



# Resource Conservation



# Fix a Leak Week

One of the best actions you can take around the house to have an impact on water conservation is fixing a leak. It sounds simple, but this small step can lead to bigtime benefits for the environment.

The idea has sprouted into Fix a Leak Week, which is celebrated in March of each year.

The idea is to prompt Americans to check their household fixtures and irrigation systems for leaks. How serious of a problem are leaks in the United States? Here are a few facts from the Environmental Protection Agency:

- The average household's leaks can account for more than 10,000 gallons of water wasted every year, or the amount of water needed to wash 270 loads of laundry.
- Household leaks can waste more than 1 trillion gallons annually nationwide. That's equal to the annual household water use of more than 11 million homes.
- Ten percent of homes have leaks that waste 90 gallons or more per day.
- Common types of leaks found in the home include worn toilet flappers, dripping faucets and other leaking valves. All are easily correctable.
- Fixing easily corrected household water leaks can save homeowners about 10 percent on their water bills.
- Keep your home leak free by repairing dripping faucets, toilet flappers and show-

erheads. In most cases, fixture replacement parts don't require a major investment.

- Most common leaks can be eliminated after retrofitting a household with new WaterSense labeled fixtures and other high-efficiency appliances.

## WHAT YOU CAN DO

Leak detection is simple and can sometimes be done without heading to the crawlspace or basement of your home. The main culprits of leaks are faucets, showerheads and the toilet. Monitor each one regularly to stay on top of any potential leaks.

A telltale sign of a leak could be your water bill in the winter months. It's likely that a family of four has a serious leak problem if its winter water use exceeds 12,000 gallons per month, according to the EPA. Check your bill regularly for potential issues. If you are facing a leak, assess the situation to see if you can fix it yourself or if a professional is needed.

Leaks are serious business that require your immediate attention, especially if you're concerned about your bill and the environment.



# Water Wisely

Every homeowner wants a nice green lawn. Attaining one can come at the expense of your city's water supply, which is why many utilities in the country regularly put bans on lawn watering during periods of drought.

Some municipalities in California, for example, have enacted restrictions on watering yards and gardens during specific times of the day. Evaporation on a hot summer day occurs most rapidly during the afternoon hours and can lead to increased water loss.

Refraining from watering your plants in the middle of the day can be a challenge to a homeowner trying to keep a perfect lawn, but the law is the law. According to the Environmental Protection Agency, turf grass generally needs less than 1 inch of water per week. Using more than this can lead to plant diseases and weed growth, so limited watering has a two-fold benefit: your lawn's health and the overall health of the environment.

## BEST WATERING TIMES

According to the Regional Water Providers Consortium, you should water your garden or landscape before 10 a.m. or after 6 p.m. when temperatures are cooler and the air is calmer.

The organization recommends watering your landscape twice a week. This thorough yet infrequent schedule will help your grass roots go deeper, which can result in more water-efficient,



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drought-tolerant plants, according to the consortium.

## WATERING METHODS

There are many different options at your disposal when it comes to methods for watering your lawn or outdoor

plants. Portable and stationary sprinklers offer great lawn coverage, depending on the size of your yard. Sprinklers also come in rotary varieties intended for circular watering zones, such as flower beds or unique garden shapes.

Irrigation systems give homeowners more seamless control over their lawn watering schedule, providing timer-controlled usage that can be effective at maximizing efficiency. You can easily program an automatic watering sched-

ule for specific times. These systems are highly recommended by the Environmental Protection Agency, which estimates that homeowners using them can reduce irrigation water use by 8,800 gallons of water per year.



# The Promise of Solar Energy

Installing solar panels on your home is a great way to lower your electricity bill and save precious natural resources that would usually power your home.

Each solar-produced kilowatt helps you cut your utility costs, while some state-run programs could lead to negative electricity bills.

Installing panels on your home is an investment, but one that could lead to better value and overall environmental sustainabili-

ty. Even if you do decide to hook up solar to your home, it's important to follow general guidelines on reducing your energy output. Read on to find out how.

## SHIFT DAYTIME ENERGY USE

Considering that solar panels operate at peak performance during the day, the afternoon hours may be the best time to reduce

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# The Drought Dilemma

To water or not to water? That is the question homeowners ask themselves when drought-like conditions hit their area. The local municipality may take away the option to water lawns and outdoor plants altogether.

