1989 to 2029: A River Odyssey

Proceedings of the 20th Annual South Platte Forum
October 21-21, 2009
Longmont, Colorado

Jennifer Brown, Editor

October 2009

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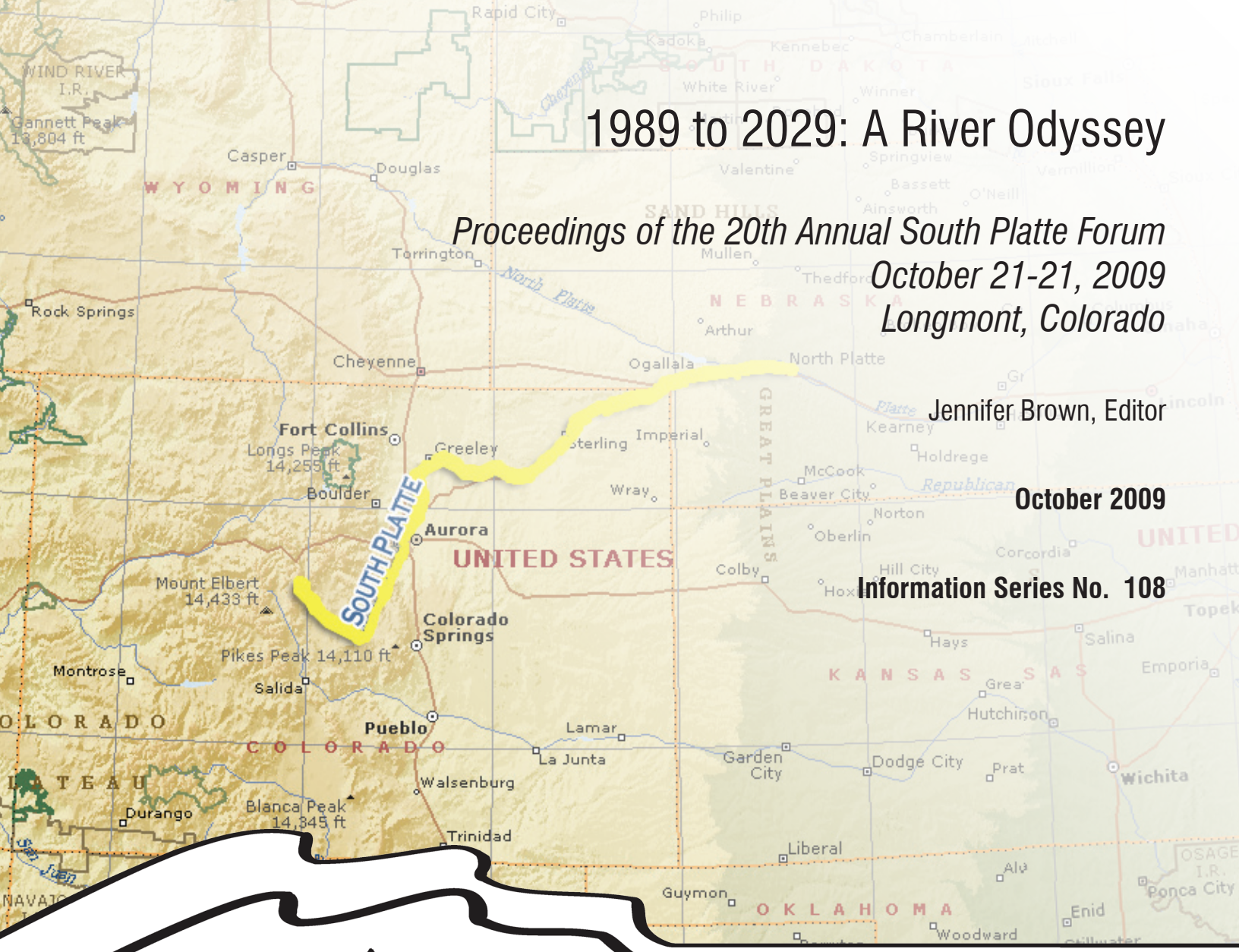

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Additional copies of this report can be obtained from the Colorado Water Institute, E102 Engineering Building, Colorado State University, Fort Collins, CO 80523-1033 970-491-6308 or email: cwi@colostate.edu, or downloaded as a PDF file from http://www.cwi.colostate.edu.

Proceedings of the 20th Annual South Platte Forum

1989 to 2029: A River Odyssey

October 21-22, 2009—Radisson Conference Center—Longmont, Colorado

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20th Annual South Platte Forum

1989 to 2029: A River Odyssey

October 21-22, 2009—Radisson Conference Center—Longmont, Colorado

Wednesday, Oct. 21

Registration & Continental Breakfast—8:00 a.m.

20th Annual South Platte Forum

1989 to 2029: A River Odyssey

October 21-22, 2009—Radisson Conference Center—Longmont, Colorado

Thursday, Oct. 22

Continental Breakfast—8:00 a.m.

Welcome—8:30 a.m.
Brian Werner, Northern Water

Farmers' Markets—8:45 a.m.
Moderator: Troy Bauder, Colorado State University Extension

Pit Stop—10:0 0 a.m.

Navigating the River—10:30 a.m.
Moderator: Marcella Hutchinson, U.S. EPA

Fill 'er up (lunch session)—12:10 p.m.
An Economic Look Forward—12:45 p.m.

Are We There Yet?—1:20 p.m.
Moderator: Doug Kemper, Colorado Water Congress

The Final Destination (forum ends)—2:35 p.m.

Wednesday, Oct. 21, 8:30 a.m.

Welcome to the South Platte Forum

Moderator: Reagan Waskom, Ph.D.
Director, Colorado Water Institute, Colorado State University, 1033 Campus Delivery, Fort Collins, CO 80523-1033, (970) 491-6308, Reagan.Waskom@ColoState.EDU

Reagan Waskom is the director of the Colorado Water Institute and Colorado State University Water Center. Reagan has a joint appointment in the Department of Soil and Crop Sciences and the Department of Civil and Environmental Engineering at CSU. He has worked on various water-related research and outreach programs in Colorado for the past 23 years.

What Has Been: A Brief History of the South Platte Forum

Robert Ward, Ph.D.
Former Director, Colorado Water Institute, Colorado State University, 1033 Campus Delivery, Fort Collins, CO 80523-1033, (970) 491-6308, rcw@lamar.colostate.edu
**Recipient of the 2006 Friend of the South Platte Forum Award*

Robert Ward joined the Colorado State University faculty after receiving his doctorate from North Carolina State University in 1970. He spent the next 35 years conducting research (and teaching and outreach) addressing the design of water quality monitoring systems, particularly those designed to support fair and equitable, management-oriented decision making. He spent sabbatical leaves with water quality research organizations in Denmark and New Zealand and maintains professional connections with scientists in each country. He also served on the Scientific Organizing Committee for four European-wide conferences on the design of water quality monitoring systems (entitled "Monitoring Tailor-made"). He was a member of the U.S. National Water Quality Monitoring Council from 1997-2005.

During his years at CSU, Robert authored two books and more than 70 journal papers on monitoring. He continues to serve as a reviewer/consultant on the design of monitoring systems. He also served as the Associate Dean for Undergraduate Studies in the College of Engineering and, for 14 years, director of the Colorado Water Institute. For his efforts to better connect university-based water research with new knowledge needs of Colorado water managers, Robert was awarded Honorary Life Membership in the Colorado Water Congress. Robert continues to serve on graduate student committees and attend campus water seminars. In pursuit of his interest in water history, he serves on the Poudre Heritage Alliance (a group establishing a National Heritage Area along the lower 40 miles of the Cache la Poudre - a river rich in western water history), as well as the Advisory Committee for the CSU Water Archives.

About the South Platte Forum

The South Platte Forum was initiated in 1989 to provide an avenue for a timely, multi-disciplinary exchange of information and ideas important to resource management in the South Platte River Basin. Its stated mandates are:

- to enhance the effective management of natural resources in the South Platte River Basin by promoting coordination between state, federal and local resource managers, and private enterprise, and
- to promote the interchange of ideas among disciplines to increase awareness and understanding of South Platte River Basin issues and public values.

The expressed opinions and information at the Forum and in this program are not necessarily endorsed by the South Platte Forum or any of its sponsoring agencies.

What Is Yet to Come

Brandon Shaffer
Senate President, Colorado State Senator, District 17 , 200 E. Colfax , Denver, CO 80203, (303) 866-3341, brandon.shaffer.senate@state.co.us

Brandon Shaffer was born and raised in Denver, Colorado. He graduated from East High School and studied political science at Stanford University. He utilized the Navy ROTC scholarship program and attended naval science classes at the University of California, Berkeley. He also participated in Stanford-in-Government, working as an intern for Governor Roy Romer (Colorado) and the Commission on National and Community Service (Washington D.C.). Brandon graduated with honors in 1993.

