sprung up, wells have been dug, lakes built and municipal water supplies established. Over the same time, springs have reduced their flow or dried up, rivers are more polluted and the base flow has decreased.

Due to population growth and urban sprawl, our nation is now dominated by houses, streets and impervious cover. This increases stormwater runoff and decreases water infiltration into the ground where it falls. All of this has a direct impact on the water quantity and quality issues our nation is facing.

Today, there is renewed interest in rainwater harvesting — a time-honored source of water — primarily due to:

- ◆ Concern about having access to high quality water, both now and in the future
- ◆ The rising environmental and economic costs of providing water through centralized water systems or well drilling
- ◆ Health concerns linked to the sources and treatments of water
- ◆ The cost efficiencies associated with rainwater harvesting
- ◆ Rainwater's purity

USING RAINWATER

Captured rainwater can be used for both potable (drinkable) and non-potable purposes, both inside and outside a home or business. Outdoor uses include watering landscaping and gardens, and to provide water for pets, wildlife and livestock. Indoor uses include toilet flushing and clothes washing. Rainwater is often a forgotten resource for these uses, and can significantly reduce the amount of treated drinking water needed to complete these tasks. Additionally, the process of designing and installing a rainwater collection system is often less expensive than drilling a well.

Reducing stormwater runoff

Collecting rainwater can reduce stormwater runoff and assist in water quality protection. Rain barrels or cisterns help detain stormwater flows and, when connected to a drip hose or irrigation system, slowly release the water collected back into the soil for infiltration.

Landscape use

Rainwater does not contain ammonia, fluoride or chlorine so it is preferable for use on your plants. When using rainwater for landscaping, drip irrigation is the most practical. Supply can be provided by gravity pressure alone or a pump attached to the storage system.

Wildlife watering

“Water guzzlers” are rainwater collection systems built in remote areas to provide water for wildlife. A roof, storage tank and watering device are all that are needed. Rainfall could also be collected

from existing barns, deer blinds or other structures and used for wildlife water.

Water for livestock and pets

Livestock require great quantities of water on a daily basis. A horse or cow can consume seven to 18 gallons of water a day and a large herd could demand hundreds of gallons daily. Water demands for smaller herds or individual animals or pets can be met with collected rainwater.

Water for the home and business

The average North American uses approximately 101 gallons of water per day for both indoor and outdoor uses. Rainwater can supply many homes worldwide with an abundant supply of quality, soft, safe water for drinking and other uses such as toilet flushing and clothes washing. Storage capacity needs to be sufficient to provide several months supply of water as well as an appropriately designed and maintained filtration and disinfection system. Using rainwater to meet these demands can significantly reduce requirements for drinking water from your municipal water supplier.

CONCLUSION

Captured rainwater has a tremendous amount of potential both outside and inside your home or business.

Our water is precious. We can capture rainfall when and where it falls and then apply it during those times when there is no rain — or use it in a totally new way!