



PACIFIC INSTITUTE

Research for People and the Planet

**Testimony of Dr. Peter H. Gleick¹
Before the
Subcommittee on Water Resources and Environment
Of the Committee on Transportation and Infrastructure
United States Congress**

Hearing: Water: Is it the ‘Oil’ of the 21st Century?

June 4, 2003

Mr. Chairman, Representatives: thank you for inviting me to offer comments on the importance of water for our nation and on new ways of thinking about protecting, preserving, and sustainably using that precious resource.

There are two ways to think about the title of this hearing: Is Water the Oil of the 21st Century? First, are we going to permit water to become a commodity like oil, to be overpumped, underpriced, and used wastefully, leading to water wars, international conflict and competition, and environmental destruction? Or second, can we avoid the problems that have arisen with the stupid use of oil by planning for efficient use of water, environmental protection when we extract it and use it, proper allocation, and international cooperation.

My testimony will focus on one piece of what we call “the soft path for water” – improving the efficient and wise use of this precious resource. My single most important conclusion? **Water conservation and efficiency are the greatest untapped sources of water in this nation – cheaper, cleaner, and more politically acceptable than any other alternative.**

National Water Challenges

As we enter the 21st century, pressures on the water resources of the United States are growing and conflicts among water users are worsening. Attention to these problems is growing, as shown by the recent consideration by Congress of a new National Water Commission, the Department of the Interior’s 2025 report, and new disputes with Mexico over our shared water resources. Awareness of the importance of water is also growing internationally as evidenced by the focus on water at the Johannesburg Earth Summit and

¹ Dr. Gleick is President of the Pacific Institute, Oakland, California; an Academician of the International Water Academy, Oslo, Norway; and a member of the Water Science and Technology Board of the U.S. National Academy of Science. His comments reflect his own opinion and the recommended position of the Pacific Institute, Oakland, California.



PACIFIC INSTITUTE

Research for People and the Planet

the Kyoto Third World Water Forum. Moreover, 2003 has been declared the International Year of Freshwater by the United Nations.

In addition to growing tensions over allocations of water, the United States faces new water challenges. Climate change is increasingly threatening the operation and design of our expensive water systems. Controversy is developing over the proper role of expensive dams and infrastructure, private corporations, and local communities in managing water. Municipalities are faced with billions of dollars of infrastructure needs and growing disputes over the role of public and private water management. Arguments among western states over allocations of shared rivers are rising, as are tensions between cities and farmers over water rights. The U.S. and Mexico have unresolved disagreements over the Colorado and Rio Grande/Rio Bravo rivers, and our Canadian neighbors are concerned about proposals to divert Great Lakes or Canadian water for U.S. use. Communities are facing new challenges in meeting water quality standards and ensuring that safe drinking water is available for all.

Yet the United States has not offered adequate leadership in providing resources, education, and our vast technological and financial experience to address these problems.

Responding to Water Challenges: A New Focus on Reducing Wasteful and Inefficient Uses of Water

In many cases, the resolution of these problems requires smart state and local action. But national policies and actions are also needed, as is leadership at the national level. Unfortunately, there is inadequate attention being given to national water issues, and what efforts are being made are often contradictory or counterproductive. Responsibility for water is spread out over many federal agencies and departments, operating with no overall coordination.

The focus of water planners and managers in the 20th century was finding ways “to increase water supplies in every region of the country.” This cannot be the approach in the 21st century. Overall water supply is not a problem, with some regional exceptions. And even in these regions, increasing supplies is the most costly, slow, and environmentally damaging response. The greatest water problems facing the United States are not lack of infrastructure, but inefficient use, inappropriate water allocations, water pollution, and ecological destruction.

Indeed, water use in the United States has decreased in the past 20 years, reducing pressure on overall supply, as shown in Figure 1. Figure 1 shows that total economic growth in the U.S. has continued, even as overall water use has leveled off and even declined. On a per-person basis, this decrease is substantial, as shown in Figure 2. Per-



PACIFIC INSTITUTE

Research for People and the Planet

capita use in the U.S. has decreased 20 percent since 1980 – a remarkable change. Moreover, where the problem is “shortage,” the fastest, cheapest, and most environmentally acceptable solution will not be an increase in “supply” but a reallocation of existing uses and improvements in efficiency.