Upon graduating, Brandon was commissioned into active duty in the United States Navy. During his three-year tenure aboard the USS Hewitt - DD 966 stationed in Yokosuka, Japan, he served as anti-submarine warfare officer, deck division officer, and navigator. He also made two deployments to the Persian Gulf.

Brandon graduated from law school and passed the Colorado Bar Exam in 2001. In November of 2004, Brandon was elected to his first term as a Colorado State Senator, representing Longmont, Erie, Lafayette, and Louisville.

Brandon is currently an attorney in Longmont where he resides with his wife, Jessicca, and two children.

Wednesday, Oct. 21, 9:00 a.m.

Water Law: The Final Frontier

Moderator: Reagan Waskom, Ph.D.

A Look Back at Colorado Supreme Court Water Decisions

Gregory Hobbs
Justice, Colorado Supreme Court, 2 E. 14th Ave., Fourth Floor, Denver, CO 80203, (303) 837-3748

Justice Greg Hobbs took office as a member of the Colorado Supreme Court on May 1, 1996, after practicing water, environmental, land use, and transportation law for 25 years. He is a co-convener of the western water judges educational project, Dividing the Waters; Vice President of the Colorado Foundation for Water Education; and the author of In Praise of Fair Colorado, The Practice of Poetry, History, and Judging (Bradford Publishing Co. 2004), Colorado Mother of Rivers, Water Poems (Colorado Foundation for Water Education 2005), and The Public's Water Resource, Articles on Water Law, History, and Culture (Continuing Legal Education in Colorado, Inc. 2007).

Notes:

A Look Forward: Hotter, Drier, and More Crowded

David Getches
Dean, University of Colorado Law School, 323C Wolf Law Building, 401 UCB, Boulder, CO 80309-0401
(303) 492-3084, lawdean@colorado.edu

It is 2040. The population of Colorado is eight million people, most of them living on the Front Range. Nearly all receive water from the Front Range Water Authority. Half of all sewage is being reclaimed and reused. Lawn watering has been banned in all incorporated cities during summer months. For five years in a row the Colorado River has produced only about the amount of water already promised to California, Arizona, and Nevada. Nevada has bought hundreds of thousands of acres in Colorado and the associated water rights. The Platte River runs only intermittently at the state border, but causes serious flood damage. More Colorado law graduates than ever are employed as water lawyers.

David Getches is dean of the University of Colorado Law School. He also holds the title of Raphael J. Moses Professor of Natural Resources Law and has taught and written in water law, public land law, environmental law, and Indian law for many years.

From 1983-1987, David served as executive director of the Colorado Department of Natural Resources under Governor Richard D. Lamm. He also was the founding executive director of the Native American Rights Fund. He has published several books in the field of water law, water resource management, and water policy. He has written articles and book chapters, including several on Colorado River water issues and indigenous water rights.

David has consulted widely concerning water policy and national policies concerning indigenous peoples with governmental agencies and non-governmental organizations throughout the United States, Latin America, and Europe. Getches is a graduate of Occidental College (1964) and the University of Southern California Law School (1967).

Notes:

Twenty Years of Water Quality Policy

Paul D. Frohardt
Colorado Water Quality Control Commission; Colorado Department of Public Health and Environment, OED-OLRA-A5, 4300 Cherry Creek Drive South, Denver, CO 80246-1530, (303) 692-3468, paul.frohardt@state.co.us

This presentation will provide an overview of some of the major aspects of water quality policy and the status of water quality twenty years ago. It will address what has changed since then, what has not, and the major water quality management challenges looking forward.

Paul Frohardt *is the director of the Office of Environmental Integration and Sustainability at CDPHE, which is responsible for oversight of the Department's cross-cutting and non-traditional environmental protection programs and initiatives. Paul also serves as the administrator of the Colorado Water Quality Control Commission (a position he has held since 1987) and as the administrator of the Colorado Water and Wastewater Facility Operators Certification Board.*

Paul was previously a partner with the Denver law firm of Holland and Hart, specializing in environmental law and water law. He is also formerly of counsel with the Carlson, Hammond and Paddock law firm in Denver. For ten years, Paul taught graduate courses in water quality management in Denver University's Environmental Policy and Management Program. He is the author of the Citizen's Guide to Colorado Water Quality Protection, published in 2003 by the Colorado Foundation for Water Education. From 2004 to 2006 he served as chair of the Western States Water Council's Water Quality Committee.

Paul is a graduate of Harvard College and Harvard Law School. He also holds a master's degree in public policy from the Kennedy School of Government at Harvard.

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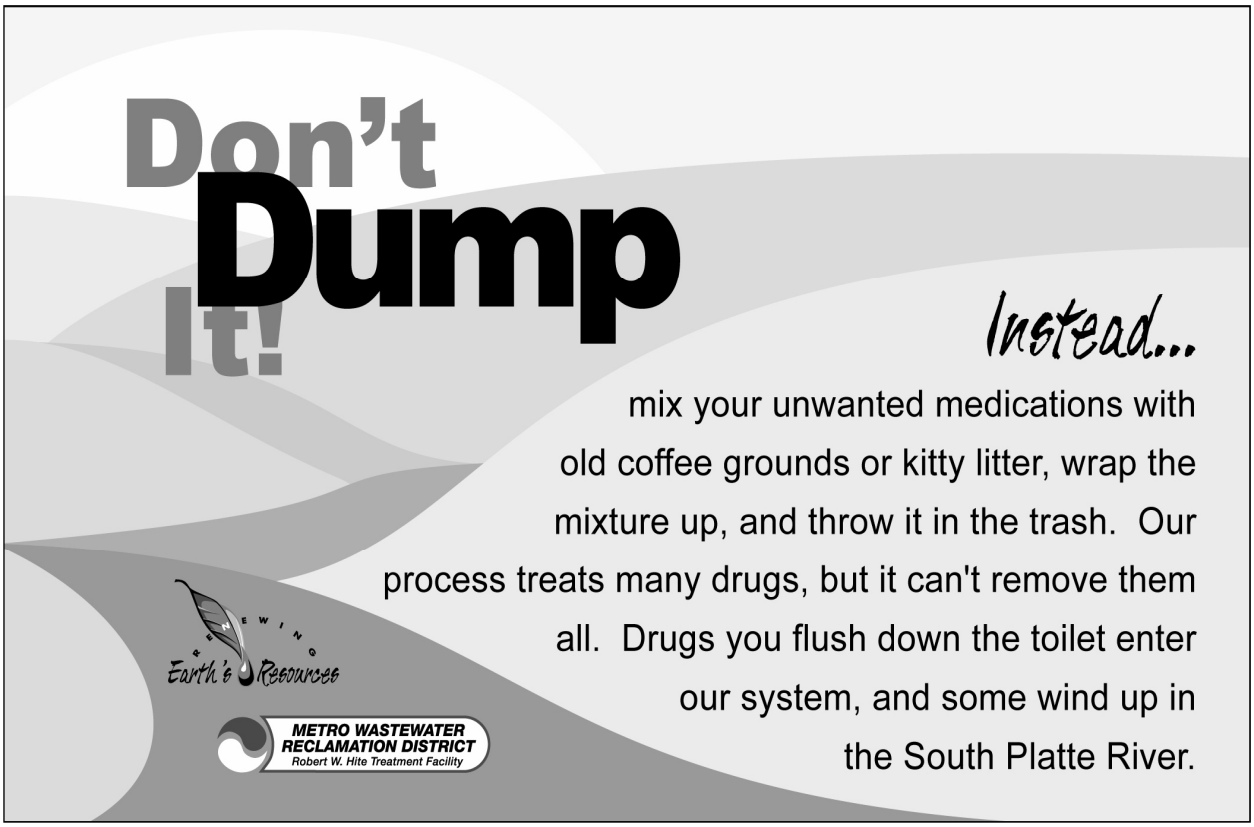

Wednesday, Oct. 21, 10:45 a.m.

Scenic Overlook

Moderator: Brian Werner

Public Information Officer, Northern Water, 220 Water Ave., Berthoud, CO 80513, (970) 622-2229, bwerner@ncwcd.org

Brian Werner *is the public information officer for Northern Water in Berthoud. He also serves as the public affairs coordinator for the Northern Integrated Supply Project, a water storage project currently going through the environmental permitting process. Brian oversees public affairs for the Northern Water, including media relations, youth and public education, facility tours, and informational publications. He has coordinated more than 50 children's water festivals, produced a video on the Colorado–Big Thompson Project, and given numerous tours and presentations on the Colorado–Big Thompson, Windy Gap, and other projects the District has built or is considering building.*

A 20-Year State Engineer's Retrospective

Jeris A. Danielson, P.E., Ph.D.

President, Danielson and Associates, Inc., Consulting Engineers, 517 Belleview Ave., La Junta, CO 81050, (719) 383-2598, jeris_danielson@hotmail.com

Dr. Danielson will discuss salient issues occurring in the State Engineer's Office during the 1970s and 1980s, particularly as they pertained to the South Platte River Basin.

