

American Water Resources Association
2009 ANNUAL WATER RESOURCES CONFERENCE
November 9-12, 2009
Seattle, WA

Thursday, Nov. 12
8:30 AM – 10:00 AM
SESSION 59: Policy and Legal

Comparative International Water Law and Management: The Asia-Kansas Program - John C. Peck,
University of Kansas School of Law, Lawrence, KS

The University of Kansas collaborated with the International Water Management Institute, headquartered in Sri Lanka, to provide a program in the fall of 2006 on comparative international water law and management. Water professionals—hydrologists, engineers, economists, and managers—from India, Bangladesh, Nepal, and China met for three weeks in Kansas with university professors and water officials from the State of Kansas and the federal government to study, discuss, and compare the laws and methods of water allocation and management used in the Asian countries and the United States. The author directed the program. The program consisted primarily of lectures and field trips. The Asian experts described the laws and management practices of their respective countries. Host lecturers included members of the KU faculties of law, engineering, economics, and geology. Field trips were taken to federal reservoirs, river basins, wetlands, an aquifer storage and recovery project, and a municipal water reuse project. Meetings were arranged with lawyers, government regulators, politicians, judges, personnel from public water suppliers, groundwater management district managers, farmers, and business leaders. Each Asian participant wrote a report on some aspect of comparative law and management. So far, the program has resulted in the presentation of two papers in China and one in India, and the publication of two law journal articles in the United States, and one in China. Subjects covered include comparisons of the water allocation laws in India, China, and the United States; innovative water management practices in the countries; interstate and international water allocation disputes; the openness of the public debate on major water projects in Kansas and China; the Yellow River management system in comparison to that of Kansas; and possible improvements to the laws of India, Kansas, and China based on the knowledge shared and gained by the participants. The program has produced valuable professional collaboration, which is still ongoing. The recommendation that comes from this successful program is that more governments and universities throughout the world consider establishing similar comparative programs based on this or other models.

Price Determinants for Ditch Company Shares in Colorado's South Platte Basin - Matthew Payne,
WestWater Research, LLC, Boise, ID (co-author: Mark Griffin Smith)

Water scarcity presents an obstacle to economic development in the western United States. In an attempt to accommodate the increasing levels of demand that population growth, recreation, industry, and environmental protection place on water supplies, western states frequently establish markets for water. Water markets promote efficient allocation, helping states to derive the highest possible economic benefit from available resources, and allowing western water supplies to support as much new development and population growth as possible. However, imperfect pricing information for water threatens the ability of water markets to efficiently allocate water. Correct valuation improves water right allocation by aiding market participants in negotiating and completing sensible transactions despite the limited availability of price signals. We estimate the values market participants place on shares of ditch company water rights in Colorado's South Platte basin, the most active water market in the United States. Hedonic pricing is used to estimate the implicit value consumers place on each water right characteristic and the contribution of these characteristics to price. The dataset includes price, quantity, reliability, location, and type of use information for 254 transfers of ditch company shares completed between 2002 and 2008. Because these data are proprietary and difficult to collect, this dataset represents one of the most comprehensive collections of water transaction information in existence for Colorado's South Platte basin. Our results confirm the findings of previous studies that price increases with supply reliability. In addition

we find that supplies located near urban demand centers attract higher prices and that cities pay a premium for both storage and upstream diversion points

Residential Water Demand Estimations using a Large Panel of Monthly Water Use - Shawn Stoddard, Truckee Meadows Water Authority, Reno, NV

The Truckee Meadows Water Authority has developed very detailed water demand model using a rich and unique data set of monthly water consumption for 4,680 single family residential customers in Reno, NV – one of the fastest growing cities in the U.S. in the last two decades. The data set contains monthly water use for the period January, 2003 to December, 2008, daily climate data that was matched to actual periods of water use by individual meter read dates and property characteristics from assessor's tax records. This high detail model is being used to predict water use under different utility planning scenarios . Such scenarios include: measuring the effect of duration of residence, droughts, changes in conservation programs, customer education and possible effects of climate change on residential demand.

Wanted - Alive: The Santa Fe River - Claudia Borchert, City of Santa Fe Water Division, Santa Fe, NM

Reviving the Santa Fe River is one of the top priorities for the Mayor of Santa Fe and the community. In 2007, the river was declared the "most endangered" in the United States by American Rivers. Historically, the Santa Fe River downstream of the City's supply reservoirs flowed either when upstream inflows exceeded reservoir capacity or from urban storm runoff downstream of the reservoirs. On average over the past ten years, the Santa Fe River has remained a dry channel 80% of the year; storm runoff has contributed flow between 1-20% of the past years. With the goal of restoring flow to the Santa Fe River, the municipal water utility's challenge has been to find enough sustainable supply to support both growing city demand and the Santa Fe River ecosystem. Through water conservation, linking new demand to available water, substitute sources of supply, long-range water supply analysis and planning, and adaptive water resource management, the City has identified 1,000 acre-feet per water year for the Santa Fe River. The City's total per capita water demand has dropped from 170 gallons per capita per day in the 1990s to 100 gallons per capita per day in recent years. City policies require that new water needs for developments be met either with conserved water or by purchasing water rights. A flowing Santa Fe River is also made possible through a \$216 M surface water diversion facility that will allow the City to access water from New Mexico's share of Colorado River water via the San Juan-Chama Project. By adding the Santa Fe River as a present and future water demand in the City's decision support model, the model identified adequate supply mix for the future needs of the City and water for the river in normal and wet years. Changes in reservoir flood water management have also resulted in more sustained flows in the Santa Fe River. All these steps are just the beginning of how Santa Fe is balancing the development drive with the desire for a healthy Santa Fe River environment.