

# Use Less Stuff

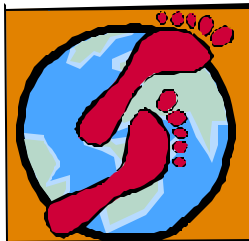
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[www.deq.state.ok.us](http://www.deq.state.ok.us)

## Have You Taken *Your* Ecological Footprint?

**The ecological footprint measures human impact on nature.** In order to live, people consume what nature offers, so every one of us has an impact on our planet. This is not bad as long as we don't take more from the Earth than it has to offer. But are we taking more than we should? The Ecological Footprint measures what we consume of nature. It shows how much productive land and water we use to produce all the resources we consume and to handle all the waste we make.



The average American uses 25 acres to support his or her current lifestyle. This corresponds to the size of 25 football fields (one football field is equal to one acre) put together. In comparison, the average Canadian lives on a footprint 25 percent less,

and the average Italian on 60 percent less.

Nature provides an average of 5.5 acres of bioproductive space for every person in the world. With a global population of 10 billion for the year 2050, the available space will be reduced to 3 acres. This should also give room for the 25 million other species. Already, humanity's footprint may be over 30 percent larger than what the world has to offer as it consumes more than what nature can provide.

**What can we do?** We can become part of the sustainability movement and make it possible that everybody can secure their quality of life within the means of nature. Also, we can better use resources, for example

by using energy-efficient lamps or by composting. And, we can certainly manage to decrease our consumption. How about buying fewer cars and other disposable products, saving us money and grief? Also, by living a simpler life we'll be able to afford more spare time. This future-friendly lifestyle will make our lives better.

**Calculate your own ecological footprint on the web.** To calculate a rough estimate of *your* ecological footprint, go to the calculator on the web: [www.earthday.net](http://www.earthday.net) (under Ongoing Programs) to find out. Want to use a more detailed household Ecological Footprint calculator? You can now download a new Excel spreadsheet for more detailed consumption categories, including recycling, energy use, and even how much coffee you drink. Go to website: [www.rprogress.org](http://www.rprogress.org).

## Secret Lives of Your Stuff — Potatoes

The Oklahoma Department of Environmental Quality encouraged citizens to examine and rethink their consumption habits during the second Oklahoma Use Less Stuff Week from April 19-26, 2003. DEQ's Fenton Rood announced, "The DEQ wants to provide citizens with food for thought and viable alternatives to often wasteful habits through information available from our Use Less Stuff Campaign." Rood practices waste minimization in his own life, often riding his bicycle to work and striving to reduce amounts of paper consumption in the workplace. "The following article examines the environmental impact of french fries, a popular American food, from start to finish," said Rood.

Listening to John C. Ryan, co-author of *Stuff, the Secret Lives of Everyday Things*, speak at the Oklahoma Environmental Education Expo in February of 2002 certainly made the crowd think about

their consumption habits. Ryan confessed to the Expo attendees, "I am a compulsive consumer of french fries."

Ryan's last french fry purchase, a "biggie" order from Wendy's, was served in a bleached white, then dyed yellow and red paper carton made from pine pulp from an Arkansas mill. It was inside a bleached white sack with a bleached white then dyed yellow napkin. These packages no doubt required trees prepped in a pulp mill, which is fueled by oil, with about half probably from the Middle East and then bleached with chlorine, which is discharged along with other water waste into the nearest stream or river.

The ten-ounce potato took one-half square foot of sandy soil in Idaho's Snake River Valley to grow, along with seven gallons of water from the Snake River to irrigate. It was no doubt treated with fertilizers and pesticides to ensure that its shape and quality were just like all of the (Continued on Page 3)



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# Conserve Water and Save Money

Because water is usually so plentiful, available and cheap, we often casually disregard its importance and consider it an almost limitless resource. Ilda Hershey, DEQ Water Quality Division, says, "We often take water for granted because all we have to do is turn on the faucet to get it—so we may use more than necessary."

"Water flows from its source—such as a river or well—through pipes to water treatment plants where it is cleaned. From the water treatment plant, it moves through pipes to our homes. Then it flows out of our faucets on demand. After water swirls down the drain or is flushed down the toilet, it flows to a wastewater treatment plant where it is cleaned before being released into a river or other water source.

*"We often take water for granted because all we have to do is turn on the faucet to get it—so we may use more than necessary."*

—Ilda Hershey

Why conserve water? Water treatment costs money. It requires workers, buildings, pipes and materials to clean or treat the water. The more water we use, the more water must be treated or cleaned, and that costs money. Water conservation can also help solve water shortage problems such as those occurring this year in several western states. Many businesses reduce their water use by recycling water and using new equipment that requires less water. Many farmers and ranchers are using more efficient irrigation systems. It is important that citizens do their part as well.