Included will be a discussion of:

- the relative latitude in decision making enjoyed by the State Engineer then as compared to now, and the changes in the State Legislature that complicate decision making now
- the implementation of the 1969 Water Rights Determination and Administration Act, particularly with respect to groundwater administration and development of plans for augmentation
- salient legal rulings and rule-making efforts to control groundwater withdrawals
- the re-organization of the Division of Water Resources allowing for more involvement of Water Division personnel in administration and decision making
- the added emphasis on dam safety; the advent of the "Computer and Space Ages" and their impact on record-keeping, water rights administration, creation of data banks
- the impact of hydrologic modeling; and, important Interstate Compact issues affecting the State of Colorado as a whole

Dr. Jeris A. Danielson, P.E. *was born and raised in Brush, Colorado, on an irrigated farm. He attended both Colorado School of Mines and Colorado State University, where he received three degrees in civil engineering. Upon graduation, he entered the U.S. Army, serving ten years in both Europe and Vietnam.*

Upon release from active duty, he worked as chief hydrologist for a private consulting firm in Denver, Colorado. He was later employed by the Colorado State Engineers Office, holding the positions of chief of planning, assistant state engineer, and deputy state engineer. In 1979, Danielson was appointed to be the Colorado State Engineer by Governor Richard Lamm. As state engineer, he was responsible for the management and direction of the Division of Water Resources. Duties included supervision of all water rights administration in the state. He also served as Colorado's Interstate Compact Commissioner on five interstate compacts.

In 1992 Jeris left state employment to form Danielson and Associates, Inc., a private consulting firm specializing in water rights evaluations, development of augmentation plans for the use of ground water, water rights appraisals, development of conjunctive use plans integrating surface and ground water rights, and other areas closely related to surface and groundwater development and utilization. The firm relocated from Denver to La Junta in 2000.

Speaker PowerPoint Presentations are available at www.southplatteforum.org

A 20-Year Division Engineer's Retrospective

Alan Berryman
Assistant General Manager, Northern Water, 220 Water Ave., Berthoud, CO 80513, (970) 622-2335, aberryman@ncwcd.org

This is a look back at water use and related issues that existed in the basin at the time the South Platte Forum was formed. Topics such as surface and groundwater administration, development of technical support tools, in-stream flows, water quality, and water supply planning were facing the basin at that time. Reflecting upon on some specific examples and what has transpired since then should help to inform our conclusions as to the progress made over the past twenty years.

Alan Berryman has worked for Northern Water since 1995 and is currently the assistant general manager overseeing the Engineering Division. The Engineering Division provides services in project management, water resources engineering, water rights, civil engineering, water quality, irrigation management, and real estate management. Prior to coming to the District, Alan worked for the Colorado Division of Water Resources as the division engineer for the South Platte Basin for ten years. Prior to joining the Division of Water Resources in 1981, Alan was a consultant in the area of water resources engineering and hydraulics. Alan has a bachelor's degree in civil engineering and a master's degree in water resources from Colorado State University.

Notes:

The First 180 Degrees

Max H. Dodson
Citizen, Retired Assistant Regional Administrator, U.S. EPA Region 8, (303) 216-1966, maxdodson42@gmail.com

Historically, the early pioneers looked attentively at the South Platte River and its tributaries for good reason: gold. Later, enterprising farmers dropped large cottonwood trees across the streams to back up water to facilitate diverting water for crop production. Clearly, the South Platte was in full view of those enterprising first residents. Over the decades, however, one could argue, like Joe and Jeff Shoemaker and Mayor Webb, that we turned a full 180 degrees and put our back to the river. Citizens and government had other priorities and the river was just a low spot in the landscape to put things you wouldn't want anywhere else and, if you were lucky, most of the solids and liquids were flushed to a neighbor.

There was always the press of other priorities, especially in urban areas. Water quality was not a real concern, and the ecological health of the riparian zone was of even less concern. The late comedian Chris Farley epitomized this attitude by using the negative vernacular for failing youth being driven to "living in a van down by the river." Even after the most compelling piece of environmental legislation passed Congress in 1972, the Clean Water Act, there were few national examples of citizens doing what needed to be done and pirouetting themselves to face the waterfront once again. This about face needed to occur to affect attitudes and to drive improvements in water quality, land use, and ecological health. Fortunately, big changes were in the works by 1989.

One of my favorite examples of the change has been the South Platte River, including its tributaries. This first 180-degree turn has been remarkable. Without question it can be termed a rebirth, a renaissance, where diverse interests are doing what needs to be done to make the river environment a valuable resource for all. It has been particularly enjoyable to see the redevelopment and riparian improvements taking place in the Chatfield and Adams County areas. These interests have been engaged in a very broad based effort involving protecting water quality from the devastation created by wildfires, nutrient enrichment of water bodies, biological integrity, nonpoint sources, and releases of hazardous wastes.

In 1989 I was involved in the Two Forks veto, the Denver Metro Clean Water Act enforcement case, and the revision to Senate Bill 10. The EPA hammer has never been as heavy as it was in the late 1980s and early 90s. Today it is all about partnerships, prevention, collaboration, sustainability, green design, and stimulus. The EPA and state regulatory hammers are still there but they are now plastic hammers that don't leave any marks. One of the main reasons for this has been local leadership. These leaders and their followers are not facing the river, they are in the river — immersed in a myriad of well-intentioned improvements.

Personally, I am very optimistic about the future. There will never be a second about-face. For the next 20 years we can expect more of the same. It won't be easy. Climate change, population growth, energy development, and infrastructure deterioration are all issues that will continue to require strong leadership, innovation, and a supportive public.

Max Dodson *is a native Californian who has lived in Colorado for most of his adult life. He earned a bachelor's degree from San Francisco State University and two master's degrees from University of Colorado, Boulder, majoring in environmental conservation and environmental management respectively. He served five years active duty with a Navy F-4 squadron, 26 years in the Naval Reserve, and 35 years with EPA.*

At EPA Max served 13 years as the water management division director and 12 years as the assistant regional administrator responsible for Clean Water Act and Superfund programs. In addition, he spent five years in the EPA's Montana Office as water director and office director. Currently he is on the Board of Directors for the Clear Creek Watershed Foundation and the Sand Creek Regional Greenway Partnership. He also participates, pro bono, in advising non-profit organizations and private industry on a broad range of environmental challenges.

He has received the rank of Meritorious Executive from the President of the United States, the 4 C's award from the Secretary of Interior, and the Superior Civilian Service Award from the Secretary of the Army. Other recognition was given to him for his work on the Katrina response and with the 2002 Winter Olympics. He is an avid road biker, having completed in 13 consecutive Ride the Rockies bike tours. Fly fishing, rafting, home improvements, running and traveling keeps him in shape to keep up with his grandson. Max and his wife, Kathryn, live in Golden, Colorado.

Wednesday, Oct. 21, 12:40 p.m.

Friends of the South Platte Award Presentation

The South Platte Forum Planning Committee is pleased to present the Sixth Annual Friends of the South Platte Award to Nolan Doesken in honor of his dedication and contributions to the South Platte River Basin and the South Platte Forum. Congratulations, Nolan, and thank you.

Nolan Doesken is the state climatologist for Colorado and senior research associate at Colorado State University. Nolan began work at the Colorado Climate Center at CSU in 1977 as assistant state cimatologist. Much of his work over the past 32 years has involved collecting and utilizing weather data to make practical everyday and long-term plans and decisions. Drought monitoring, research, and climate/water education are particularly high priorities. Nolan oversees the Colorado Agricultural Meteorological Network (CoAgMet) and the historic Fort Collins Weather Station. Following the Fort Collins flash flood of July 1997, he founded the Community Collaborative Rain, Hail and Snow network (CoCoRaHS) to increase citizen participation in climate monitoring in Colorado and across the nation.

Friends of the South Platte

This award program was initiated in 2004 to recognize individuals and organizations who, through diligence and dedication, have made exceptional contributions in the South Platte River Basin.

Hall of Fame

Chuck GrandPre
"founder" of the South Platte Forum
Honorary Friend of the South Platte

Gene Schleiger
2004 Friend of the South Platte

Sakata Farms, Inc.
2005 Friend of the South Platte

Robert Ward
2006 Friend of the South Platte

Don Ament
2007 Friend of the South Platte

Platte River Greenway Foundation
2008 Friend of the South Platte

Nolan Doesken
2009 Friend of the South Platte

Nominations: To nominate an individual or organization for the Friends of the South Platte award, visit www.southplatteforum.org. Honorees are selected by the organizing committee.

Special thanks to John Fielder for his generous donation of the picture "South Platte Sunset" and his support of the Friends of the South Platte Award. "South Platte River Sunset" can be found with John's other fine art prints at John Fielder's Colorado, his art gallery in the Cherry Creek mall. You can also view his work, learn about workshops and order books at www.johnfielder.com.

Wednesday, Oct. 21, 12:50 p.m.

