

City Council Water Committee

Meeting Agenda

Friday, August 23, 2013

**COUNCIL CHAMBERS, CITY HALL, 2ND FLOOR
7:30-9:00am (Front doors will be unlocked at 7:15am)**

- I. Call to Order
- II. Roll Call
- III. Approval of Agenda
- IV. Approval of Minutes from March 22, 2013 meeting.
- V. Public Comments on Items Not on the Agenda
- VI. Update – Legal (Alan Hill/Paul Flack)
 - Marshall Lake / South Boulder & Coal Creek Share Transfer
 - Other Cases
- VII. Update – CIP Projects and Operations (Dmitry Tepo/Kurt Kowar)
 - 3 MG Tank Rehabilitation
 - Utility Rate Study
 - WWTP Design
 - Reservoir Water Quality Study
 - WTP Sludge Handling Study
 - Water Resources Management Strategy
- VIII. Update – Water Resources (Paul Flack)
 - Current Water Supply Situation
 - City's Water Rights Overview
 - Water Resource Portfolio Improvement Strategies
- IX. Agenda Items and Date for Next Meeting
- X. Adjourn 9:00 am

Attachments: 2013-03-22 Meeting Minutes, Resource Based International water resources presentation, resume for Paul Flack

City Council Water Committee

-Draft - Meeting Minutes

**Thursday, March 22, 2013
Council Chambers, City Hall, 2nd Floor
7:30-9:00 am (Front doors will be unlocked at 7:15 am)**

I. **Call to Order** – Hank Dalton called the meeting to order at 7:30 am.

II. **Roll Call** was taken and the following members were present:

City Council: Hank Dalton, Susan Loo, Bob Muckle (arrived at 7:38 am)

Absent: - None

Staff Present: Malcolm Fleming, Dan Mathes, Kurt Kowar, Dmitry Tepo, Chris Rodriguez, Dean Johnson, Joe Stevens, Kevin Watson

Public: Richard Brew (RMCS)

III. **Approval of Agenda:** Agenda approved.

IV. **Approval of the Minutes:** The March 8, 2013 meeting minutes were approved as written.

V. **PUBLIC COMMENTS ON ITEMS NOT ON THE AGENDA:**
None.

VI. **Update – Water Resources**

Marshall Lake allocation is 1 ac-ft per share. NCWCD allocation is expected to be in the neighborhood of 0.5-0.6 ac-ft per share. An Executive Order restricting landscape watering to two days per week will be issued at the April 2, 2013, Council Meeting. Restriction will start on May 1, 2013, and water rate surcharges in accordance with Stage 2 of the City of Louisville Drought Management Plan will be placed in effect on June 1, 2013. Parks will be placed on a water budget and will target a 20% overall watering reduction, which will be achieved by minimal reduction in irrigation of sports fields, the golf course, and large parks, moderate reduction to pocket parks, and severe reduction to medians. A discussion took place about the need to keep the residents informed on the drought status.

City of Louisville

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VII. Legal

None.

VIII. City Updates – Water Projects

- i. Utility Rate Study Consultant selection process – Seven companies submitted proposals, four companies were selected to proceed to the interview stage. After the interview, two finalists were selected, MWH and Red Oak Consulting. Staff will recommend Red Oak Consulting due to a more complete proposal and significantly more project team experience.
- ii. Utility Rate Study Task Force – Water Committee was presented Staff’s preliminary recommendation, which is outlined in the table below.

Category	Name	Reason for Selection
Resident	Robert “Ned” Williams	Extensive municipal experience relating to financial planning and operation of water, wastewater, and stormwater utilities.
Resident	Drew Beckwith	Experience with water policy, water law, demand management, and conservation.
Homeowners Association Representative	Earl Hauserman	Louisville HOA board member and president for 6 years.
Homeowners Association Representative	Ashley Stolzmann	Louisville HOA member.
Business Owner	Ernest J. Villany	Owner of a public accounting, tax, and financial advisory services business.
Business Owner	Richard Brew	Land development business owner.
At Large	Joel R. Hayes, Jr.	Non-profit organization manager representing low income and elderly clients.