Since world water usage has tripled since 1950, users and suppliers in several states in the U.S. have been forced to deal with the harsh reality of dwindling water supplies. Episodes of water shortages and drought have already reared their ugly heads in Oklahoma, too. While local and state governments are working toward becoming prepared to deal with these emergencies, decision-makers, water managers and citizens must also realize that there are water use guidelines that can often stave off critical dry periods and the hardships associated with them.

Conservation of our water resources—specifically, activities designed to reduce water demand and improve efficiency of use—and ensuring the availability of fresh water for future generations involves changing habits and altering the manner in which we conduct our daily routines. In the home, the key

is starting simply, such as turning off water when it is not being used, then gradually taking more advanced steps to reduce water consumption. On a larger scale, improved landscape designs, irrigation scheduling and better methods of irrigating crops, reclamation and reuse of wastewater, water budgeting and adoption of rate controls have all had considerable success in reducing both use and demand.

For approximately \$10 to \$20, the average homeowner can install two low-flow showerheads, place dams or bottles in their toilet tanks, put low-flow aerators on the faucets and repair dripping faucets and leaky toilets. Showers and faucets account for approximately 25% of your indoor water use. The average tank on

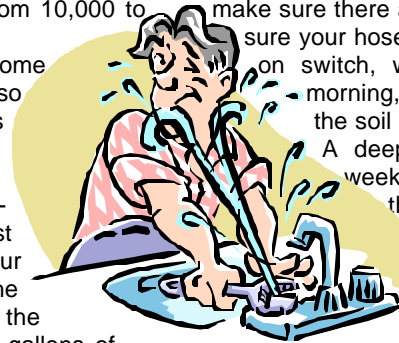
the back of your toilet holds about 6 gallons of water. Only 23 gallons are needed per flush, but all 6 go down the drain. In fact, almost 40% of the water that comes into your home goes down the toilet. A small drip from a leaky faucet isn't just a drop in the bucket—even a slow leak can waste 4-5 gallons of water a day, not to mention a lot of money wasted as well. Worn-out washers, one of the most common causes of leaky faucets, is also the easiest and cheapest to fix. In just one year, these modifications can pay for themselves, saving a family of four from 10,000 to 25,000 gallons of water.

Simply changing some personal habits can also save a lot of water. Does the water run while you wash your face, brush your teeth, or shave? Letting the faucet run just while you brush your teeth—for 3 minutes in the morning and 3 minutes in the evening—wastes up to 9 gallons of water per day. Washing dishes by hand while the water is running for just 10 minutes uses about 15 gallons of water, much of it wasted. This method wastes water even if you turn off the tap while you scrub. Washing a small load in a dishwasher wastes up to 12 gallons of water. Washing dishes in a tub or partitioned sink with two sections, one for sudsy water and the other for rinse water, uses about 4 gallons of water. How much water goes down the drain before

you get water cold enough to drink? On average, 24 cups of clean water are wasted each time we wait for the water to turn cold by letting it run. If you'll fill a reusable bottle with tap water and keep it in the refrigerator, you will save about 550 gallons of water per person each year. How much water do you need to get your body clean? The average shower uses 5 gallons per minute. This means you could save 25 gallons of water by staying in the shower for 5 minutes instead of 10. A bath can use 30 to 50 gallons of water—up to twice the amount you need for a 5-minute shower.

Outdoors, even more water and money can be saved through water conservation in lawn and garden areas. If you have a lawn and water it, there's a good chance it's being over-watered by a third. The average quarter-acre of lawn gets about 22,000 gallons a week more than it needs! Most established lawns need only one to one-and-a-half inches of water a week. Water early in the morning or early evening to avoid evaporation. Keep your grass between 2" and 3" to provide natural shade that will help the soil stay moist. Leave grass clippings on the lawn to retain moisture. If you have a garden, at least 50% of the water you use may be wasted through inefficiency. You probably use about 60 gallons of water every time you water for just 10 minutes. Check all those connections to make sure there are no leaks, make sure your hose nozzle has an off/on switch, water early in the morning, and direct water to the soil where it is needed. A deep soaking once a week is more effective than shallow watering every day. Whenever possible, landscape with native plants that require little water and upkeep. Also, you might want to consider installing a drip irrigation system.

Oklahoma's Use Less Stuff Campaign provides ideas to help citizens develop sustainable lifestyles. More information, including a power point presentation, can be found on the DEQ website: <deq.state.ok.us> or by contacting campaign coordinator, Susie Shields, at (405) 702-5166 or <susie.shields@deq.state.ok.us>.



