# Making Ripples
## April Showers Bring May Aquaponics
by Amanda Bancroft

Recycling water with fish and plants is pretty splashtastic, but is it feasible? There are some downsides, but practically speaking, sustainable water filtration systems are do-able and exciting opportunities to reduce our $H_2O$ footprint.

Greywater filtering planters re-use water from the sink and bathtub/shower, eliminating the need to water the plants in the bed and also cleaning the greywater to make it available for other uses such as watering the garden or flushing the toilet. Most of the time, plants like cattails or other plants used for decoration or their filtration ability are planted in greywater beds, rather than food crops meant for human consumption. But as Mark Stanley and his family demonstrate in this week's People Making Ripples, you can grow aloe vera in these planters, too, which has healing properties for sunburns, cuts and more. The downside to having indoor greywater beds is the added humidity to the home in summer; in humid climates, it can exacerbate mold issues and require more energy to run an AC and remove water from the air. However, outdoor greywater beds are popular in landscaping or attached greenhouses, and don't present the same challenges as indoor beds that promote bugs.

Aquaponics, on the other hand, is not the same as greywater filtration. The word comes from a combination of "aquaculture" (agriculture that raises aquatic animals) and "hydroponics" (growing plants in water). Wikipedia defines it as "the symbiotic cultivation of plants and aquatic animals in a recirculating environment." Many aquaponics gardeners use these systems to grow fish for food, such as tilapia. It's meant to be a closed-loop, self-sustaining system in which each part nourishes the other with minimal human intervention, although it can take months to acquire the right balance in this mini ecosystem. Sometimes it's challenging to begin, and some fish or plants might die. The aquaponics gardener must get familiar with pH, pumps, aeration, nitrates, nitrites, ammonia, and other concerns to make a balanced system.

Essentially, the waste products from the aquatic animals are consumed by nitrogen-fixing bacteria, then used as nutrients by the plants which circulate clean water back to the animals in a continuous loop. You still have to feed the fish, but you might use excess worms from your vermiculture bin (more to come on vermiculture next week!). There is lots of diversity among aquaponics enthusiasts. Some containers are quite small and sit on a countertop. Some are used in education for elementary schools, and some are used on real farms. They can be expensive or the do-it-yourself variety. Check out Ripples' blog post today for links with more information about constructing or purchasing your own aquaponics system!

*Ripples* is a blog connecting people to resources on sustainable living while chronicling their off-grid journey and supporting the work of non-profit organizations. Read more on this topic and others at www.RipplesBlog.org