Keynote Speaker

Chips Barry
Manager, Denver Water, 1600 W. 12th Ave., Denver, CO 80254, http://www.denverwater.org

Chips Barry has been involved in natural resources and water issues since 1969, as either a practicing attorney or as a state or city official. Prior to becoming manager of the Denver Water Department in January 1991, he was in Governor Romer's cabinet as executive director of the Colorado Department of Natural Resources. That Department concerns itself with water, mining, parks, wildlife, geology, and oil and gas.

A Denver native, Barry attended Denver Public Schools and graduated from George Washington High School in 1962. He graduated cum laude from Yale College in 1966 and obtained a law degree from Columbia University Law School in 1969. After law school, he was, in succession, a Vista volunteer in rural Alaska, a law clerk to Judge Robert McWilliams on the 10th Circuit Court of Appeals in Denver, and a legal services lawyer in Micronesia. He returned to Colorado from the Marshall Islands in 1975, resuming a career in western water and natural resources matters.

In the last 30 years Chips has made several hundred public presentations on western water policy, water development, public land management, mining, and the interaction of state, local and federal government in western resource issues.

Chips has been a grader for the Colorado Bar examination, and a member of the Board of Governors for the Colorado Bar Association. He has also been a member of the Colorado Water Conservation Board, the Colorado Mined Land Reclamation Board, and the Energy Impact Advisory Board and was a Trustee of the Colorado Chapter of the Nature Conservancy.

Chips is currently a member of the Inter-Basin Compact Committee, Treasurer and Board Member for Water for People, Treasurer of the American Metropolitan Water Association, a member of the Water Utility Council of the American Water Works Association, and Chairman of the Western Urban Water Coalition.

Chips enjoys tennis, squash, skiing and golf. He is a collector of old Saabs, foreign paper money, and books about Micronesia and Alaska. He is married to the former Gail Nelson, a landscape architect in Denver. He has two sons and one grandson.

Notes:

Wednesday, Oct. 21, 1:30 p.m.

River Trippin'

Moderator: Pete Conovitz

Colorado Division of Wildlife, 6060 N. Broadway, Denver, CO 80216, (303) 291-7305, Pete.Conovitz@state.co.us

Pete Conovitz is the northeast regional water specialist for the Colorado Division of Wildlife. Pete works on water rights, hydrology, and other water resource management issues for the Division within the North and South Platte River Basins.

Biological and Hydrological Issues in the South Platte Basin: We Understand the Problem; How Can We Help?

Jay Skinner

Wildlife Manager V - Water Resources Unit Manager, Colorado Division of Wildlife, 6060 Broadway, Denver, CO 80216, (303) 291-7260, jay.skinner@state.co.us

It is not news that the South Platte Basin is where most Coloradoans live. If we believe what demographic experts tell us, the Basin is going to get a lot more crowded in the next 20 years. Through their needs assessments, the Statewide Water Supply Initiative (SWSI) and Interbasin Compact Committee (IBCC) basin roundtables tell us there will be a need to develop water supplies to accommodate the population increase.

Where will that water supply come from? Water managers are looking in all directions for the answers; and, if you agree with climate change experts, there is a lot of uncertainty about the future.

The roundtables also tell us that Coloradoans have an interest in protecting agricultural communities and economies, environmental and non-consumptive water needs, and water quality. From a fish and wildlife management perspective, the CDOW and the state's citizens have a common interest in this regard in that agriculture creates open spaces and wildlife habitat; that environmental and non-consumptive water needs are synonymous with healthy aquatic ecosystems, instream flow protection, and wildlife conservation; and that both responsible development of future water supplies and water quality protection are in everyone's best interest.

CDOW understands the depth and potential for conflict between responsible development of new reliable water supplies and the protection of those things that make Colorado a special place to live. Further, we have struggled through the regulatory nightmare that occurs when species are listed as threatened or endangered by the Endangered Species Act. Since the mid-1990s, the CDOW has taken the proactive position of protecting state species of concern so that any further federal listings under the ESA are not needed – examples of this proactive management will be covered in detail by other speakers in this panel, but they are the inventory and identification of populations in need of protection, use of the state's recently enhanced instream flow program to protect aquatic habitat, and use of CDOW's ability to acquire habitat by purchase, lease, or conservation easement.

CDOW personnel have also attempted to assist the IBCC basin roundtables in identifying and prioritizing fish and wildlife values while they simultaneously attempt to solve the "water for people" challenge. CDOW personnel remain ready to assist with the next steps for the IBCC basin roundtables as they look for environmentally and socially responsible ways to meet the water challenges of the next 30 to 50 years.

Jay Skinner is approaching his 25 year milestone with the State of Colorado; 22 of which have been with the Colorado Division of Wildlife and 19 of which were working on various aspects of the state's instream flow program. Twenty years ago Jay was making the transition from a CWCB water resource specialist working on the administrative side of the Instream Flow Program to that of a scientist working on the quantification side of the Instream Flow Program at the Division of Wildlife.

Jay is now in his sixth year as manager of programs for the Division where he supervises nine professionals with statewide programmatic responsibilities ranging from water management on CDOW properties, to water rights development and protection, to water acquisition, to instream flow protection, to water quality monitoring and protection. Jay and his staff have been involved in the South Platte Forum for 11 years. Jay lives in what remains of rural eastern Douglas County east of Parker, is married, and has two daughters.

Conservation of Native Fishes in the South Platte Basin

Ryan Fitzpatrick
Aquatic Conservation Biologist, Colorado Division of Wildlife, 317 W. Prospect Rd., Fort Collins, CO 80526, (970) 472-4336, ryan.fitzpatrick@state.co.us

The South Platte River is located within the Great Plains ecoregion. Streams within this ecoregion contain harsh habitats with extreme variation in physical and chemical conditions, including seasonally fluctuating flows, temperatures, and oxygen concentrations. Plains fishes have multiple adaptations to these conditions, such as physiochemical tolerance to temperature extremes and low oxygen, reproductive strategies to aid recruitment such as early maturation, high fecundity, and rapid larval development, and generalist feeding strategies to take advantage of scarce resources. Despite their high adaptability to natural conditions, some species are in decline. Changes that have impacted these fishes include alteration of flow, diminished habitat connectivity, alteration of habitat and, potentially, water quality. The fact these fishes have adapted to these harsh conditions makes their evolutionary history unique and their conservation important. The purpose of this presentation is to give background information on the native fishes of the South Platte River, provide their current status, and discuss current conservation issues for these species.

Ryan Fitzpatrick is an aquatic conservation biologist for the Colorado Division of Wildlife. His position entails sampling native fish and amphibians in the northeast region of Colorado; however, the majority of his time has been spent sampling plains fishes in the South Platte Basin. Ryan enjoys the opportunity to sample Colorado's native aquatic organisms and discuss these species with the public. Ryan received his undergraduate degree from Iowa State University and master's degree from Colorado State University

Notes:

Keep 'em Flowing: Colorado's Instream Flow Program

Linda Bassi

Chief, Stream and Lake Protection Section, Colorado Water Conservation Board, 1313 Sherman Street, Room 721, Denver, CO 80203, (303) 866-3441, ext. 3204, linda.bassi@state.co.us, www.cwcb.state.co.us

In 1973 the Colorado General Assembly established Colorado's Instream Flow and Natural Lake Level Program (ISF Program), expressly recognizing "the need to correlate the activities of mankind with some reasonable preservation of the natural environment." Since the ISF Program's inception, the Colorado Water Conservation Board has faced numerous challenges in its implementation of the ISF Program and its efforts to strike an appropriate balance between human needs and the needs of Colorado's water-dependent natural environment. In this presentation, Linda Bassi will address how the law governing the ISF Program has evolved and been shaped by those challenges, describe Program accomplishments with a focus on the last 20 years, and discuss some of the current challenges faced by the Board.

Linda Bassi *is the chief of the Colorado Water Conservation Board's Stream and Lake Protection Section, and has worked for the Board since September 2004. Linda is responsible for all program areas of the Colorado Instream Flow and Natural Lake Level Program, which include new instream flow appropriations, legal and physical protection of the Board's instream flow water rights, acquisitions of water for instream flow use by the Board, and development of legislation, policies, and rules related to the Instream Flow Program. Prior to working for the Board, Linda worked in the Colorado Attorney General's Office, representing the Division of Water Resources and the Colorado Water Conservation Board on various water rights issues. Linda represented the Board in water court to protect its instream flow water rights and to appropriate new instream flow water rights. As the Board's attorney, Linda also worked on water acquisitions and assisted in drafting the Instream Flow Rules. Linda received her Juris Doctor from IIT-Chicago Kent College of Law in 1994, where she completed a program in environmental and energy law. She received her Bachelor of Arts in photography from Columbia College in 1984.*

Notes:

Mark Your Calendar!!

The 21st Annual South Platte Forum

October 20-21, 2010, Location TBA

Fill out your evaluation and help select the topics!

