PLAYA LAKES JOINT VENTURE

News Release

June 16, 2003
For Immediate Release

To Save the Ogallala Aquifer, Save Playa Lakes

As communities across the western Great Plains struggle to deal with drought and declining water tables, a major, yet relatively unknown natural resource is playing a critical role in replenishing and protecting the region's water supply.

Scattered across the western prairie landscape are thousands of playa lakes. Playa lakes are the most numerous wetlands in the region, totaling more than 40,000 in eastern New Mexico, Colorado and Wyoming, western Kansas, Nebraska and Oklahoma, and the Texas Panhandle combined. More than 95 percent of the world's playa lakes are located in the western Great Plains - they are a unique natural resource.

Playa lakes are shallow, usually round, wetlands with clay floors that lie in the lowest point of a generally large, closed watershed and collect rainfall and associated runoff from surrounding uplands. Their average size is 17 acres, and all playa lakes combined make up about 2 to 5 percent of the total western prairie landscape. They

The 174,000 square-mile Ogallala formation lies beneath portions of eight states: Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas and Wyoming. In 1990, it was measured to contain about 3.270 billion acre-feet of water.

Use of the Ogallala began at the turn of the century, and since World War II, reliance on it has steadily increased. While in 1950 the Ogallala irrigated about two million acres of farmed land, by 1997 it irrigated 14 million acres. During this time, the Ogallala water supply has progressively declined and from 1950 to 1980 water levels dropped 9.9 feet, and from 1980 to 1999 they dropped 3.2 feet, according to the U.S. Geological Survey.

With the recent advent of improved dry land farming and irrigation techniques, pumping of the Ogallala has decreased during the last decade, but still the rate of aquifer depletion far exceeds the natural rate of recharge.

According to studies conducted in the Southern High Plains region of Texas and New Mexico, natural recharge occurs throughout much of the landscape above the Ogallala

Sedimentation occurs on all playa lakes that are surrounded by tilled lands. Water runoff from rain and irrigation carry soil into the wetlands, gradually filling them. Sediment build up reduces the volume of water they can hold and increases the rate of water loss through evaporation, ultimately limiting recharge.

Conservation practices used to protect playa lakes includes establishing native grass buffers around playa perimeters to filter out soil and agricultural contaminants present in runoff, and filling in man-made pits so water can reach the entire basin and all recharge pores. In rangeland, playas can be fenced off to prevent excess trampling or denuding of vegetation by livestock.

There are several programs available to private landowners wanting to protect playa lakes on their land through the Farm Bill. For more information about these and other programs, contact the Playa Lakes Joint Venture (PLJV), a conservation partnership dedicated to protecting playa lakes through cooperative and voluntary agreements with private landowners.

PLJV partners consist of

are ephemeral, or seasonal, in nature and hold water only after rainfall or runoff events. Most of the time, they are dry, which is partially why many people don't recognize them as wetlands. Playa lakes are sometimes mistakenly referred to as buffalo wallows, mud pits or evaporation pans.

But there are several good reasons why people should learn about and maintain playa lakes, one of which is the wetlands' role in recharging the Ogallala Aquifer.

Over the past several decades, researchers have gathered substantial evidence pointing to playas lakes as the primary source of recharge for the Ogallala. This is big news for western Great Plains states, which have relied on pumping the Ogallala for agricultural, municipal and industrial use since the turn of the century.

Although this research has been going on for quite some time, the results are relatively unknown to the general public and even conservation professionals. Since about 99 percent of playa lakes are located on private land, this information is crucial for farmers, ranchers and natural resource managers who hope to conserve water and maintain agricultural economies of the region.

"We want producers to realize that protecting a playa on their land has direct benefits to them, but is focused through playa wetlands. When a dry playa lake receives rainfall or associated runoff, water flows into the playa basin and penetrates the clay layer through deep cracks, plant root openings and other pores in the floor. Water then flows through fissures in the cap rock layer, ultimately reaching the Ogallala formation. Cracks in the playa lake floor eventually swell shut as the clay absorbs more water, limiting or diminishing recharge through the basin.

Recharge also occurs along the wetland's perimeter where clay is thin or non-existent. Landscape-wide recharge to the Ogallala in the Southern High Plains is about 11 mm of water per year, and about 9.2 mm of that - or approximately 85 to 90 percent - is focused through playa lakes, according to Dr. Warren W. Wood, Research Hydrologist for the U.S. Geological Survey. This means that 85 to 90 percent of all recharge is occurring on 2 to 5 percent of the landscape, amounting to about three to six inches per year under playa lakes.

"We've found that playa lakes are responsible for a significant majority of recharge to the aquifer, much more so than in the surrounding uplands," Wood said, "Replenishing the aquifer therefore means ensuring that playas continue to function normally and naturally."

Like the aquifer, playa lakes are

representatives from non-profit and private organizations, and federal and state wildlife agencies in the western Great Plains states of Colorado, Kansas, Nebraska, New Mexico, Oklahoma and Texas. The PLJV's mission is to conserve playa lakes, other wetlands and associated landscapes for the benefit of birds, other wildlife, water and people. Joint Venture partners include: Ducks Unlimited, The Nature Conservancy, Pheasants Forever, ConocoPhillips, the Natural Resources Conservation Service, U.S. Fish and Wildlife Service, U.S. Forest Service, and state wildlife agencies of Colorado, Kansas, Nebraska, New Mexico, Oklahoma and Texas.

The PLJV was established in 1989 and since then, has raised more than $50 million to conserve more than 100,000 acres of wetlands and other wildlife habitat in the short and mixed grass prairie regions of the western Great Plains. For more information about the PLJV, aquifer recharge or wildlife conservation issues in this region, visit the web links provided in this news release or call (303) 926-0777.

and for decision-makers to understand that protecting playas is an enormous help to the aquifer and economies of the western Great Plains," said PLJV Coordinator Mike Carter. "Playas put money in peoples' pockets."

also a threatened resource. Of the more than 40,000 playa wetlands in the region, resource managers estimate that at least 70 percent of those have been altered from their natural state through pitting, plowing or sedimentation. Of these, sedimentation is the single largest threat to playa lakes.

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