Some examples?

Metropolitan Water District of Southern California dropped water use 16 percent from 1990, despite a 14 percent increase in population.

Smart conservation and smart watershed management has saved NYC billions of dollars in avoided expenditures for new supply and water and wastewater treatment plants. Total water use in 2001 was 25 percent below the level of 1979, a savings of 375 million gallons per day.²

Water-efficiency programs in the Boston area have reduce water use 30 percent since the late 1980s and eliminated the need for a new dam.

Albuquerque reduced per-capita water use 30 percent between 1989 and 2001 with toilet and washing machine rebate programs, and landscape retrofits.³

The City of Seattle has grown 30 percent since 1975 but total water use has remained the same through strong conservation programs. Over this period, per-capita use has dropped from 150 gallons per person per day to around 115 gallons per person per day.⁴

Steel manufacturing in the US used to require 200 tons of water to make a ton of steel. Today, the best steel plants use 3 to 4 tons of water per ton of steel.

Drip and precision sprinkler systems can both boost crop yields and reduce water demands.

What is particularly exciting and important is that no water agency, city, or state has exploited the full potential for improving efficiency and reducing wasteful use. In California, despite years of talk and many innovative actions, we estimate that additional cost-effective reductions in commercial and industrial water use of 40 percent are possible with existing technologies. Even greater savings are possible in the residential sector. And vast savings are possible in agriculture, while keeping a healthy and productive farming sector.

The challenge is reducing unfair pricing structures that encourage wasteful use of water, investing in smart water-wise technology, recycle and reuse water for the right purposes, and educate people about the potential for using water wisely and the benefits of doing so.

² <http://www.nyc.gov/html/dep/html/drougthist.html>

³ <http://www.cabq.gov/progress/EP03PERC.html>

⁴ <http://www.cityofseattle.net/util/services/Drinkingwater/docs/Usage2001.PDF>



**PACIFIC
INSTITUTE**

Research for People and the Planet

Water conservation and efficiency not only makes sense, they make more sense than any other alternative available to us.

Thank you for your attention.

Dr. Peter H. Gleick



PACIFIC INSTITUTE

Research for People and the Planet

Figure 1. Total gross domestic product (GDP) of the United States and total water withdrawals: 1900 to present. **Note that total economic growth has continued, but total water withdrawals (for all purposes) have actually declined since 1980.** Graph reproduced from Gleick, 2000 “The World’s Water”(Island Press, Washington, D.C.)

