

Guidelines on Rainwater Catchment Systems for Hawaii

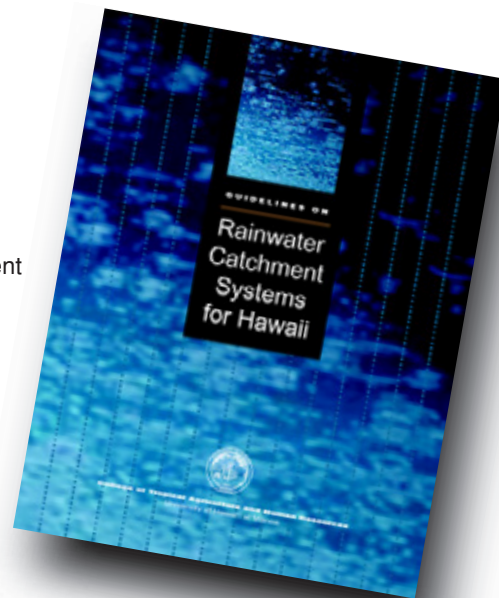
An estimated 30,000 to 60,000 people in Hawaii are dependent on rainwater catchment systems for their water needs. Despite the fact that so many people own and use these systems, very little information has been available about their design and maintenance until now. This publication addresses water quality issues from the raindrop to the faucet. It includes chapters on water collection, water storage, water treatment, water testing, and firefighting concerns, and it gives an overview of the typical kinds of catchment equipment used in Hawaii. These guidelines are intended as a practical reference on the major concerns and best management practices for proper maintenance of rainwater catchment and storage systems.

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by Patricia S. H. Macomber, Department of Natural Resources and Environmental Management, College of Tropical Agriculture and Human Resources, University of Hawaii at Manoa.

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This document is downloadable at www.ctahr.hawaii.edu/oc/freepubs/pdf/RM-12.pdf.



Contents

Water collection

Building materials, roofing, gutters, screens, first-flush diverters, downspouts, water use, rainfall

Water storage

Types of tank: swimming pool tanks, corrugated steel tanks, enclosed metal tanks, concrete tanks ("cement" tanks), hollow tile tanks, solid-pour concrete tanks, ferroconcrete tanks, redwood tanks, fiberglass tanks, polyethylene (plastic) tanks, undesirable storage containers; tank liners, tank covers, tank overflow devices, drain pipes, house intake pipes, adding other

water to tanks, tank location, tank foundations, pumps, earthquakes

Rainwater catchment system maintenance

Tank maintenance, sludge removal, dead animals in the tank, leaf and organic decomposition, other problems with catchment water; bacterial, viral, and parasitic worm diseases, protozoans, lead, acid rain

Water treatment

The solutions to water contamination, electrical wires and rats, disinfection, using chlorine in the water storage tank, why almost everyone should purify catchment water with chlorine, concerns about using chlorine, what chlorine doesn't do

for you, other disinfection techniques, filters (coarse filters, faucet, under-sink, and pitcher-type filters), what is the best system for you?

Water testing

Water testing—a snapshot in time, how to get water tested, microbiological testing, total coliform, fecal coliform, heterotrophic bacteria, inorganic contaminant testing, other water testing, other organic chemicals, pH, turbidity, color, odor, taste, trucked-in water

Firefighting concerns

Notes and references

Pump systems for rainwater catchment

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