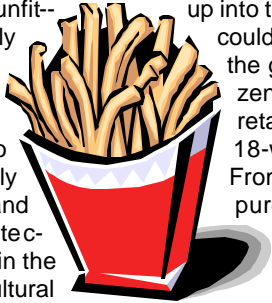
## Secret Life of Potatoes *(continued from Page 1)*

other potatoes. These chemicals probably accounted for about 38 percent of the farmer's expenses. If much of the fertilizer's nitrogen leaches into groundwater, that, plus concentrated salts, could make the water unfit—even for irrigation. It is likely some of the fertilizers and pesticides washed into streams when rain fell, and could have been toxic to mammals, fish and possibly birds through the skin and lungs. The Environmental Protection Agency's tests of waters in the Columbia Basin found agricultural contaminant in every tributary, including the Snake.

The potato was dug up by a diesel-powered harvester and transported to the processing plant where it was converted to five ounces of fries. The other five ounces of the potato went into a sludge waste that was sprayed on fields to dry. If excess nitrates seeped into a drinking water source, they could cause blue baby syndrome. If a beauty parlor operating in the area used water with excess nitrates, someone's hair may have turned purple from a reaction with the nitrates.

Next the french fries were frozen, with electricity made from a hydroelectric dam on the Snake River. Salmon and fabulous white sturgeon living in the Snake River have been hampered from their journey back and forth from fresh water to salt water for forty years or more by these dams. It often takes **ten times** more energy to make frozen food than fresh food creating a much bigger demand on energy production, but fresh food is on the wane since frozen food is much more **convenient**. By 1990, Americans ate more frozen potatoes, mostly french fries, than fresh ones.

The fries were frozen using hydro-



fluorocarbon coolants, which have replaced the chlorofluorocarbons (CFCs) that harm the ozone layer. If some of the coolants escaped from the plant, they would likely have risen 10 miles up into the stratosphere, where they could trap heat, contributing to the greenhouse effect. The frozen fries were transported to a retail market in Houston via an 18-wheel refrigerated truck. From the market, the fries were purchased by a Texas teenager who fried them in corn oil from Nebraska and served them up with salt mined in Louisiana. His ketchup, made in Pittsburgh from Mexican tomatoes, and packaged in small plastic and aluminum pouches was probably made in Ohio.

Ryan told us he did not mean to indicate that french fries are deemed an environmentally destructive food. He said they are middle-of-the-road in that regard, with their impact not even close to that of a hamburger. His point was that the issue of how we live and the choices we make in our daily life make impacts worldwide. Most of the resources needed to produce our "stuff" are used behind the scenes somewhere and not seen by us, **but everything we use has an ecological wake or a "secret life"**.

What can we do about all this "stuff" in our lives? Support sustainable agriculture. In Oklahoma, the Kerr Center for Sustainable Agriculture provides information, programs and funding: <[www.kerrcenter.com](http://www.kerrcenter.com)>. Instead of buying fried, over-packaged fast food, cook some organic produce for yourself and eat it on a real plate. Buy local foods or, best of all, grow your own. Garden produce is fresher, uses almost no energy except the sun,

and puts to use un(der)used land—your lawn. To find sources of locally grown, organic food, see: <[www.oklahomafood.org](http://www.oklahomafood.org)>. The Oklahoma Sustainability Network website: <[www.oksustainability.org](http://www.oksustainability.org)> suggests other resources for greening your life.

Ryan thinks we all agree that modern technology does wonders for us, but the American way of life has the biggest impact on the world's resources than any other country. We consume an average of 120 pounds a day in resources. We throw out approximately four pounds a day of waste, but most of this resource usage is in the "secret life" of items we consume and is unseen by us. Americans comprise only five per cent of the world's population, yet we use 24 per cent of the world's energy. We also own one-third of the world's cars, computers, paper and plastic.\*

Obviously, the solutions are often right under our noses. Ryan closed with a plea to the "roomful of super heroes", each with the power to do things better. Even though changing our habits to lower consumption patterns may not yield visible benefits to the environment, a little research on your part will convince you it is working. Just as our lives have much bigger impacts on the world than most of us realize, the benefits when we make simple choices to reduce our consumption of energy or stuff are much greater than we ever see.

\*Consumption figures from "Statistical Abstract 1995" and "World Resources 1996-97."

"Article written from *Stuff: The Secret Lives of Everyday Things*, by John C. Ryan and Alan Thein Durning, copyright 1997 Northwest Environment Watch, Seattle; used with permission."

## History of the Use Less Stuff Campaign

The first statewide Use Less Stuff (ULS) Week was held in April of 2002, although we had declared the Thursday before Thanksgiving as Use Less Stuff Day for the three years before that. ULS Day was a part of the national ULS Campaign that has been defunct for over four years now. The organizers of that campaign gave us permission to continue the Use Less Stuff idea in our own way.

