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It's Your Turn!

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"When it comes to water," according to John McNeely in a recent issue of *Tierra Grande*, "the State of Texas is a deficit spender. By the year 2000, its credit will start to run out."

McNeely, a professor emeritus in the Texas A&M University Department of Agricultural Economics, cites the High Plains and Winter Garden areas as examples of agricultural regions with current water deficits. He also predicts serious water shortages in the next two decades in metropolitan areas around El Paso, Houston, Dallas, Fort Worth, and Orange.

"Barring the importation of water from out of state," McNeely writes, "Texas is pretty much on a fixed income. The only way we can avoid going broke is to cut spending. We're not doing it now, but we can learn."

Learn we must--either by choice now or by necessity in a few years. Indeed, as our nation has depleted its energy resources, our state uses more water than nature provides each year. Unlike energy conservation, however, water conservation does not require extensive changes in homes or lifestyle.

If each home in Texas adopted a few water-saving measures, the state would have millions of additional gallons of water every year. These savings could "buy time" for the state to solve its water resource problems. A reduction in water use would also mean less costly water and wastewater treatment.

Water conservation begins with an awareness that (1) water is a limited resource, (2) water costs a great deal in energy and money, (3) all wastewater requires costly and energy-wasting treatment, and (4) water consumption can be reduced significantly in the average home.

Once a family becomes conscious of the need to use less water, there are several proven ways to do so. These include no-cost or low-cost ways such as changing habits, repairing leaks, and installing water-saving devices. More elaborate and more expensive ways include buying appliances which require less water and changing home construction methods, but this bulletin will suggest only water-saving ideas for right now, for homes or apartments, and for this month's budget.

Starting Now

How about your family? You probably don't intentionally waste water, but don't you use far more water each day than you need? Since you know you live in a watershort state and since your utility bills are rising steadily each month, isn't it time to cut back on consumption and help stretch existing water supplies?

Here are some things you can do this very day to cut water use. They won't cost a cent, and some will actually save you time and money. More importantly, they can mean at least a 20 percent reduction in your family's water use.

Start by adopting three very simple, and very basic, rules:
1. Try to use every drop of water you run. When running water to get hot water, for instance, fill a bucket for plants or fill a bowl to wash vegetables. Instead of running tap water for every cool glass of water, keep a container in the refrigerator. Use buckets to hold water for household cleaning so you won't have to run the water more than necessary.

Close the drain in the tub before turning on the bath water. The water will soon be hot, and the temperature can be adjusted as the tub fills. For shaving, fill the sink rather than running tap water.

2. Don't use water for jobs not requiring water. Before turning the tap, ask yourself, "Could this be done without water?" Jobs like thawing frozen food, or running the hot water to warm the bathroom, are real water wasters. Disposing of facial tissues, spiders, or cigarette butts are jobs for a wastebasket rather than for five gallons of water flushed down the toilet.

If you remove the ice cube tray from the freezer a few minutes ahead of time, you won't need running water to release the cubes. Don't rinse dishes before putting them in the dishwater; use a brush or rag to scrape off scraps instead of running water.

An electric razor saves water. It also uses less electricity than the energy it takes to heat water for a shave.

3. Use no more water than you need for a job. Turn the water off while you are brushing your teeth or shampooing your hair; then turn it back on when you are ready to rinse.

You can also turn the shower off while soaping and save at least five gallons of water for each shower. Use a timer to remind family members to take shorter showers, or try an inch less water if you take a tub bath.

While you're at it, why not try this experiment? If you have a shower in your bathtub, test to see if you use more water in a shower or tub. Close the stopper in the tub. Shower as usual. When you finish showering, check the level of the water in the tub--hopefully the water hasn't flowed over the top! If the water level is high, try taking tub baths or shorter showers.

Most flush toilets use more water than necessary. A gallon plastic jug or two half-gallon jugs filled with water, weighted with stones and placed in the toilet tank will save you water every flush without affecting the efficiency of the toilet.

Use the garbage disposal only once each meal, and use the garbage can for items which require much water and grinding time such as chicken bones.

Hand washing dishes generally takes more water than an automatic dishwasher. When hand washing, first soak dishes in a sinkful of sudsy water, then rinse in a panful of water. Don't use running water for scraping, washing, or rinsing.

Adjust the variable load control on your dishwasher or washing machine if there is one. If you don't have a variable load, then wash only full loads. Use as little detergent as possible because extra detergent generally means extra rinsing.

Invest an Hour

So far, you haven't spent a cent, but you have saved a little water, energy, and money--perhaps even a little time. Now, how about spending one hour next Saturday morning on maintenance which could save you dollars on your next utility bills?

You could be losing up to 10 percent of all the water coming into your house because of poor maintenance. Most of this water loss is probably due to worn-out faucet washers and faulty toilet tank valves. A faucet which drips once each second will not only disrupt your sleep, but will also waste as much as 1,000 gallons of water a year. A very small, steady stream will waste between 9,000 and 18,000 gallons of water annually. That's the same as adding an extra person's use to your household water demand.