IX. Agenda Items and Date for Next Meeting.

The next meeting is scheduled for May to discuss the following issues:

- Rate Study consultant will present the Task Force involvement approach.
- Drought update.
- Discuss any issues associated with drought surcharges.

X. Adjourn: The meeting was adjourned at 8:45 am.

City of Louisville Water Supply and Operations Update

City of Louisville
Water Committee Meeting
August 23, 2013

Presented by:
Resource Based International
Paul Flack, Ph.D



Seasonal Water Operations

Winter

Reservoir Storage Filling
Lower Water Use
(Supplied from Storage)



Fall

Lower Stream Flows
Declining Water Use
(Supplied from Storage &
Senior Diversions)



Spring

Snowmelt and Runoff
Rising Water Use
(Supplied from Storage &
Junior Diversions)



Late Summer

Monsoon Rains
Fluctuating High Water Use
(Supplied from Storage &
Senior Diversions)

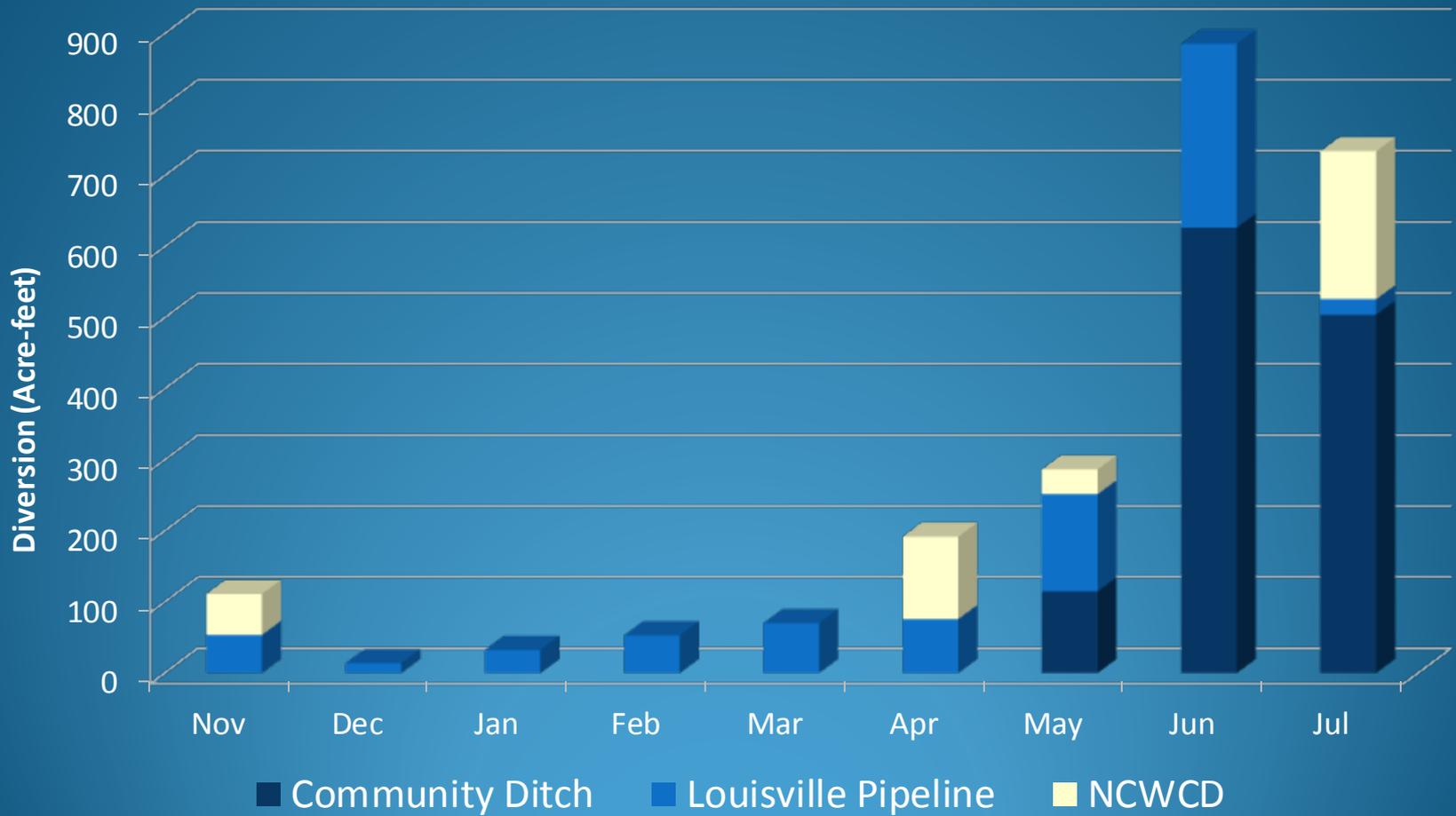


Summer

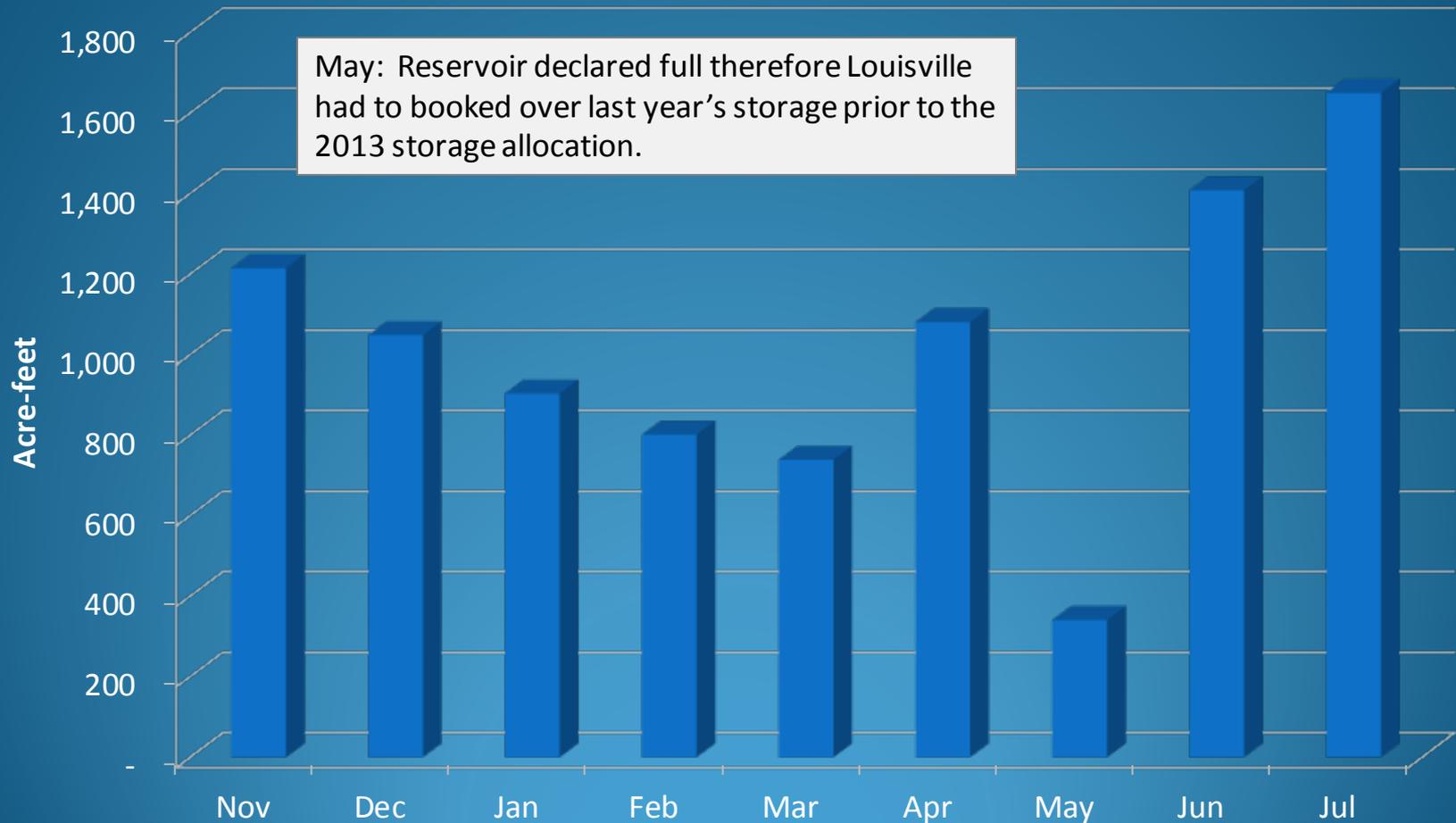
Hot Temperatures
High Water Use
(Supplied from Storage &
Senior Diversions)