An Interactive Discussion of the Value of an Integrated Partnership with a Non-Profit Organization In the Creation of Parks and Open Space Amenities

Jeff Shoemaker
Executive Director, The Greenway Foundation, 5299 DTC Blvd., Ste. 710, Greenwood Village, CO 80111, (303) 455.7109, wjs@greenwayfoundation.org

The Greenway Foundation is the non-profit organization that, since 1974, has partnered with public, private, and philanthropic organizations in the collaboratively based creation of more than $80 million of park, trail, open space, boating, and water quality amenities along the Denver Metro Area's urban waterways.

In each endeavor the Foundation has created a partnership with a public/governmental organization (local, regional, state and/or federal) that is based on the need at hand. This collaborative effort determines the role of each partner on a case-by-case basis, which results in a more timely and beneficial outcome than could occur if operating individually.

Since 1982 Jeff Shoemaker has been the executive director of The Greenway Foundation, assuming the leadership role from his father Joe, the founding and ongoing chairman of the Foundation. Over the course of the 27-year period, The Greenway Foundation has been involved in the creation of more than 50 miles of trails, the creation or expansion of more than a dozen park and open space projects, and on-going efforts to improve the recreational and environmental value of the South Platte River and its tributaries.

In addition, the Foundation has created and administers:

- SPREE (South Platte River Environmental Education) - an interactive youth education program that brings more than 5,000 elementary children to the banks of the South Platte, Cherry Creek, and Bear Creek
- Venice on the Creek - the summer-time gondola-like boating concession on LoDo's Cherry Creek, employing more than a dozen Denver high school and college students
- Special Events - Confluence Concerts, River Flicks, South Platte RiverSweep, Art on the River, and more
- Long-Range Planning and Projects - most recently including the River South and River North Greenway Master Plans, the expansion of Confluence Park onto the former Xcel Energy substation, the Downtown Childrens' Playground, and, most recently, the construction of the final 1.5 miles of trail along Cherry Creek in Denver.

Jeff Shoemaker *is the executive director of The Greenway Foundation – the non-profit organization that has been reclaiming Denver's metro area waterways since 1974 . He is also the executive director of the foundation for Colorado state parks, which provides private support to state parks throughout Colorado.*

Jeff attended the University of Colorado at Boulder, graduating in 1977 and 1978, receiving degrees in piano and conducting. Jeff taught band in public school from 1978 through 1982.

In 1982 Jeff became director of The Greenway Foundation at the request of his father Joe Shoemaker, the founding and continuing chairman of the foundation. During the last 26 years, Jeff has overseen the creation of more than $25 million of enhancements along Denver's metro area waterways including the South Platte River, Cherry Creek, Bear Creek, Sanderson Gulch, and numerous other tributaries.

From 1987 to 1992, Jeff was a member of the Colorado House of Representatives, serving on the appropriations, local government, and finance committees. He served as chairman of the education committee from 1990-92. He chose to not seek a fourth term.

Notes:

Wednesday, Oct. 21, 3:45 p.m.

Voyage of Discovery

Moderator: Nolan Doesken

The Climate of the South Platte Basin: What Have We Learned in 20 Years?

Nolan Doesken
Colorado State Climatologist and Senior Research Associate, Colorado State University, Fort Collins, CO 80523, (970) 491-8545, nolan@atmos.colostate.edu

Our climate in the South Platte Basin is ever variable. The topography of the Front Range, our mid-continent location, our great distance from oceans and atmospheric moisture sources, and our high elevation all combine to provide a climate rich in variability and extremes. Because the climate is so variable here, we sometimes interpret variability as change. Likewise, change can be lost within the variability. For example, for the lower elevations of the South Platte Basin, a wet year may bring 150—200% of average precipitation, while a dry year delivers only 50—75% of average. In the past 20 years, we've seen drought at its worst and we've dealt with some floods. We've had huge storms and long spells of sunshine. We've seen incredible changes in technology to measure and report weather and water, and to predict and display what will happen next. Yet we are still uncertain about how much rain or snow fell yesterday and how much will fall next week. We are sometimes stymied in our efforts to project water supplies more than a few months in advance. Our jobs have been made more difficult by the fact that so many people who live and work here love the area, love the sunshine, love the low humidity, and love the mountains, but don't know much about where our water comes from and how it gets here. Each year it seems that we need to start anew in explaining our seasonal weather patterns, our water supplies, and our water needs. Each year the climatologists explain what happened last year but are uncertain about the future. This presentation will include a 20-year summary of South Platte Basin climate data to remind us all of the ups and downs of the past 20 years.

Nolan Doesken is the state climatologist for Colorado and senior research associate at Colorado State University. Nolan began work at the Colorado Climate Center at CSU in 1977 as assistant state cimatologist. Much of his work over the past 32 years has involved collecting and utilizing weather data to make practical everyday and long-term plans and decisions. Drought monitoring, research, and climate/water education are particularly high priorities. Nolan oversees the Colorado Agricultural Meteorological Network (CoAgMet) and the historic Fort Collins Weather Station. Following the Fort Collins flash flood of July 1997, he founded the Community Collaborative Rain, Hail and Snow network (CoCoRaHS) to increase citizen participation in climate monitoring in Colorado and across the nation.

Notes:

A Climatic Look Forward

Martin Ralph, Ph.D.
Chief, Regional Weather and Climate Applications Division, NOAA, (303) 497-7099, Marty.Ralph@noaa.gov

Dr. Martin Ralph *is a research meteorologist who has studied phenomena that cause variations in daily weather and how these variations are affected by short-term climate variability. A key area of interest is exploring how to best observe the atmosphere, with an emphasis on what observations and physical understanding are needed to improve forecasts of precipitation. He has worked closely with the operational weather forecasting community to develop new forecasting techniques based on better physical understanding of the weather and on better use of observations to guide predictions. These efforts have converged in the establishment of testbeds as a method to accelerate the development and infusion of new science and technology into weather and climate forecasting operations.*

Martin has published more than 50 peer-reviewed scientific articles, 20 as the lead author, including several that have advanced the scientific understanding of atmospheric rivers, which are critical to both the global water cycle and to the distribution of precipitation and flooding in key parts of the world. Better understanding, monitoring, and prediction of atmospheric rivers are important to both precipitation forecasting and to reliable regional climate projections of flooding and water supplies in several areas of the world.

Martin is currently the program manager of NOAA's Weather and Water/Science, Technology and Infusion Program and chief of the Water Cycle Branch at NOAA's Earth System Research Laboratory/Physical Sciences Division. He is a research associate at Scripps Institution of Oceanography and a Fellow of the American Meteorological Society, and has experience communicating work in atmospheric sciences with elected officials and the public. He was born in Detroit, Michigan and has lived in Arizona, Florida, California, France, and Colorado. He received a bachelor's degree in meteorology at the University of Arizona and master's and doctorate degrees from UCLA in atmospheric sciences.

Please join us for the reception and poster session immediately following this session.

We'll start again Thursday morning promptly at 8:30 a.m.
A continental breakfast will be available at 8 a.m.
See you then!!

Thursday, Oct. 22, 8:30 a.m.

Farmer's Markets

Moderator: Troy Bauder
Extension Water Quality Specialist, Cooperative Extension Services, Dept. of Soil and Crop Sciences, Colorado State University, Fort Collins, CO 80523-1170, (970) 491-4923, tbaud@lamar.colostate.edu

Troy Bauder *is the state extension water quality specialist in the Department of Soil and Crop Sciences at CSU where he received his bachelor's degree in agronomy and his master's degree in soil science. Troy is responsible for conducting statewide educational and applied research programs on water quality, especially related to protection of groundwater quality from impairment to agricultural chemicals as authorized under the Agricultural Chemicals and Groundwater Protection Act (SB90-126). His research and outreach activities include nitrogen management using high nitrate irrigation water, aquifer vulnerability to contamination, and factors affecting adoption of Best Management Practices by Colorado producers.*

Notes:

Crystal or Cattle, Boardwalks or Broccoli, iPods or Onions?

Robert T. Sakata
Vice President, Sakata Family Farms, 662 Rose Dr., Brighton, CO 80601, (303) 947-3097, rtsakata@aol.com
**Recipient of the 2005 Friend of the South Platte Forum Award*

Twenty years ago I made the decision to come back to the farm after college. Have things changed much over since then? We still plant our vegetables in the spring, care for them through the summer, and hopefully harvest them in the fall. Just like 20 years ago, during the growing season I leave my house about an hour before sunrise to plan for the day's events and usually get home an hour after sunset, just in time to fall asleep before the TV weather report. I still worry if a hail storm will destroy a year's worth of work, if there will be enough help to harvest the crop, or if there will be demand enough to market what I have grown.

