Family Affair At their North Reading home, rain barrels have helped the Jenneys cut their water use to just a fraction of the national average.

THE NEW WAVE

When it comes to conserving water, these three households have taken the plunge in a big way. BY ELIZABETH GEHRMAN

It may seem paradoxical to New Englanders who spent June carrying umbrellas to work to hear that Dighton has a desalination plant that converts saltwater into fresh and that there are more such plants on the way in the area. "We're hardly Saudi Arabia," says Bob Zimmerman, executive director of the nonprofit environmental group the Charles River Watershed Association. "To find ourselves in a situation where cities feel compelled to turn sea water into potable drinking water in a state that gets 4 feet of rain a year is absurd."

The problem, Zimmerman maintains, is that because of sprawl – which paves over natural areas that could be replenishing ground-water supplies – and overuse, even normally damp New England is threatened with water shortages. Already, three dozen communities in Eastern Massachusetts have mandatory or voluntary outdoor water-use restrictions.

Better engineering in cities and towns is a big part of the long-term answer, but especially in the short term, conservation is key, says Zimmerman. The message of conservation has been slow to reach the New England states, but these Massachusetts residents are a little ahead of the curve.

BRIMMING BARRELS

Scott Jenney admits his initial motive for conserving water wasn't completely altruistic. "When we first moved into this house in 1986," he says, "I had a garden and was using town water for it. I was getting some high water bills."

Jenney, an electrical engineer and self-described tinkerer, had been living on his own since age 15; now 51, he says he "had to learn how to be frugal and resourceful." His wife, Lida, a child-care provider, grew up in an environmentally sensitive family.

The couple started looking for ways to conserve. In the late 1980s, when the town of North Reading was installing piping at Martin's Pond, across the street from his house, Scott got permission to irrigate his garden with pond water. But then the couple joined the Martin's Pond Association, and the more they learned about conservation, the more they wanted to do to help.

They stopped using water from the pond and switched to rain barrels. Scott says he now has "10 or 11" around the property. The water is used not only for watering the garden, but also for washing cars, filling the hot tub, supplying a solar heating system in the garage, and "washing feet, water pistols, and lots of other outdoor stuff," says Scott.

The couple and their children, Kurt, 15, and Krista, 11, also collect excess shower water in buckets and use it to flush toilets. By 1997 the family was using just 12 ¾ gallons of water a day from the town water supply; the national average is about 100 gallons.

"It's not a pain, really," says Kurt. "Maybe one person doesn't make a huge difference, but if a lot of people start doing it, it will start to help."

PHOTOGRAPHS BY ANTHONY TIEULI

Lawn King Through experimentation and innovation, Paul Lauenstein has found a way to realize the suburban dream of lush, green grass — that never needs watering — at his home in Sharon.

NO SPRINKLERS HERE

Though conservationists generally frown upon the suburban obsession with green lawns, not all of them have given up on the concept entirely. "This was the first house I ever owned, and we wanted it to look nice," says Paul Lauenstein, 59, who, with his wife, Lonnie Friedman, bought their Sharon home in 1991.

"It wasn't too bad when I got started, but I said to myself: What's sustainable here? I figured it might deteriorate if I didn't start to do something about it."

Then, one day, he says, "I don't know if I spilled some fertilizer or had some left from fertilizing the garden that I just scattered on the lawn, but three weeks later I noticed to my astonishment that it was much greener and lusher than the surrounding grass."

This discovery led to an evolutionary process whereby Lauenstein, a retired printer, not only developed a system that results in an enviably flourishing plot of land, but also became an active conservationist and member of the Sharon Water Management Advisory Committee.

His water bill, he says, was $60 for all of 2008, and though low-flow shower heads, high-efficiency toilets, and other indoor measures certainly helped, it all started with the watering-free lawn. Through trial and error, Lauenstein learned the keys.

First, he mixes his own moisture-retaining organic fertilizer, which is about 6 percent nitrogen, a quarter of what commercial brands use. "That way," he says, "the grass doesn't get a real hard, fast jolt of the high-test stuff." Second, he uses lime to counteract the acid in New England rainfall. "It's hard to put too much lime down," he notes. "When grass is stressed from too much acid, it can't take up the nutrients." Finally, he uses no pesticides and plants only drought-tolerant flowers like lupine and day lilies, along with Pearl's Premium drought-tolerant fescue for the lawn – which, he says, comes up "like a Chia Pet."

"I take it as kind of a challenge to see if I can have a nice lawn without watering it," Lauenstein says. "Can it be done? Zero water and it's really nice." Though the lawn does brown slightly in August most years, Lauenstein says that's what grasses are adapted to do, and by September it has returned to its usual luxuriant green. He says knowing he's helping the earth is well worth the modest amount of work required.

"People are good-hearted," Lauenstein says. "They don't understand the connection between their water use and the environment. But if you let people know, number one, that water use hurts the environment and, number two, that conservation saves them money, they'll say, 'Well, jeez, who wouldn't want to do that?' "

GREEN ISSUE | WATER

GREENER GARDENS

"This is, as you can imagine, a harder sell than solar panels," says Abby Rockefeller in discussing her eco-passion: toilets.

In 1972 she bought two Clivus Multrum systems – that's a Swedish brand that's considered by many to be the Rolls-Royce of composting toilets – to use at her Cambridge home and at her farmhouse in New Hampshire. "I was a gardener," she says. "I had a mother who was a gardener. She wouldn't have called herself organic, but she used manure from horses, sheep, and chickens. That was a given." Rockefeller says her mind just took the next logical step. "I didn't see why I couldn't use mine."

Rockefeller saw the Clivus described in a small organic-gardening magazine around the same time she was trying to design a similar system for her own quarter-acre garden in the country. "It's a couple hundred yards from the house, and I didn't want to keep running back." She became so enthusiastic about the product that rather than just buy a toilet, she bought the rights to manufacture and sell the system, making Clivus the first commercially produced composting toilet in the United States.

Rockefeller, who is now 67, says officials were initially flummoxed when she sought to install composting toilets at her home in Cambridge.

"There was a law or regulation that said every dwelling must have a water closet," she says. Since she did have flush toilets in two bathrooms, the building inspector allowed it – and Rockefeller began to fight the system. "Now that rule has gone away," she says. "It took 15 years to change it."

According to Rockefeller, regulations that send gray water – that is, rinse water from

dishwashers, laundry, and bathing – down the drain, treat sewage with harsh chemicals, and require that homes be connected to sewer systems not only cause irreparable pollution, but also waste, well, waste. "In one act, you're using the water and also making the manure unavailable for agriculture."

Rockefeller's toilets don't flush but have a tube leading directly to a 100-gallon holding tank in the basement, where the actual composting – or breakdown of organic matter – takes place.

According to Joseph Ducharme, general manager of Clivus's New England office, sales have doubled in the past five years. Still, composters make up only about 1 percent of the toilet market in the United States, and that's not nearly enough, says Rockefeller, to reduce pollution adequately and stop wasting water. "Without regulatory, institutional, and educational help," she says, "it's slow going and uphill work to sell these. We have a squeamish culture." ■

Elizabeth Gehrman is a frequent contributor to the Globe Magazine. *Send comments to magazine@globe.com.*