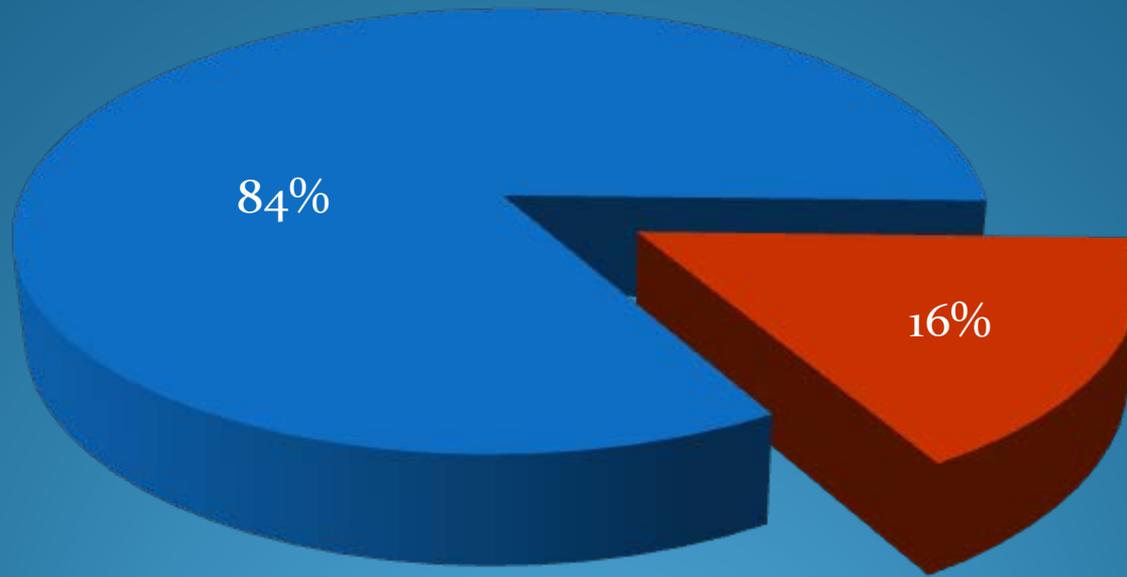
Louisville Total Diversions 2013 Water Year