If you've kept up on weather trends over the past few years, you know that many areas of the United States — especially in California — have been dealing with historic drought-like conditions.

Based on the Palmer Drought Index, which is used by the National Weather Service, severe or extreme drought affected about 8 percent of the contiguous United States at the end of 2014.

But drought doesn't affect Americans equally across the board. About 12 percent of the contiguous U.S. fell in the severely to extremely wet categories. These numbers highlight just how diverse the country is in terms of climate and weather conditions.

## PLANNING FOR DROUGHT

How much does your livelihood depend on rain? Your answer to this question can be a determining factor in how much planning you should do ahead of projected drought-like conditions.

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Even the most cutting-edge solar panels won't be able to keep up with an antiquated heating and air system, at least not if you're hoping to see big savings on your utility bills.

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the energy usage in your home. Talk to your spouse and children about different ways to do so, including making sure all lights stay off or adjusting the thermostat in your home by a couple of degrees to save heating and cooling costs.

If you generally work from home, go to the library or coffee shop during the day to help reduce the amount of energy being used in your home. Make the hour after the kids get home from school an educational hour — no TVs, tablets or cell phones allowed. Spend time instead working on homework or connecting as a family.

**HEATING AND AIR EFFICIENCIES**

Even the most cutting-edge solar panels won't be able to keep up with an antiquated heating and air system, at least not if you're hoping to see big savings on your utility bills. More than 50 percent of your home's energy consumption goes to heating and cooling, according to the Environmental Protection Agency.

Plug all leaks around windows, doors and external vents to help maximize your home's energy efficiency. Not doing so can mean big chunks of money literally going out the window.

Insulation goes a long way in making sure your interior is protected from hot and cold temperatures.

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ditions. You can bet that drought planning is being done at the government agency level, so you, the homeowner, should be taking some of the same precautions.

Drought preparation is especially critical to farmers and ranchers, who are urged to regularly follow a plan to deal with extended droughts. In rural U.S. settings, drought may cause wells to run dry, crops to fail and forage for livestock to be scarce.

### **DROUGHT BY THE NUMBERS**

Slow-moving and without direct property damage, we may underestimate the true negative impact of a drought. Scientists and government agencies have put a price tag on some of the most notorious droughts in our history, and they have been costly.

Check out these statistics provided by some of the most prominent experts on the topic of drought:

- Drought costs the United States an average of \$6 billion to 8 billion a year

Slow-moving and without direct property damage, we may underestimate the true negative impact of a drought.

(Federal Emergency Management Agency).

- Of the \$90 billion in weather disasters occurring from 1980 to 2008, including hurricanes, floods, tornadoes and wildfire, 14 were drought and wildfire (National Climatic Data Center).

- Widespread drought cost at least \$2 billion and threatened metropolitan Atlanta in 2008. A drought in 1980 led to estimated losses of \$55.4 billion and about 10,000 heat-related deaths (FEMA).

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# Fish and Wildlife

The Natural Resources Conservation Service — a branch of the Department of Agriculture — urges Americans to remember vital fish and wildlife when considering ways to conserve our planet's natural resources.

Plants and animals form vital parts of our planet's ecosystem. Protecting them should be at the forefront of our efforts to maintain a healthy, sustainable world.

