

Rain Barrel

Overview

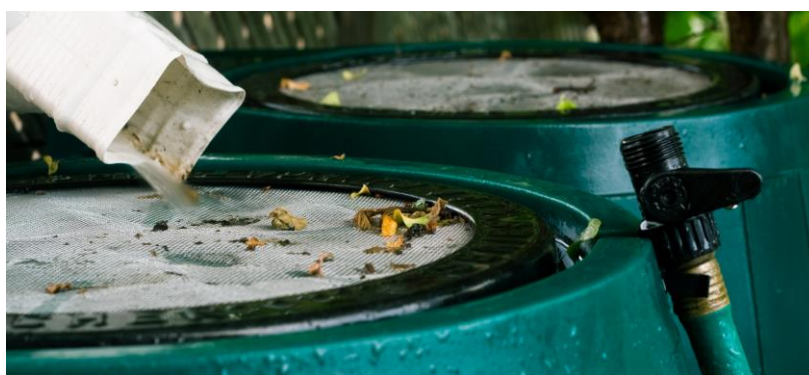
- A rain barrel is a type of green stormwater infrastructure that captures rainwater flowing off rooftops in order to store the water for future use and reduce localized flooding.
- Rain barrels are typically 55-gallon drums which sit under a residential (or commercial) gutter downspout. Rainwater is diverted to the rain barrel from the downspout.
- Rain barrels capture rainwater that would otherwise have been lost as runoff and would have either caused flooding issues on the property or would have been diverted to local streams or storm drains.
- Rain barrels decrease the amount of peak stormwater runoff and decrease flood levels. Collected water can be used for watering plants and other uses, which can reduce water bills.
- When installing a rain barrel, ensure that there is an overflow valve or downspout disconnection that will drain away from the structure and away from any local impervious surfaces (driveways, sidewalks, etc.).
- Ideally, a downspout disconnection will lead to a garden, planter, or vegetated swale.
- The rainwater collected should not be used for drinking water, cooking, or bathing. Because the water is flowing off the roof, it could be contaminated with residues/debris on the roof surface or with chemicals from the breakdown of roofing materials.
- Installing a fine mesh screen over any openings will prevent mosquitos as well as trap debris.
- Rain barrels can be decorated/painted to be more aesthetically pleasing.



Key Takeaways

During storm events, rainwater flows off impervious surfaces (like roofs) and can cause localized flooding on residential and commercial properties.

In order to reduce stormwater volumes and help reduce flooding, rain barrels can be installed below downspouts to collect stormwater for reuse.



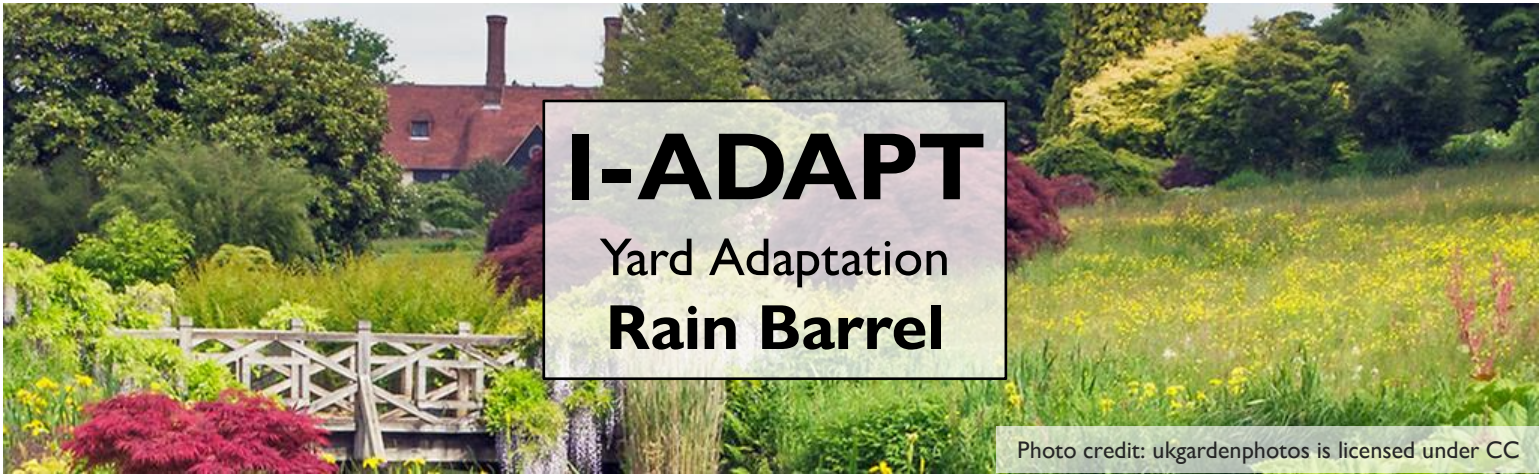


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Estimated Costs/Benefits

*U.S. dollars (2022), estimates are subject to change

Potential Costs		Potential Benefits	
Item	Estimate	Post-Flood Recovery Actions	Estimate
Rain barrel	\$80-\$275	Flood damage recovery (professional clean-up, mold removal, replacement/ repair of flood damaged items)	\$10,800-\$53,500+
Stand (concrete blocks or wood)	\$15-\$140		
Flexible elbow	\$5-\$10	Regrade yard	\$700-\$1,700
Linking hose	\$15-\$30	Remove standing water	\$1,300-\$5,000
ESTIMATED TOTAL COST	\$115-\$455	ESTIMATED TOTAL SAVINGS	\$12,800-\$60,200

Additional Actions

- It may be beneficial to also install a rain garden, a vegetated swale or a downspout planter to handle overflow from the rain barrel.

Expected Maintenance

- The barrel must be emptied between storms to prevent overflow.
- Barrels should be drained and then disconnected during winter months or when a freeze would be possible.
- Hoses and mesh screens of the valves should be inspected periodically for blockages/leaking.

Permitting Agencies

Contacts for permitting requirements include but are not limited to the following:

- Your city and/or county government for local flood ordinances or regulations
- Your city and/or county government for building permits

Who to Contact

- Stormwater/green infrastructure contractor

Potential Funding Sources

- [Delaware Water Pollution Control Revolving Fund](#)

Additional Resources

- [DNREC: Site-Scale Green Infrastructure](#)
- [DNREC: Rain Barrels, Cisterns, and Downspout Disconnections](#)
- [EPA: Soak Up the Rain: Rain Barrels](#)

Resources can also be found at <https://de.gov/iadapt>

Technical definitions and more information are located on the I-ADAPT website: <https://de.gov/iadapt>.



This information is intended to be used for planning purposes. It is not intended to substitute or take precedence over the guidance of design engineers, contractors, utility companies or regulatory agencies.

For more information, contact DNREC's Division of Climate, Coastal and Energy at DNREC_IADAPT@Delaware.gov

