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The International Arid Lands Consortium Offers Fascinating Water Facts to Encourage Water Conservation

A Message from the International Arid Lands Consortium

August 8, 2003 - Tucson, AZ – On average, our society uses almost 100 gallons of drinking water per person per day. Of the "drinking water" supplied by public water systems, only a small portion is actually used for drinking. Most Americans drink approximately half a gallon of water per day. That adds up to more than 1 billion glasses of tap water per day for all Americans! A male living to the age of 70 years will require about 1½ million gallons of water over the course of his lifetime.

Approximately 35 gallons of water per person are used each day for public activities such as fire fighting, street washing, and park maintenance.

A typical family of four on a public water supply uses about 350 gallons per day at home, or 127,400 gallons of water annually. In contrast, a typical household that gets its water from a private well or cistern uses about 200 gallons for a family of four.

The average person uses 20 to 80 gallons of water each day in his home. Typical residential water use includes normal household uses such as drinking and cooking, bathing (20-30 gallons), toilet flushing (3 gallons), washing clothes (20-30 gallons) and dishes (10 gallons), watering lawns and gardens, maintaining swimming pools, and washing cars.

The amount of indoor water use remains fairly consistent throughout the year. The largest percentage of indoor water use occurs in the bathroom, with 41 percent used for toilet flushing and 33 percent used for bathing. Daily indoor per capita use in the typical single family home with no water-conserving fixtures is 74 gallons.

On average, 50 to 70 percent of home water is used outdoors for watering lawns and gardens. Outdoor water use varies greatly depending on geographic location and season. On an annual average, outdoor water use in the arid West and Southwest is much greater than in the East or Midwest.

People in the West use about 50 percent more public water than in the East, mostly due to the amount of landscape irrigation in the West. Rural areas typically consume less water for domestic purposes than larger towns.

California is the number one water use state (about 25% of the national total). Texas is number two. Other major water use states include Ohio, Colorado, Pennsylvania, Arizona, and Montana.

Water use per person can vary greatly among different communities because of climate differences, mix of domestic, commercial and industrial water uses, household sizes, lot sizes, public water uses, income brackets, and the age and condition of the water distribution system.

How does water use in the United States compare to other countries?

The United States uses 1,834 cubic meters, or 525,000 gallons of water per person per year.
Canada uses 1,607 cubic meters (424,525 gallons) of water per person per year.
China uses 439 cubic meters (115,972 gallons) of water per person per year.
Egypt uses 1,055 cubic meters (278,702 gallons) of water per person per year.
Germany uses 579 cubic meters (152,956 gallons) of water per person per year.
India uses 592 cubic meters (156,390 gallons) of water per person per year.
Israel uses 287 cubic meters (75,817 gallons) of water per person per year.
Jordan uses 255 cubic meters (67,364 gallons) of water per person per year.
Mexico uses 812 cubic meters (214,508 gallons) of water per person per year.
Nicaragua uses 267 cubic meters (70,534 gallons) of water per person per year.
Poland uses 321 cubic meters (84,799 gallons) of water per person per year.
Sweden uses 340 cubic meters (89,819 gallons) of water per person per year.

The whole world uses about 650 cubic meters (171,712 gallons) of water per person per year.
(Source: EarthTrends Databases: Water Resources and Freshwater Ecosystems
http://earthtrends.wri.org/text/FRE/data_tables/data_table1.htm)

By installing more efficient water fixtures and regularly checking for leaks, households can reduce water use by about 30 percent to about 51.9 gallons per person per day. If all United States households installed water-saving features, water use would decrease by 30 percent, saving an estimated 5.4 billion gallons per day. This would result in dollar-volume savings of \$11.3 million per day, or more than \$4 billion per year.

There are many negative consequences for using too much water. On a global level, high levels of water use cause both environmental and economic problems. High water consumption places stress on rivers, lakes, and groundwater aquifers. The discharge of polluted water damages aquatic ecosystems. Increasing water use requires expensive investments in water system infrastructure needed to gather, deliver and dispose of water.

National patterns of water use indicate that the largest demand is for thermoelectric generation (47 percent), followed by irrigation (34 percent), public supply (9 percent), industrial (6 percent), mining (1 percent), domestic (1 percent), and commercial uses (1 percent).

In addition to reducing negative effects on the environment, reducing water consumption can have a positive effect on a family's economic bottom line. The rate of return on investments in water conservation can often exceed 10 percent per year in household water delivery, sewer, and other energy costs.

For more information about water use, see the following websites:

U.S. Environmental Protection Agency: www.epa.gov
American Water Works Association: www.awwa.org
Environmental Indicators: www.environmentalindicators.com
Water on Tap: A Consumer's Guide to the Nation's Drinking Water:
http://www.pueblo.gsa.gov/cic_text/health/watertap/introtap.html

Water Saving Tips: <http://www.watersavingtips.org/home.htm>
UNESCO Water Portal Water Facts:
http://www.unesco.org/water/wwap/facts_figures/basic_needs.shtml
International Food Policy Research Institute Water Facts:
http://www.ifpri.org/media/water_facts.htm

Information for this article was obtained from:

Canada vs. The OECD: An Environmental Comparison:
<http://www.environmentalindicators.com/htdocs/indicators/6wate.htm>
International Year of Freshwater: <http://www.wateryear2003.org>
U.S. Environmental Protection Agency:
<http://www.epa.gov/waterscience/drinking/percapita/>
and <http://www.epa.gov/water/you/chap1.html>
American Water Works Association:
<http://www.awwa.org/Advocacy/pressroom/statswp5.cfm>
Central Valley Water Education Center: <http://www.cvwater.org/facts.htm>
World Resources Institute EarthTrends: The Environmental Information Portal:
http://earthtrends.wri.org/text/FRE/data_tables/data_table1.htm
Tucson Water Conservation: Saving Water at Home:
<http://www.ci.tucson.az.us/water/conservation/homeowner/homeowner.htm>

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The International Arid Lands Consortium (IALC) is an independent nonprofit organization dedicated to exploring the problems and solutions unique to arid and semiarid regions. IALC promotes cooperative research and practical application of new knowledge to develop sustainable ecological practices. The member institutions share a mission to enable people of arid lands to improve the quality of life for future generations. IALC members include the University of Arizona, Desert Research Institute – Nevada, Higher Council for Science & Technology – Jordan, The University of Illinois, Jewish National Fund, Ministry of Agriculture and Land Reclamation – Egypt, New Mexico State University, South Dakota State University, and Texas A&M University-Kingsville.