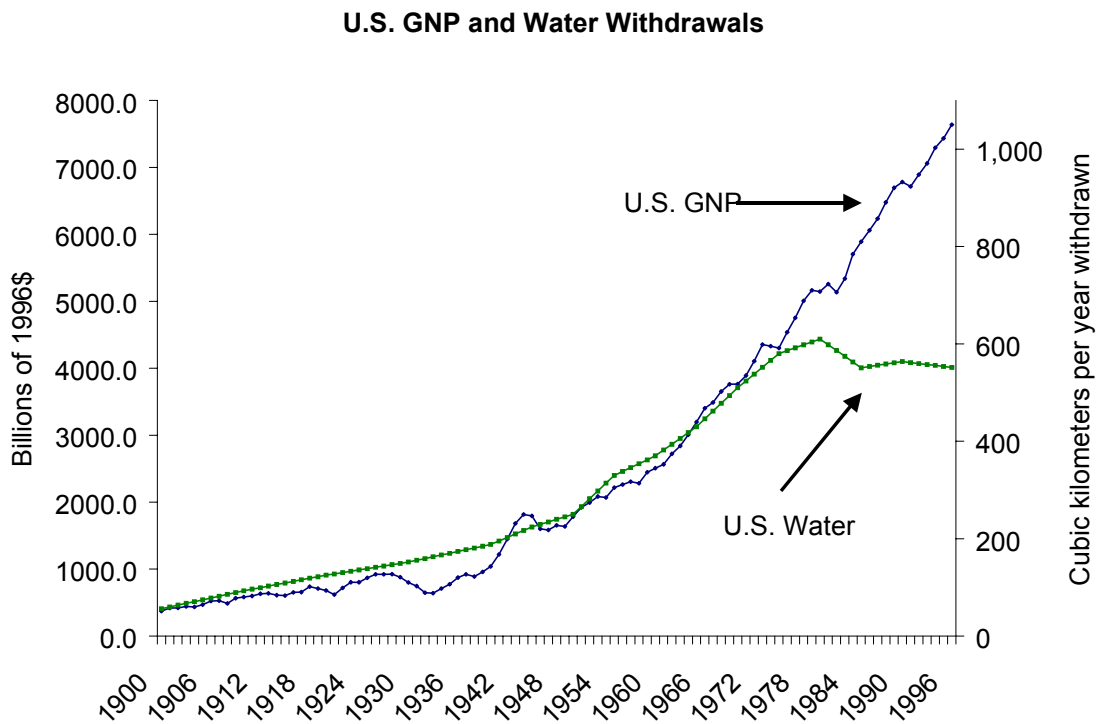
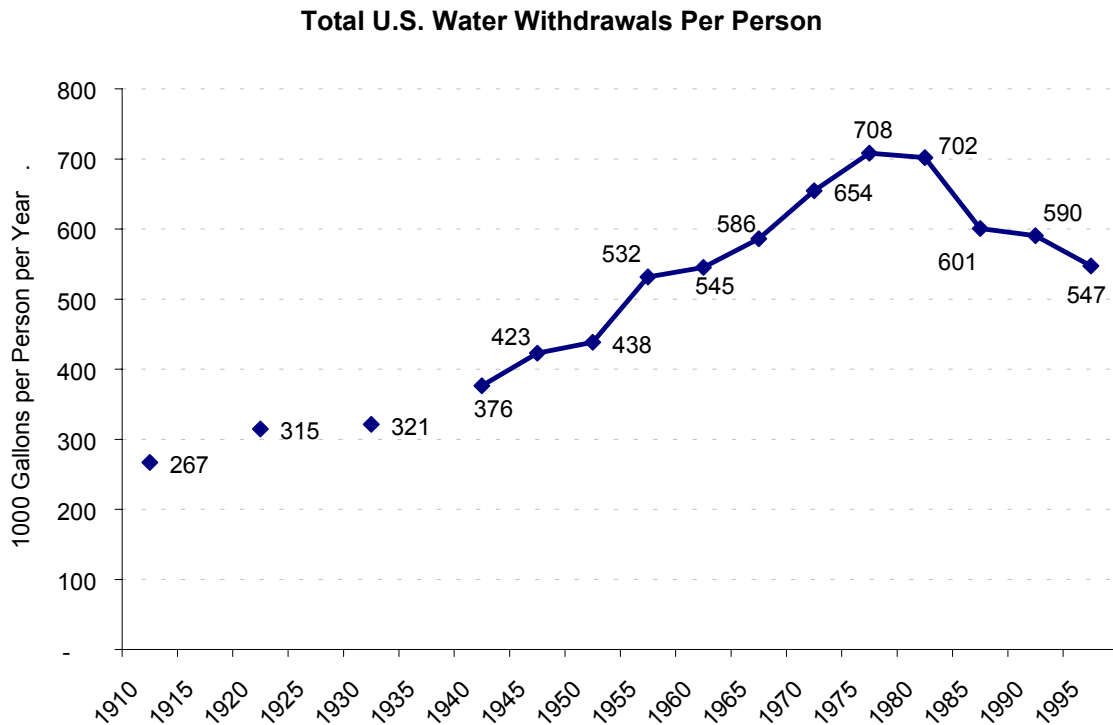


Figure 2. Per-capita water withdrawals in the United States, from 1900 to the present. Total use is now below 550,000 gallons per person per year, down from over 700,000 in 1975. Data are from the U.S. Geological Survey.





PACIFIC INSTITUTE

Research for People and the Planet

Figure 3. Total Water Withdrawals in the United States, 1900 to 1995, in billion gallons per day. Total withdrawals dropped 10 percent from 442 billion gallons per day in 1980 to 400 billion gallons per day in 1995 as water-use efficiency improved and the U.S. economy became more productive.

Total Water Withdrawals in the United States