Every drop of water costs the same in terms of waste treatment whether it has been used or simply allowed to drip from faucet to drain. And a hot water leak is a double loser--both energy and water go down the drain. It's certainly worth your time, then, to check all faucets--inside and outside--to see that when turned off, they don't drip at all.

If you find a dripping faucet, you may have to make a quick trip to the hardware store for the right size washer. The washer needs to fit snugly on the valve stem to provide a water-tight seal when screwed into place. Washerless faucets using two ceramic discs to

replace the traditional washer are becoming increasingly popular because they are relatively maintenance-free and save water and money in the long run.

If you have a very small drip, you might try partially closing the shut-off valve under the sink or basin. This reduces the amount of water to the faucet, so it is also a good water-conserving measure.

One water utility company reports that 9 out of 10 complaints about unusually high water bills are traced to leaky toilets. To check for leaks at your house, first of all, listen. If your toilet hisses or hums after the tank has filled, then you've got a leak. Even if you don't hear anything, place a few drops of food coloring into the toilet tank. If the coloring seeps into the bowl before flushing, then you've got a repair job on your hands.

After you have checked and repaired the most obvious places for leaks, let your water meter tell you if there are more. Check the meter when all water-using appliances are cut off inside and outside the house. Then check again 15 minutes later. If a meter dial has moved, you need to continue your search for leaks.

Water losses may be due to the meter or pipes in need of repair. Faulty meters or problems with the piping from the water main to your meter will be fixed by your water utility department at no charge to you. Problems with underground pipes between your meter and your house may require a plumber.

Lowering the water pressure of the entire house is another step toward cutting down on wasted water. This adjustment can be made by installing a pressure reducing valve near the main water meter. Most homes do not need more than 50 pounds of pressure per square inch. Excessive pressure causes needless wear and tear on plumbing fittings and encourages water waste.

If you still have part of your maintenance hour left--or even if you don't--you should show every member of your family how to cut off the main water valve into your house or apartment. This could save more than water if you ever have a water pipe break in your home. By the way, it is a good idea to turn the water off every time you go on vacation. A leak while you are away could both do a lot of damage and waste a lot of water.

Gadgets That Save Water

Ready for bigger projects? Okay, for under $10 you can install water conservation devices in your home and save even more water. These devices, available in many hardware or plumbing stores, include: toilet tank displacement dams, improved flush assemblies, low-flow shower heads, faucet aerators, and flow restrictors.

While mere gadgetry will never replace common sense, these devices will help your household conserve water. Once installed, they will conserve water for you without any

thought or effort on your part. The devices are inexpensive and will pay for themselves in water savings in a relatively short time.

Let's start with the toilet--that's by far the largest water user in your home. Most residential toilets are designed to use more water than they actually need to flush efficiently. If you are building a new house or replacing old fixtures be sure to buy toilets needing only three gallons per flush. Several cities in the state now require watersaving toilets in new construction.

Don't give up if you are stuck with one of the old 7-gallon water guzzlers. You can reduce the amount of water needed to flush simply by inserting a plastic dam purchased for that purpose.

Improved float assemblies for existing toilet tanks eliminate the float and rod arm and save money both because they require less maintenance and because the water level can be adjusted easily. This allows you to set the assembly at a level at which the toilet flushes efficiently while saving water. New assemblies are designed to open each time the tank loses a gallon of water. The sound of the tank refilling periodically at short intervals indicates that there is a leak to be repaired. This is another improvement over a conventional ball cock which refills constantly and oftentimes silently in the case of a leak.

Low-flow shower heads mix water and air to make a small flow of water seem like a larger flow much like faucet aerators. Easily installed with a pair of pliers, aerators reduce water flow by at least 50 percent. The cost of a faucet aerator--about $2.00--can be recovered in energy savings after less than an hour of hot water has run through the aerator.

One of the simplest and least expensive watersaving devices is a flow control. This is a small piece of plastic designed to fit into a pipe and limit the amount of water supplied faucets and shower heads while maintaining water pressure. The U.S. Department of Energy estimates that flow controls on showers can reduce your annual energy costs by $20 per person if your family heats water with electricity or $7.50 per person if water is heated with a gas water heater.

That's a pretty good return for a purchase under a dollar. In fact, we're offering you an even better deal from the Institute. If you order only the amount of controls you need for your house or apartment, we will send them to you free of charge.

For Now

The water conservation measures presented in this bulletin are not intended as emergency measures to follow during a drought. They are practical, inexpensive measures which we feel make sense for today's Texas family. All, however, would certainly help during water-short times and would postpone the day of serious water shortages. By adopting

some of these suggestions, you and your family will be far ahead of your water-wasting neighbors whether water is plentiful or rationed.

If all of us adopt a few water-saving ways, Texas could stop using its water credit and perhaps even start a water savings account for the future.

But wait a minute. We haven't touched on the largest residential water use of all. Watch for the next issue of Texas Water Resources to learn how you can reduce outside water use. Because the water we use outside is more of a luxury than the water we use inside, there are many effective ways to reduce consumption.