Louisville Account in Marshall Reservoir 2013 Water Year



Utilization of Junior Water Rights



■ Decreed Junior Water Rights

■ 20 Year Average Junior Water Rights Diverted

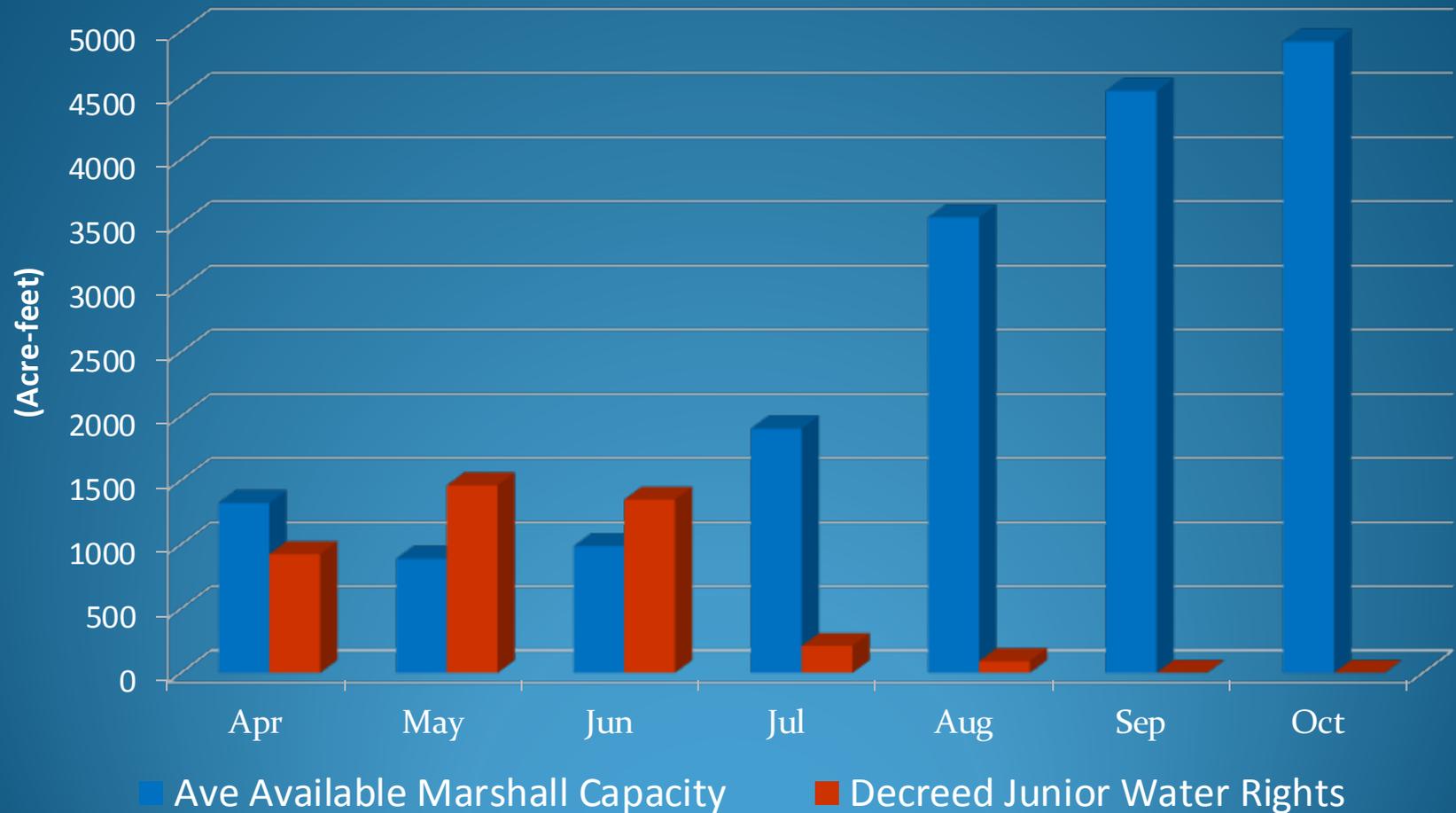
Marshall Reservoir Storage

When is there Excess Storage Capacity?

