

Landscape Design and Water Quality

Create an attractive landscape that reduces the need for pesticides and fertilizers, avoids runoff, and conserves water.

An environmentally friendly landscape includes porous materials for walkways and other unplanted areas, good plant choices, proper site preparation, and “smart” irrigation equipment.



Credit: Dr. Haver

Install porous surfaces in unplanted areas.

- Use flagstone, interlocking pavers, or pervious concrete on walkways and patios instead of impermeable surfaces such as concrete and asphalt.
- Interlocking pavers for driveways or an interceptor drain at the bottom of the driveway collect runoff and divert water into your landscape.
- Consider gravel, organic mulches, or other materials that allow water to soak into the ground in unplanted areas.
- Avoid impervious surfaces like concrete, asphalt, and compacted bare soil.

Improve water absorption in planted areas.

- Add organic matter, such as compost, and aerate regularly to reduce compaction.
- Use perforated drainage lines to allow water to filter into surrounding soils.
- Install gravel sumps or other percolation areas to keep water from collecting in unwanted areas.

Choose plants that conserve water, reduce runoff, and resist pest problems.

- Plant water-efficient plants, including many native species, to reduce irrigation. Some natives require little to no fertilizer or pest management.
- Use turfgrasses and pest-resistant plants best adapted to the local climate.
- Install dense plantings with fibrous root systems along landscape edges to reduce runoff and soil erosion.

For more information about managing pests, visit ipm.ucanr.edu or your local University of California Cooperative Extension office.

Create landscape features to collect runoff water.

- Incorporate long, shallow, grassy depressions, known as swales, to hold large amounts of runoff from driveways, streets, or parking lots.
- Create low-lying areas in the garden to provide temporary storage for heavy runoff and allow sediment, water, and garden chemicals to soak into the ground.
- Establish plant species that can survive both wet and drier conditions.
- Include trees to intercept rainfall.
- Use rain barrels to collect and store runoff from rooftops for irrigating plants.
- Add terrace walls or other similar features.

Install and properly operate irrigation systems and equipment.

- Check your irrigation system and make adjustments as needed. Replace old and mismatched sprinklers with low-flow rotor heads.
- Consider the addition of a “smart” irrigation controller. These are designed to reduce excess irrigation by replacing only the amount of water lost through plant use and evaporation.
- Install drip systems or soaker hoses for trees, shrubs, and some ground covers.



Use a drip system to deliver water only where needed.

What you do in your home and landscape affects our water and health.

- Minimize the use of pesticides that pollute our waterways and harm human health.
- Use nonchemical alternatives or less toxic pesticide products whenever possible.
- Read product labels carefully and follow instructions on proper use, storage, and disposal.