So what *has* changed over the past 20 years? The biggest change is that there are now two million more people living in Colorado. No longer is our farm in the county; instead, we find ourselves fighting the traffic of the Wal-Mart next door. No longer are we sharing our water with just other farmers, but with municipalities working to develop secure supplies. Now when the wind blows, we struggle with tumble weeds blowing in from the vacant housing developments that were never completed and trash sacks from Wal-Mart and McDonalds. Our neighborhood is still farms and ranches, but only by name as the developers have chosen to name the housing subdivision with those titles. Today I deal with more paperwork than plants, I spend more time in front of my computer than I do on a tractor, and I fear being swamped with regulatory burdens more than I fear flood waters. I wonder - since farmers are now less than 2% of the population - if society will eventually choose crystal over cattle, boardwalks over broccoli, and iPods over onions.

What will the agricultural community look like 20 years from now? If we look at the key issues facing agriculture today we can identify some potential key issues that farmers will face in the near future. Issue number one is water. From my perspective it's a lot simpler than most people make it. Cities need water, farmers have water, water will be transferred from farms to the cities: there will be continued conversion of agricultural water rights to municipal and industrial use.

Issue number two is labor. As the economy begins its recovery and society returns to its service-oriented nature, shortages of qualified help will again plague Colorado agriculture. Labor-intensive farming will be replaced by production of crops that don't require as much.

Issue number three is increasing regulatory burdens. As the requirements to meet regulatory oversight on all aspects of farming increase, small to medium size farms find themselves unable to afford the resources necessary to be in compliance with things like the Food Security Act, water allocation, transportation, labor, food safety, and animal and environmental protection.

Issue number four is consolidation. Although the marketing trend has recently been to support "locally" produced food, the competitive nature at the retail level will continue to push the mega-store model, where "locally" produced is often merely a marketing ploy and not a substantial support to the local producers. We all have become very spoiled and dependent on the year-round availability of good quality food products, and although we all talk a good talk about supporting local, our lives and commitments really preclude the time and energy it would take to truly support locally grown food. Consumers, although they decry the idea of "factory farms," are really driving the industry in that direction by demanding cheap, high-quality food. Grocery stores are now requiring that each and every piece of produce be exactly alike and meet their exact specifications. Any produce that doesn't meet their "grade" must be discarded, although in many cases there is nothing wrong with it, and, in some cases, the discarded produce is better than their specification.

Twenty years from now, will most of our food come from larger farm operations that operate not only in several states but also several countries? Will we become dependent on our food being produced rather than grown? Will it have to become "sterile" because of the large risk associated with a centralized source? Will operations become more "green," even though the cost of this mechanical technology will again lead to larger operations as the "support local" trend wanes? Twenty years from now we may still plant in the spring, cultivate during the summer, and harvest in the fall, but what and how we do it may be very different.

Robert T. Sakata is a Colorado native who resides in Brighton, Colorado. In partnership with his parents, who started farming in Brighton in 1946, Robert is now vice president of the family vegetable farm. Robert completed his first term on the State of Colorado Water Quality Control Commission February 15, 2000. He serves as the Commission's liaison to the Water Quality Forum, the Colorado Nonpoint Source Council, and the Colorado Department of Agriculture. He has been a member of the SB90-126 Agricultural Chemicals and Ground Water Advisory Committee since it's inception and is participating in the formation of Colorado Goundwater Quality Protection Council.

BioFuels in the South Platte: Economic Futures and Current Realities

James Pritchett, Ph.D.
Associate Professor, Agricultural and Resource Economics, Colorado State University, B327 Clark Building, Fort Collins, CO 80523, (970) 491-5496, James.Pritchett@ColoState.edu

Do biofuels represent a future opportunity for the South Platte, or will competition for resources, including water, limit the long-term viability of the industry? This presentation will provide an overview of the biofuel industry's current status, describe the complex interaction of economic relationships that underpin its growth, and describe the potential for future expansion.

Dr. James Pritchett's research and outreach effort focuses on applied economic issues important to stakeholders in Colorado agriculture. Most recently, focus has been placed on water resources: how farms might make the best use of limited water resources, the economic activity generated by irrigated agriculture in rural regions, and the perceptions that households have for water use. James holds bachelor's and master's degrees from Colorado State University and a doctorate in agricultural and applied economics from the University of Minnesota.

Notes:

Alternatives to Ag Transfer and Dry Up

Joe Frank, P.E.
General Manager, Lower South Platte Water Conservancy District, 100 Broadway Plaza, Ste. 12, Sterling, CO 80751, (970) 522-1378, jmfrank@lspwcd.org, www.lspwcd.org

As water needs increase within the South Platte Basin and water supplies are stretched to their maximum extent, irrigated agricultural supplies continue to be targeted as one of the primary solutions to this supply and demand issue. Water providers purchase agricultural water supplies at market price from agricultural producers in a "willing buyer, willing seller" atmosphere, resulting in the permanent dry-up of agricultural lands. Members of the South Platte Basin Roundtable recognize and agree with a farmer's right and ability to sell water in a "free market" economy. The roundtable also recognizes and concurs that permanent dry-up of agricultural lands within the South Platte Basin is a major socio-economic and water supply issue facing this basin. Members of the roundtable and numerous other water users, water providers, and interested parties in the basin continue to search for solutions to this issue. It should be pointed out that the overall goal is to provide multiple options and to not rely on one solution, such as "buy-and-dry" of irrigated agriculture, to solve future in-basin and statewide water shortages.

There are multiple in-basin alternatives to permanent agricultural dry-up that are currently being pursued, including: lease/fallow, interruptible supply agreements, alternative cropping patterns, deficit irrigation, and in-basin water cooperatives. In addition, other alternatives such as planned structural projects, municipal conservation measures, and multi-beneficial non-consumptive / consumptive projects are further alternatives to permanent agricultural dry-up. Finally, there are also ideas for some of the tools needed for such solutions, including infrastructure needs, legal requirements, regulatory compliance, and funding needs.

Joe Frank, P.E. is the general manager for the Lower South Platte Water Conservancy District. He has been with the District for nearly six years and has served as the manager for five years. The District serves approximately 405,000 acres in Morgan, Washington, Logan, and Sedgwick Counties in northeastern Colorado. He also represents the District on the South Platte Basin Roundtable, is a board member of Colorado Water Congress, and sits on various committees for the Platte River Recovery Implementation Program and the South Platte Decision Support System. He previously worked for JeHN Engineering in Arvada as a project manager. He holds a bachelor's degree in civil engineering from Colorado School of Mines and is a licensed professional engineer in the State of Colorado. Joe also manages the District 64 Reservoir Company, provides augmentation accounting for numerous well users' groups, and provides technical assistance and coordination in developing and operating various augmentation plans and water supply projects.

Thursday, Oct. 22, 10:30 a.m.

Navigating the River

Moderator: Marcella Hutchinson
Colorado Watershed Coordinator/Non Point Source Project Officer, U.S. EPA Region 8, 1595 Wynkoop St., Denver, CO 80202, (303) 312-6753, hutchinson.marcella@epa.gov

Marcella Hutchinson is an environmental scientist with the Office of Ecosystems Protection and Remediation at the U.S. EPA Region 8 office in Denver, Colorado. She is responsible for Watershed and Non Point Source programs for Colorado. She has a Bachelor of Arts and a Master of Science, both in geology, from the University of Colorado at Boulder. Ms. Hutchinson has worked in EPA water programs since 1996.

A River Runs Through It: Watersheds, Planning, and Action

Carol Ekarius
Executive Director, Coalition for the Upper South Platte, Box 726, Lake George, CO 80827, (719) 748-0033, carol@uppersouthplatte.org, www.uppersouthplatte.org

News Flash: The world isn't flat. Even in seemingly flat areas, the natural changes in elevation define where water flows, and by using these features, we can define watersheds. Using these natural ecosystem boundaries as planning units provides an ideal way for identifying key stakeholders, creating a place-based dialog and sense of ownership, and implementing projects that deal with a wide variety of water quality and environmental issues. This session will cover how the watershed approach has been used in the Headwaters and Upper South Platte Basins and what lessons have been learned from the efforts of the Coalition for the Upper South Platte, its partners, and stakeholders.

Carol Ekarius is the founding executive director of the Coalition for the Upper South Platte, the watershed group that works in the 2,600 square-mile watershed at the headwaters of the South Platte. CUSP works on a variety of projects and programs to protect the water quality and ecological health of the watershed through the cooperative efforts of stakeholders with emphasis on community values and economic sustainability. She has been involved with water quality issues in Colorado since the 1980s when she ran Frisco Sanitation District. Carol is also the author of a number of books on livestock and farming.

Notes:

Water Education: A New Attitude

Tom Cech
Executive Director, Central Colorado Water Conservancy District, 3209 W 28th St., Greeley, CO 80634, (970) 330-4540, tcech@ccwcd.org

The level of water knowledge among non-water resource professionals in the South Platte Basin increased exponentially during the drought of the past decade. Numerous water education activities occurred during the 1990s, including children's water festivals, water curriculum development, seminars, tours, and state fair exhibits. These were excellent efforts and even led to creation of the Colorado Foundation for Water Education by the Colorado Legislature in 2002. However, the drought that arrived with the new century put a stranglehold on water users and greatly increased the level of interest in water resources by the general public.