- Marshall Reservoir Does Not Fill
- Community Ditch Direct Right Out of Priority
- Irrigation Use Below Marshall Reservoir Opens Up Storage Capacity

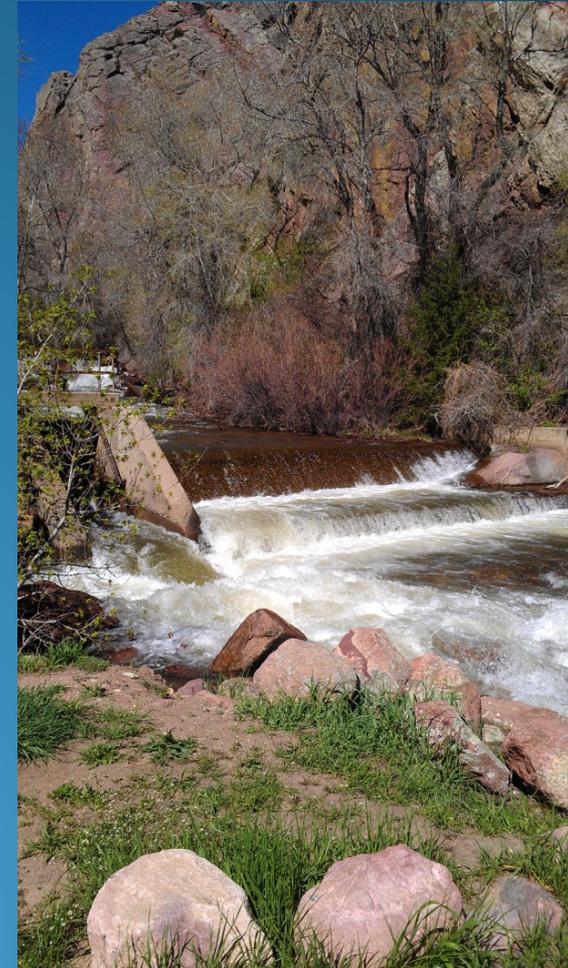


Comparison of Marshall Reservoir Storage Capacity and Louisville Junior Water Rights



Optimization Strategies

- Additional Reservoir Storage
- Water Rights with Storage
 - FRICO – Marshall Shares
 - South Boulder Coal Creek Shares
 - Northern Water – CBT Units
- South Boulder Creek Diversion Structure Upgrades
 - Community Ditch Head Gate
- Water Quality Impacts on Operations



New Storage Options

Evaluate approx. 1000 acre-feet of New Storage

- FRICO - Marshall Reservoir
- South Boulder Coal Creek - Marshall Reservoir
- Northern Water – CBT System



Recent Comparable Project:

- Gross Reservoir Firming (Denver Water)
- 3,500 acre-feet

Estimated Louisville Cost:

- \$3.5 – 5.0 Million (2013 dollars)

Paul Flack, Ph.D.

1194 Pontiac Street, Denver, CO 80220; paulflack@comcast.net; 720-470-1845.

Summary

Experienced, energetic professional with expertise in water resource engineering and planning. Skilled in working with complex water resource management issues. Proficient in planning and managing short and long term water resource projects.

Experience

Resource Base International, LLC. President, 2009 - present

- Water resource engineering consultant for New Elk Coal Company. Responsible for the acquisition, water court action, and management of 1500 acre-feet of water in the Purgatoire River basin.
- Water resources engineering consultant for Model Land & Irrigation Company. Responsible for the transfer of 2000 – 6000 acre feet of irrigation water to municipal and industrial uses.
- Water resource engineering consultant, Arkansas River Outfitter's Association. Responsible for protection of river management agreements in the upper Arkansas River basin.
- Water Resource Engineer, City of Thornton. Responsible for water rights review, expert reports and testimony, and water court action regarding the lower South Platte River.
- Water Affairs, Pongola Dam Reservoir, Pongola, South Africa. Work included development of water resource allocation plans to ensure compliance with the Tripartite International Agreement (Mozambique, Lesotho, and South Africa) and the Lemboho Transfrontier Conservation Area Treaty (Mozambique, Swaziland, and South Africa).
- Regional U.S. Coordinator, Nile Basin Initiative. Directed and managed water policy workshops and field tours for 25 visiting senior water professionals from nine Nile Basin countries.
- Developed integrated water management plans for Colorado's Arkansas River basin stakeholders to optimize recreational/environmental river flows on a sustainable basis.
- President and water resource engineering consultant for Colorado's Upper Cherry Creek Water Association. Developed comprehensive water policy plans for five major urban water districts in the Denver, Colorado metropolitan area.
- Developed water resource management plans with local, state, and national government agencies for (6) Federal water storage projects in western U.S.
- Developed river basin planning for the Arkansas and Dolores Rivers in Colorado. Planning process included stakeholder management, river operation modeling, and revising U.S. Bureau of Reclamation policy and planning guidelines.