## THE ISSUE

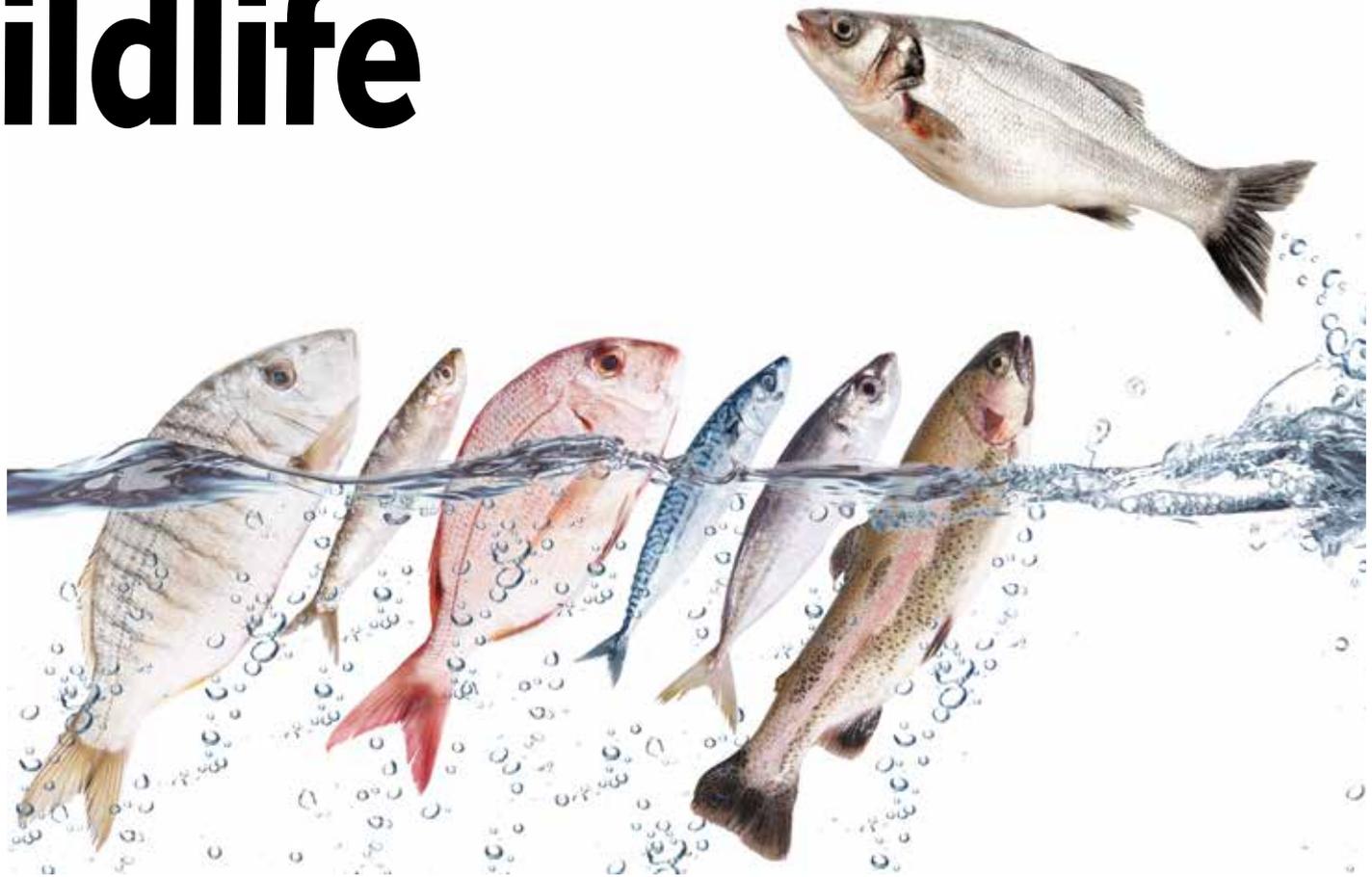
Nearly 70 percent of the nation's fish and wildlife hab-

itat is found on private lands, according to the NRCS. This makes conservation efforts on farms, ranches and forests crucial to the organization's goals, as well as to the species in these areas.

If you own private land and are interested in restoring or protecting natural habitats, the NRCS provides technical and financial assistance to help.

Putting your efforts toward improving your land can be invaluable for fish and

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# Go ENERGY STAR

The U.S. Department of Energy and the Environmental Protection Agency annually release statistics that unveil the overall effectiveness of new, energy-efficient appliances.

Can the ENERGY STAR label really make that much difference for a family trying to lessen its carbon footprint? Is there that much of a difference between a compliant appliance and one that doesn't hold the ENERGY STAR designation?

According to the U.S. government, yes. Check out the government-reported statistics below to get a sense of just how much difference these appliances can make.

- Approximately \$171 million could be saved for United States consumers each year if all homes included an ENERGY STAR-compliant furnace.

- ENERGY STAR, high-efficiency electric storage water heaters can save families \$3,000 before needing to be replaced.