The Oklahoma Department of Environmental Quality decided to change our ULS Campaign season to coordinate with Earth Day for two reasons. The first reason is that ULS Day in November conflicts with America Recycles Day and we are sponsors of that campaign as well. Secondly, during Earth Day season, citizens are thinking about what they can do to make their lives more environmentally-friendly. This campaign provides insight into that area.

Future plans include expanding our website to include the series on "Secret Lives of Stuff" and "how to" tips folks can use in their organizational newsletters. Also, additional power point presentations will be available by the end of 2003. This on-line newsletter will be published quarterly, with a seasonal focus.



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## Interested in sustainability?

Sign up for a list serv  
sponsored by the  
Oklahoma Sustainability  
Network:  
<[www.oksustainability.org](http://www.oksustainability.org)>

## GRASS CYCLING IS EASY!

*No need to send  
grass clippings  
to the landfill . . .*



1. Use mulching mower; most existing mowers can be retrofitted with mulching blade; finer clippings decompose faster.
2. Set mower blades high, never removing more than 1/3 grass height each time.
3. Mow more frequently; best every 5 days (Not on Ozone Alert days!)
4. Keep mower blades sharp; dull blades tear grass.
5. Avoid over-fertilizing; use slow-release 3-1-2 or 4-1-2 and use no more than 5 lbs per 1,000 square feet on each application.
6. Avoid over-watering, as it causes shallow roots, thatch and disease. One inch every 6 days is usually enough during the dry period. (Takes about 4 hours in one spot.) The best time to water is early in the morning or late in the evening to avoid excess evaporation.

## Summer Brings Need for Ozone Awareness

When summer comes along, guaranteeing us plenty of sunshine and warm weather for our outdoor activities, the Oklahoma Department of Environmental Quality (DEQ) steps in with Use Less Stuff campaign tips for Ozone Alert days. Sunshine and warm weather are the key ingredients for the formation of atmospheric ozone. Ozone (O<sub>3</sub>) is a highly reactive form of oxygen, and at normal ambient concentrations it is colorless and odorless. At very high concentrations, O<sub>3</sub> is a blue, unstable gas with a pungent odor.

Ozone is formed in the presence of sunlight through chemical reactions of oxygen in the air with nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOCs). There are many sources of these pollutants. Some of the more common sources include: gasoline vapors, chemical solvents, cleaning fluids, automobile and small engine exhaust. So for example, when we fill our vehicles and lawnmowers with gas, when we use paint, when we drive our vehicles and mow our lawns, we are emitting the pollutants that contribute to the formation of ozone.

Ozone is formed in two locations of our atmosphere. Tropospheric ozone is formed at ground level and is also known as "smog." Stratospheric ozone

is produced at high altitudes and provides a protective layer around the earth. These two should not be confused. Ground level ozone is a pollutant, but stratospheric ozone is a necessary component of the atmosphere. Essentially, ozone is "good up high - bad nearby." Ground level ozone does occur naturally from non-manmade sources, although this usually results in very low concentrations.

Ozone may cause health problems because it can damage lung tissue, reduce lung function, and sensitize the lungs to other irritants. Its effects are more severe and are experienced at lower concentrations in individuals with chronic lung disease, asthma, or diseases of the heart and circulatory system. Exposure to ozone for several hours at relatively low concentrations has been found to significantly reduce lung function in normal, healthy people as well, particularly during exercise. This decrease in lung function generally is accompanied by symptoms including chest pain, coughing, sneezing, nausea, headache, and pulmonary congestion.

So, what do you do with this information? First of all, protect yourself and stay indoors on the days when the

ozone levels are high, especially if you are more sensitive. Be aware of the dangers of ozone. Stay in touch with the current ozone levels by checking the DEQ web site (<http://www.deq.state.ok.us/>). Listen to the news for announcements of ozone alert days. Second, reduce the emissions of the pollutants which contribute to ozone formation. Things that you can do to reduce emissions include:

- Ride the bus, share-a-ride/car pool
- Trip chain, combine errands to make one trip instead of several
- Ride your bicycle, walk, run, or skate instead of driving your car
- Care for your car with regular maintenance
- Refuel after dark, and don't top-off the tank
- Avoid the use of gasoline powered lawnmowers and other lawn tools

These simple actions require little effort on your part and can go a long way in helping to improve our environment. By carpooling, combining errands, driving less and avoiding powered lawn mowers, we Use Less Stuff, save money, and protect our health by reducing ground level ozone concentrations. Ozone awareness is the first step to making a difference, so take action and spread the word.