Colorado State Parks – Water Resource Manager, 1994-2009

- Developed water right portfolios, including water right acquisitions, water leasing, and long-term cooperative agreements with major water providers to enhance recreational opportunities throughout the state.
- Administered Colorado State Parks' water program including the development of annual fiscal budgets, water marketing plans, water development plans, state contracts and federal grants.
- Identified long-term water resource planning needs and developed water and recreational management plans for 41 state parks in Colorado.
- Developed 2, 5, and 10-year water resource management plans for the division of State Parks involving budget analysis, water marketing strategies, cooperative multi-party management agreements, and water acquisition planning.
- Developed legal strategies and testified as an expert witness in state water courts.
- Reviewed water court applications and court issued decrees, engineering reports, land and water appraisals, conservation easements, wetland mitigation plans, and land and water sale-purchase agreements.
- Represented Colorado State Parks in local, state and federal environmental issues, recreational use policies, and wildlife protection laws.
- Negotiated multi-party water contracts, land easements, and recreational mitigation agreements for Colorado State Parks.
- Reviewed and approved reservoir operations and accounting at 23 water-based state parks.
- Performed hydraulic and hydrological watershed analysis in 7 major water basins in the state of Colorado.
- Worked with state officials and elected representatives in the formulation and implementation of state-wide water laws and policy.
- Participated as part of Colorado's negotiating team in multi-state meetings to develop interstate water allocation agreements.

***City of Aurora, Colorado Utilities Department – Water Resource Division
Water Resource Engineer, 1987-1994***

- Developed and managed a 10-person field office to provide support for a 20,000 acre-feet transfer of water to the City of Aurora from the Arkansas River's lower valley in Colorado.
- Assisted in developing and managing the water resource division's annual budget and legal fees.
- Reviewed state water court applications and proceedings to protect the City of Aurora's water rights portfolio throughout the state.
- Developed and operated the daily operations and accounting forms for the City of Aurora's 12 major reservoirs, 150 water rights and 3 water treatment plants.
- Worked with the state legislative public process to develop state-wide water policy and interstate agreements.

EDUCATION

Ph.D. – University of Colorado, Boulder (2007). Water Resource Policy and Planning.

M.S. – University of Arizona, Tucson (1986). Hydrology and Watershed Science.

B.S. – Colorado State University (1983). Natural Resources Management.

RESEARCH

Flack, P., Chinowsky, P. “Integrated Stakeholder Management in South Africa.”
SACHNIAS Proceedings, pp. 26-38. October 2009. Pietermaritzburg, SA.

Flack, P. “Resource Based Modeling at Chatfield Reservoir: A Case Study.” American
Water Resources Association Summer Symposium Proceeding, pp. 182-190. July 2009.
Salt Lake City, Utah.

Flack, P., Sundeen, K. “Integrated Optimization Model for Water Users: Arkansas
River.” Water Roundtable Publication No. 103. pp, 44-48. January 2010. Denver, CO.

PROFFESIONAL ORGANIZATIONS

President, Upper Cherry Creek Water Association (former).

Board Member, Cherry Creek Aquifer Modeling Project.

Statewide Water Team Member – Colorado Department of Natural Resources.

Member of:

American Water Works Association;

American Water Resources Association;

American Institute of Hydrologists.

Reference available upon request