- If all computers were ENERGY STAR-compliant, \$1.8 billion U.S. dollars could be saved each year, and



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the country would experience a decrease in the emission of greenhouse gases equal to that from 2 million cars.

- ENERGY STAR clothes washers use 20 percent less energy and 35 percent less water than their non-compliant counterparts.

- More than 25,000 commercial

buildings carry ENERGY STAR certifications, leading to a national energy cost savings of \$3.4 billion.

- Commercial building design products that are designed to earn the ENERGY STAR label save the country more than \$75 million, as well as a projected amount of greenhouse gas emissions equal to the

electric use of 82,000 homes annually.

- More than 130 industrial plants have been certified as ENERGY STAR, driving \$3.5 billion in cumulative cost savings.

## WHAT IS ENERGY STAR?

The ENERGY STAR program was established by the Environmental Protection Agency in 1992 under the authority of the Clean Air Act. It is a voluntary program that helps businesses and individuals save money and protect the country's natural resources.

According to the EPA, ENERGY STAR was "established at the Department of Energy and the Environmental Protection Agency as a voluntary program to identify and promote energy-efficient products and buildings in order to reduce energy consumption, improve energy security, and reduce pollution through voluntary labeling of or other forms of communication about products and buildings that meet the highest energy efficiency standards."

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wildlife and can also boost production on agricultural lands.

## FARM BILL PROGRAMS

The NRCS administers a number of Farm Bill conservation programs that aid habitat restoration and protection. They include:

- Environmental Quality Incentives Program (EQIP);
- Conservation Stewardship

Get involved today with your local conservation agency to make a difference in the environment around you.

- Program (CSP);
- Agricultural Conservation Easement Program (ACEP);
- Regional Conservation Partnership Program (RCPP); and

- Voluntary Public Access and Habitat Incentive Program (VPA-HIP).

Run an online search on any of these programs to see how you may be able to find help

for your private land.

## A CASE STUDY

The NRCS highlights a recent conservation victory as an example of what can be done if interested parties come together toward a common goal. In 2015, the United States Fish and Wildlife Service was able to delist the Oregon chub from the endangered species list. It was the first fish in U.S. history to be removed from the endangered species list not because it

went extinct but because the fish recovered.

Efforts to help retain fish and wildlife populations can impact not only the targeted population but also other species sharing an ecosystem. Many of these animals and fish depend on one another and are negatively impacted by dwindling populations.

Get involved today with your local conservation agency to make a difference in the environment around you.





# Harnessing Wind Energy

**A**mong one of the best alternatives to using non-renewable resources for our country's energy consumption is wind energy.

The power produced by wind has taken the energy industry by storm in recent years, but there is still much work to be done to fully leverage this renewable resource.

Wind is defined as the movement of air from high pressure areas to low pressure areas and is actually caused by uneven heating of the earth's surface by the sun. As long as solar energy exists, wind will exist.

Its most important characteristic as an energy source is that it does not produce emissions during operation. That means that unlike other methods of harnessing energy, wind does not harm the environment and is recognized as one of the cleanest and safest methods of generating renewable electricity. A trip throughout the western portion of the United States unveils large-scale wind farms full of large turbines designed and built to trap wind energy for the purpose of producing large amounts of electric power.

## THE HISTORY OF WINDMILLS

According to the conservation group Conserve Energy Future, windmills have

been in use since 2000 B.C. and were first developed in Persia and China. The organization reports that ancient mariners sailed to distant lands by making use of winds, while farmers used it to pump water used for grinding grains.

Today we are focused on utilizing wind energy to meet our planet's critical energy needs through the use of turbines. These structures can be as tall as 20 stories and feature blades about 200 feet long.

## WIND STATISTICS

Here are a few interesting statistics reported by Conserve Energy Future:

- Though there has been a 25 percent increase in wind turbine use in the last decade, wind energy still provides only a small percentage of the energy of the world.
- The largest wind turbines can harness energy to power 600 American homes.
- Global generation of wind-produced energy quadrupled from 2000 to 2006 and is projected to meet one-third of global energy demands by 2050.
- In 2012, \$25 billion was spent on wind energy investment.