The water professional community also somewhat changed their attitude toward water education. We now see more interest—and donations—from engineering and legal firms toward children's water festivals and the CFWE. This is very important and greatly appreciated. However, much more can be done. The water professional community is encouraged to play a stronger role in statewide water education efforts, particularly through the CFWE and with their clients that have water education programs. Time and funding are critical components of all water education programs, and the continued help of water lawyers and water engineers is extremely important.

Tom Cech was born and raised on a farm near Clarkson, Nebraska. He received a bachelor's degree in education from Kearney State College, and taught high school mathematics in Wilber, Nebraska. He then moved to Salt Lake City and worked for the consulting firm of Architects/Planners Alliance. He returned to Nebraska and received a master's degree in community and regional planning from the University of Nebraska-Lincoln in 1982. He has been executive director of the Central Colorado Water Conservancy District since that time.

Tom authored Principles of Water Resources: History, Development, Management, and Policy—a college-level water resources textbook published by John Wiley & Sons. It is going into its third edition. He has also taught undergraduate and graduate-level water resources and policy courses at the University of Northern Colorado and Colorado State University.

No Regrets Water Planning:
A Look at New Tools Denver Water is Using to Improve Its Long-range Water Planning

Marc D. Waage, P.E.
Manager of Water Resources Planning, Denver Water, 1600 W. 12 Ave., Denver, CO 80204, (303) 628-6572, Marc.Waage@DenverWater.org, www.DenverWater.org

Denver Water is using new planning tools and methods to improve its long-range water plan. The cone of uncertainty and scenario planning have been adapted for use in integrated resource planning to better address future uncertainties. In addition, triple-bottom line accounting is being used to better understand and address the financial, social, and environmental impacts of supply, reuse, and conservation programs. Efforts are being made to integrate planning across the entire water system. Denver Water uses frequency of drought restrictions as a measure and standard of supply reliability, which affects the analysis of conservation, reuse, and new supply projects.

Marc Waage is currently leading the development of Denver's new long-range water plan. For nearly 20 years, Marc managed the operation of Denver Water's extensive water supply system. Denver Water is the largest and oldest municipal water provider in Colorado. Marc enjoys the variety of his work, which includes operational forecasting, system modeling, water rights testimony, resource management, conflict resolution, media and public relations, project management, scenario planning and climate change, and water resources policy. Marc is currently co-leading the development of a climate change decision support analysis for the Water Utility Climate Alliance. Early in his career, Marc worked for the Bureau of Reclamation and the Bureau of Indian Affairs on irrigation projects in Colorado and Montana. Marc has a bachelor's degree (with high distinction) and a master's degree in civil engineering from Colorado State University and is a professional engineer. One of Marc's favorite activities is recreating in Denver's high mountain watersheds.

Notes:

Creating a Conservation Culture

Melissa Essex Elliott
Manager of Water Conservation, Denver Water, 1600 W. 12 Ave., MC 330, Denver, CO 80204, (303) 628-6457, Melissa.elliott@denverwater.org, www.denverwater.org

People say old habits die hard; but new habits are supplanting older ones among Denver Water customers. After seeing its customers come together as a community and cut their water use by a third during the 2002-2003 drought, Denver Water adopted its current conservation plan aimed at cutting water consumption by 22% from pre-drought use. The water-saving habits customers adopted during the severe drought continue to reduce today's demand for treated water, despite reservoir levels that have—at least for now—returned to normal.

To build on Denver Water's successful conservation measures enacted throughout the past three decades, the utility applies elements of a public outreach model known as community-based social marketing. A key component in this approach to changing behavior is identifying barriers and blending nontraditional and conventional communication methods. The program has been successful at garnering a 19% reduction in use in 2008, despite an irrigation season that saw very little precipitation.

The presentation will provide an overview of the most successful and innovative conservation programs that address the barriers to creating an efficiency ethic, along with a look at the accompanying "Use Only What You Need" advertising campaign. The campaign plays a major role in Denver Water's aim to foster a change in culture, moving area residents from conservation awareness to embracing the idea as a personal ethic.

Melissa Essex Elliott *manages the water conservation program at Denver Water, a municipal water utility serving more than 1.2 million people in Denver and the surrounding suburbs. In that role she is responsible for implementing a progressive conservation plan that will reduce water use in the utility's service area by 22% by 2016.*

Prior to working for Denver Water, Melissa managed the public relations and water conservation programs for Aurora Water, which serves more than 300,000 people. She has more than 20 years of public relations experience in both the water industry and agriculture. She holds a Master of Science degree in technical communication from Colorado State University and is accredited in public relations by the Public Relations Society of America. Ms. Elliott serves on the American Water Works Association's Public Affairs Council and is a regular speaker on both water conservation and community relations topics.

Notes:

Thursday, Oct. 22, 12:45 p.m.

Keynote Speaker

An Economic Look Forward

Ed Tauer
Mayor, City of Aurora, 15151 E. Alameda Pkwy., Aurora, CO 80012, (303) 739-7015, etauer@auroragov.org

Speaker information unavailable at press time.

Notes:

Thanks for coming to the South Platte Forum...

...Don't forget to fill out your evaluation!!

Thursday, Oct. 22, 1:20 p.m.

Are We There Yet?

Moderator: Doug Kemper, Colorado Water Congress

Roundtables: Will They Continue to Roll?

Jim Yahn, P.E.
Chair, South Platte Roundtable; Manager, North Sterling and Prewitt Reservoirs; P.O. Box 103, Sterling, CO 80751, (970)522-2025, jim@northsterling.org

As the Colorado Water for the 21st Century Act enters its fifth year of existence, will the roundtable process continue to help move us forward in addressing our state's water supply gap, or will budget woes watch it go by the wayside? Will real solutions come in time to prevent undesirable outcomes or will political wrangling bog down the entire process? Will our roundtable process continue into the future and work as intended? It's really up to you.

***Jim Yahn**, P.E., is the manager of the North Sterling and Prewitt Reservoirs, a position he has held for 17 years. He is responsible for overseeing the diversion and distribution of water to more than 350 farmers. Together the reservoirs are a source of irrigation water for approximately 70,000 acres. The North Sterling, on average, diverts 115,000 acre feet of water annually from the South Platte River, while the Prewitt, on average, diverts 40,000 acre feet. The reservoirs' diversion structures are approximately five miles apart near the Morgan/Logan County line.*

Jim is a registered professional engineer, receiving a bachelor's degree in agricultural engineering from Colorado State University. Prior to his employment with North Sterling and Prewitt, he worked as a private consulting engineer in Fort Collins for five years. He is a Colorado native, having grown up on a family ranch that used water from the North Sterling Reservoir System.

Jim served as a member of the Senate Bill 73 Committee in 2003 and was a member of the Governor's South Platte Basin Task Force in 2007. Currently Jim serves as the chairman of the South Platte Roundtable. In addition to his work-related committees, Jim is president of the Northeastern Junior College Advisory Council. In his spare time, Jim farms and ranches with his wife Tracy and two children, preaches part time for Cowboy Up Ministries, and enjoys singing with a contemporary Christian band.

Notes:

Want to take another look at the PowerPoint Presentations?
Go to www.southplatteforum.org

Legislative Update

Douglas Kemper

Executive Director, Colorado Water Congress, 1580 Logan St., Ste. 400, Denver, CO 80203, (303) 837-0812, dkemper@cowatercongress.org, www.cowatercongress.org

Doug Kemper is the executive director of the Colorado Water Congress. He served on the Board of Directors from 1990 through 2003 and was elected CWC President (1994) and Treasurer (1996-2003). He has a master's degree in water resources engineering from the University of Colorado and (Master's) and Vanderbilt University (Bachelor's) and is a registered professional engineer.

Prior to joining the Water Congress, Doug was the water resources manager with Aurora Water for 20 years. He was responsible for the planning, development, and operation of the city's raw water supply system. His activities included water policy and legislative analysis, acquisition of new water supplies, system modeling, and development of intergovernmental agreements.

Doug began his water resources experience by working for four years as an engineer with Rocky Mountain Consultants (now Deere & Ault). His primary duties were analysis of agricultural water use, water supply modeling, dam safety risk assessments, and water quality remediation studies.

Notes:

Thanks for coming...
See You Next Year!!

The 21st Annual South Platte Forum

October 20-21, 2010

Visit www.southplattteforum.org to get details and register.

Colorado's Water Supply Future: Projects to Address Future Water Supply Needs

Todd Doherty
Program Manager, Colorado Water Conservation Board, 1580 Logan St., Ste. 600, Denver, CO 80203, (303) 866-3441 x3210, todd.doherty@state.co.us, www.cwcb.state.co.us

Over the last several years, the Colorado Water Conservation Board has undertaken several efforts to identify and evaluate Colorado's current and future water uses and needs. These efforts include: development of water use, demand, and basin fact sheets; the 2002 Drought and Water Supply Assessment; the 2003 Statewide Water Supply Initiative (SWSI); refinements to SWSI through Basin-Wide Water Needs Assessments; and, most recently, statewide municipal and industrial demands projected out to the year 2050.

