

Not Enough Water to Sustain Healthy Rivers

America's demand for water is outpacing supply in many places. Scientists are now as worried about shrinking rivers and dwindling water supplies as they are about water pollution. Unless we change course today, tomorrow might offer insufficient water to sustain healthy, ecologically diverse rivers and provide for human needs.

STOP WASTING WATER

As It Stands

- Only one percent of the world's water is available for human consumption.
- Americans use more water per day per person – nearly 1,300 gallons – than anyone else in the world. Three percent is used for household purposes. The remainder serves uses such as irrigated farms, industry and energy production.
- A vast majority of America's freshwater – about 85 percent – is directed to irrigated crops.
- Many irrigators are dramatically undercharged for the water they receive. For example, the Central Arizona Project charges irrigators one percent of the actual cost of delivering water.

Less Waste Can Happen

Water conservation can have dramatic effects. Seattle instituted water efficiency and conservation programs in 1989 and reduced water use 20 percent while its population grew about 20 percent. San Diego's low-flow toilet program saved enough water in just one year to supply a suburb of 80,000 residents. Drip irrigation can double the yield per gallon of water compared with traditional irrigation methods.

- State and federal agencies should carefully monitor water use. Urban, industrial and agricultural water uses should be metered so that users can see how much they are using and make choices about how to save.
- The states should require best management practices for water supply and stormwater management to protect water flows and supply natural recharge to rivers.



Credit: Jack Dykinga, USDA

- EPA should provide consumers more information through a voluntary program of labeling for water-efficient products.
- Federal agencies should create incentive programs for irrigators and other landowners to conserve water, and return the conserved water to rivers.
- Local governments should make accurate forecasts of population growth and water use, to avoid making excessive withdrawals from already overtaxed rivers.

PROTECT UNDERGROUND WATER SOURCES

As It Stands

- Total groundwater use in the U.S. exceeds 28 trillion gallons annually, and is increasing. In many regions, groundwater pumping now outpaces recharge.
- More than half the U.S. population relies on groundwater for drinking water.
- Between 1982 and 1997, paving over land in America's top 20 sprawl areas prevented as much as 690 billion gallons of water from reaching groundwater annually. That amount could supply the

- annual water needs of nearly 19 million people.
- Irrigation consumes two-thirds of pumped groundwater.
 - It will take hundreds, even thousands, of years for some of today's depleted groundwater aquifers to recharge.

Protections Can Happen

Groundwater protection must go beyond water conservation. Today, few states control groundwater withdrawals, and those that do rarely recognize the connection between groundwater withdrawal and river flows.

- The states should require that all groundwater withdrawals be metered and publicly reported.
- The states should create comprehensive permit processes that include an analysis not only of recharge and pumping conditions but also of environmental impacts (including impacts on rivers).

RESTORE MORE NATURAL FLOWS TO RIVERS AND STREAMS

As It Stands

- Inadequate flow in streams can lead to loss of fish and wildlife, increased erosion and sedimentation and increased concentration of pollution as well as the loss of river recreation.
- Artificial, hard surfaces associated with urban sprawl deprive rivers and streams of runoff and disrupt natural drainage patterns.
- Many of the nation's 75,000 large dams interrupt river flows and create reservoirs that drown productive riparian areas and wildlife habitat.
- Human changes to the natural ebb and flow of rivers are the second leading source of poor water quality, after runoff from fields and streets.



Credit: Beth Maynor Young

Natural Flows Can Happen

River ecosystems require natural flow patterns as well as healthy water quantity and quality, which go hand-in-hand with a wide range of economic uses. Some states have taken the lead in establishing mechanisms to protect river flows. Their efforts should be broadened and expanded nationwide.

- The states should adopt ecologically based instream flow standards, to set goals for river health.
- EPA should support these efforts by encouraging the states to incorporate flow standards into the water quality criteria set under the Clean Water Act.
- Agencies that operate or regulate dams should ensure the adoption of flow releases that protect the ecological health of rivers.
- The states should establish procedures for protecting instream flows, and programs that will allow the creation and transfer of water rights for instream flow purposes.
- The U.S. Geological Survey should continue and expand its program to assess ground and surface waters, and identify obstacles to sustaining these resources.