SWSI catalogued identified projects and processes (IPPs) that local water suppliers were currently undertaking as components of their own water supply planning efforts to meet their future water needs. The IPPs include both structural and non-structural projects. If these projects are successfully implemented, 80% (512,000 acre-feet) of the state's projected 2030 municipal and industrial needs will be met. The remaining 20% (118,000 acre-feet) was identified as the "Gap." It should be noted that the calculation of the Gap is very likely optimistic and based on the assumption that all IPPs will be successfully implemented and will deliver the expected amount of water.

Todd will provide an overview of the status of the major IPPs in the South Platte Basin and how the Gap is being addressed since the publication of SWSI in 2003. The presentation will also review recent population and water demands for the year 2050, which underscore the need to meet a base level of water demand in the basin.

Todd Doherty has 12 years of experience in water resources management and policy. He has been with the Colorado Water Conservation Board since 1996 and works in the Intrastate Water Management and Development section. This section focuses on helping prepare for and meet Colorado's future water supply needs by undertaking significant data gathering and monitoring of current and future supply needs and projects to meet those needs. He manages two grant programs that provide significant financial assistance to help plan and implement water management and water storage projects: the Water Supply Reserve Account Grant Program and the Alternative Agricultural Transfers Grant Program. He also manages a project to track and monitor water supply projects meeting Colorado's future municipal and industrial water needs. Todd received a master's degree in urban and regional planning from the University of Colorado in 1998 and a bachelor's degree in geography from the University of North Texas in 1994.

Notes:

Poster Abstracts

Sand Creek Regional Greenway Partnership, Inc.

Katherine Kramer
Executive Director, Sand Creek Regional Greenway Partnership, 7350 E. 29 Ave., Ste. 300, Denver, CO 80238, (303) 468-3263, www.sandcreekgreenway.org

In partnership with the cities of Aurora, Commerce City, and Denver, and the non-profit Stapleton Development Corporation, the mission of Sand Creek Regional Greenway Partnership, Inc. is to develop and manage a nearly 14-mile public greenway and trail along Sand Creek that links the High Line Canal in Aurora with the South Platte River Greenway in Commerce. The broad goals include:

- Develop the greenway as a regional resource (not simply trail segments that connect)
- Develop a strong and vibrant user base in the northern metro area
- Obtain sufficient funding to complete the full vision for the Greenway, which includes
    - multi-use, off-street urban trail (including equestrian use)
    - a signature park in each city
    - an interpretive system acquainting users with the history and geography of the corridor
    - trailheads and other access points that serve a local and regional population
    - connections to neighborhoods via an off-street trail system
    - protection for existing wildlife corridors and important native plants and ecosystems
    - programs to understand and value the fragile ecosystem of the corridor
    - a transportation corridor for commuters using non-motorized transport

Barr Lake and Milton Reservoir Watershed Association: Watershed and Reservoir Modeling Results: Where are the Nutrients Coming From?

Steve Lundt
Chair, Barr Lake and Milton Reservoir Watershed Association Technical Committee
Darcie Garland-Renn
Watershed Association Coordinator, Barr Lake and Milton Reservoir Watershed Association, P.O. Box 1056, Commerce City, CO 80022, (303) 404-2944 ext. 22, dgrenn@integral-corp.com

In 2002 the Barr Lake and Milton Reservoir Watershed (BMW) Association was formed to encourage cooperation, outreach, and awareness of all interested parties in a collaborative effort to improve the water quality of Barr Lake and Milton Reservoir, located northeast of Denver. Stakeholders include city and county agencies, major wastewater treatment facilities, drinking water providers, agricultural water users, developers, and recreational groups. Water quality issues include heavy nutrient loading resulting in major algal blooms and high pH. Both reservoirs are included with medium priority on the 2008 Colorado 303(d) list for exceeding the upper pH aquatic life criteria of 9.0. The BMW Association has completed two reservoir assessments and a comprehensive watershed management plan.

The next major phase for the BMW Association was to develop and use in-reservoir and watershed models to draft a modeling report, help build a third-party pH TMDL, and guide the stakeholders with crafting a feasible implementation plan. The modeling report was completed in July 2009 and includes the following results:

- To satisfy a pH below 9.0, in-reservoir total phosphorus levels need to be close to 100 ug/L and chl-a levels between 20-25 ug/L.\
- Effluent from wastewater treatment plants are the major source of phosphorus to the system, providing approximately 90% of the load to Barr Lake and 80% of the load to Milton Reservoir
- In addition to significantly reducing point sources of phosphorus, internal loading and all sources that are > 0.1 % of the load need to addressed
- Overall, more than 90% reduction in phosphorus needs to occur to meet the current pH standard

The BMW Association poster display presents additional modeling results that provide more detailed information on how the models were selected, calibrated, and used. The results of the modeling effort will have serious impacts for many stakeholders in the Barr/Milton Watershed and will help guide the association to a sustainable solution that supports a well-balanced and healthy reservoir system where all water uses and standards are met.

Colorado Water Quality Monitoring Council

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The Colorado Water Quality Monitoring Council serves as a statewide collaborative body, open to all, to help achieve effective collection, analysis, and dissemination of water quality data and monitoring information. The Council seeks to improve the linkage between the information needs of policy and decision makers with efforts to collect and assess data. The Council also promotes effective monitoring programs that include the components of goal identification, data collection, analysis, storage, retrieval, and reporting/dissemination of information.

The Colorado Data Sharing Network is a collaborative project envisioned by the Council in 2004. The CDSN was formed to address many of the issues that have historically been barriers to effective sharing of water quality information in Colorado. CDSN products and services seek to satisfy reporting requirements for Colorado Non-Point Source project sponsors. Project results will also address top priorities echoed throughout the collective watershed management, assessment, and monitoring community in Colorado. The aim of the CDSN is to leverage the Colorado Water Quality Monitoring Council into a collective and resourceful voice for monitoring issues in the future. Partners associated with the CDSN project include the U.S. EPA, the Colorado Water Quality Control Division, South Plate Coalition for Urban River Evaluation, and the Colorado Watershed Assembly.

CDSN products and services include:

- One of the primary water quality data management systems to find and use Colorado water quality data
- A holistic data management system that supports and interactive web-based map, shares information about sampling locations, methods, objectives and ownership, easy data input and retrieval and provides simple data manipulations like summary statistics and graphics
- A data management system that meets requirements of the Colorado's NPS Grant Program
- A data management system targeted at local data providers who need assistance, access to other's data, or for their data to reach broader audiences
- Frequent local watershed monitoring data swaps and gatherings to share monitoring priorities and activities
- A flagship product and service for the Colorado Water Quality Monitoring Council to establish and maintain a collective voice for monitoring and associated issues in the Colorado

A poster presentation by the Colorado Water Quality Monitoring Council at the 2009 South Platte Forum will focus on introducing conference participants to the CDSN and its products.

South PlatteDSS Tools for Data Analysis and Modeling

Steve Malers
Riverside Technology, Inc.

Water resources issues in Colorado have become increasingly complex over time, involving federal, state, regional, and local water agencies. Competing uses of water, water law, potential climate change, and many other issues require that water decisions consider a full range of options. The State of Colorado recognized the need for advanced tools to study important water resource issues and in 1992 began developing the Colorado River Decision Support System, followed by the Rio Grande Decision Support System. The South Platte Decision Support System began in 2001 and continues today. Collectively, Colorado's Decision Support Systems have developed a body of high-quality data, calibrated model data sets, and tools for addressing water resource issues in Colorado.

This poster session will illustrate the current state of SPDSS and will provide demonstrations of analysis and decision support tools.

Remote Data Acquisition: The Next Frontier

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Remote data acquisition (RDA) is an innovative technology used to monitor water data and maximize the yield of water rights. It is a system composed of an onsite data logger and a communication device that allows water users to receive instantaneous water conditions. In the past water managers have manually downloaded data collected by loggers at reservoir and ditch sites. With the installation of RDA, water managers can now view and download up-to-date data from their office desk. One of the many benefits of this technology is the ability to obtain data quickly in order to operate water rights exchanges.

The State Engineer's Office requires water rights exchanges to be approved by the local water commissioner. Water managers are required to submit daily inflow data to the water commissioner for approval. RDA can aid water managers in initiating and maintaining exchanges when conditions are favorable by supplying instantaneous water conditions to the water commissioner.

To demonstrate the benefit of using RDA for water rights exchanges, a water manager with a study reservoir equipped with RDA was examined. At the study reservoir, the water manager was able to change more than 30% of the stored water from out-of-priority to in-priority water after the installation of RDA. RDA assisted the water manager in coordinating the exchange with the water commissioner on a daily basis; in turn, allowing the water manager to capture the exchanged water legally. RDA can benefit water managers who currently are unable to fully utilize their water right exchange. The key in this technology is to maximize the water you already own by improving efficiency.

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