

## PETER W. MAYER, P.E.

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### Principal

WaterDM  
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### WORK EXPERIENCE

**Principal** Water Demand Management, LLC (dba WaterDM), since 2013.  
Registered Professional Engineer, Colorado since Dec. 2003. License # 38126.

**Vice President, Partner, and Senior Project Engineer**, Aquacraft, Inc. Water Engineering and Management. 1995-2012

**Editor**, Calvert Independent. 1988-1990

**Coordinator**, University of Wisconsin, College Year in India Program, Madurai, India 1991-92

**Educator-Fellow**, Oberlin Shansi Memorial Association, Madurai, India 1986-88

**Station Manager**, WOBC-FM, Oberlin, Ohio 1985-86

### AFFILIATIONS

#### American Water Works Association

Associate Editor – AWWA Water Science (AWS)

Chair – M22 Meter Sizing Manual Re-Write Committee

Member – M6 Meters-Selection, Installation, Testing, and Maintenance Manual Re-write Committee

Member – Distribution and Plant Operations Division & Water Conservation Division, Customer Metering Practices Committee

#### American Water Resources Association

Alliance for Water Efficiency

American Society of Civil Engineers

Colorado River Water Users Association

Colorado Water Wise

### EDUCATION

**Master of Science**, 1995, Water Resources Engineering, Department of Civil, Environmental and Architectural Engineering, University of Colorado, Boulder.

**Bachelor of Arts**, 1986 Oberlin College, Oberlin Ohio. Anthropology (Honors).

### SELECTED PROJECTS

#### **City of Tucson Water Conservation and Integrated Water Resources Plan (2019-2020)**

Peter Mayer is working with Tucson staff to develop a 10-year water conservation implementation plan to integrate this work with the City's long-term integrated water

resources plan being conducted by a large consulting team.

**California DWR Research and Development of Indoor Residential Water Use Standards (2019-2021)**

Peter Mayer is advising the California Department of Water Resources on a series of research projects to investigate indoor residential per capita use for the purpose of reporting to the legislature on future efficiency standards.

**Metropolitan Water District Demand Management Cost Functional Assignment (2018 – 2019)**

Peter Mayer developed an analysis of Metropolitan’s demand management and local resources development programs for the purpose of functional cost assignment in the ratemaking process.

**New York City Integrated Water Resources Plan (2018 – 22)**

Peter Mayer is leading the water conservation task of this five year planning project awarded to a team lead by Hazen and Sawyer.

**Northglenn Colorado Integrated Water Resources Plan (2019-20)**

WaterDM is teamed with ELEMENT Water Consulting to prepare an integrated water resources plan for the City of Northglenn, a suburb of Denver.

**Northern Water Conservation Program Planning (2017-18)**

Peter Mayer worked closely with the Northern Colorado Water Conservancy District to plan for the future of their regional conservation program.

**Westminster Rate and Fee Cost of Service Study (2017-18)**

Peter Mayer was a member of the Raftelis Consulting team which developed this extensive cost of service analysis for this Colorado utility.

**Rachio Water Management Implementation and Research (2016 –18)**

Peter Mayer served as an expert advisor and technical consultant to the Rachio irrigation control and technology company. Together, they implemented peak day water management programs.

**FL v. GA, 142, Original (2016)**

Peter Mayer testified as an expert witness on municipal and industrial water use on behalf of the State of Georgia at the US Supreme Court trial held in November 2016. Peter prepared an expert report, expert testimony, testified at the trial, and was deposed in this case.

**Water Resource Foundation #4689 Assessing Water Demand Patterns to Improve Sizing of Water Meters and Service Lines (2016-19)**

Peter Mayer was the Principal Investigator for this research study taking place in Colorado and Arizona that closely examined meter and service line sizing.

**Austin Water Integrated Water Resources Plan (2016-17)**

Peter Mayer was an expert advisor to the CDM/Smith team on water demand and conservation and assisted in preparation of the Austin Integrated Water Resources Plan.

**Colorado State Water Supply Initiative (2009-10, 2016-19)**

Peter Mayer was part of a team that prepared technical analysis of future water demands and requirements in Colorado as part of the State's ongoing planning efforts.

**New York City Water Board Water Demand Management Planning (2014 – 2019)**

Peter Mayer was the lead for this project that prepared ten water conservation plans for wholesale customers of the NYC Water Board located in Westchester County and other upstate NY locations.

**Outdoor Water Savings Initiative, Alliance for Water Efficiency (2014 – present)**

Peter Mayer is the director of research for the Alliance for Water Efficiency's Outdoor Water Savings Initiative. Peter completed a literature review project in 2015, managed the landscape transformation study (2019) and is currently managing the drought response and water savings study (2020).

**Residential End Uses of Water Study Update, Water Research Foundation (2010 – 2016)**

Peter Mayer was the co-principal investigator of this research study that measured residential water use in 25 cities across the US and Canada. Final report is available from the Water Research Foundation.

**Hilton Head PSD Water Demand Management Plan (2015)**

Peter Mayer lead a team that prepared a long term water demand management plan for this coastal island community.

**City of Arvada Expert Witness Services (2016)**

Peter Mayer was hired as an expert witness on municipal and industrial water demands by the City of Arvada. Peter prepared and submitted an expert report in preparation for trial. The report was accepted by both sides and deposition and testimony were not required.

**City of Arvada Water Supply and Demand Study (2014 –2016)**

Peter Mayer led a team that evaluated future water supply and demands for this Denver suburb, under climate change conditions.

**Roaring Fork Regional Water Conservation Planning (2014 - 2015)**

Working with ELEMENT Water Consulting, Peter Mayer prepared a series of water conservation plans for Aspen, Basalt, Carbondale, and Glenwood Springs, Colorado and a regional conservation plan for the entire Roaring Fork Valley. An important goal of these plans was to ensure adequate environmental flows in local rivers and creeks.

**City of Louisville Water Conservation Plan (2015)**

Peter Mayer worked with CH2M to prepare a state approved water conservation plan for the City of Louisville Colorado.

**City of Greeley Water Conservation Plan and Avoided Cost Analysis (2014 –2015)**

Peter Mayer worked closely with the City of Greeley staff to update their water conservation plan for the next 7 years and to complete an avoided cost analysis that evaluates the impact of Greeley’s water efficiency efforts since 1992 on customer water rates.

**Senior Technical Advisor, Alliance for Water Efficiency (2007 – 2019)**

The Alliance for Water Efficiency is a national NGO focused on promoting water conservation and efficiency. Peter Mayer helped found the organization and now served as a senior technical advisor and the newsletter editor for 12 years.

**G480 Water Conservation Program Operation and Management Standard (2011-2013, 2018-19)**

The G480 is a voluntary water conservation program operation and management standard approved by AWWA and ASNSI in 2013. Peter Mayer chaired the subcommittee that created the standard and was a key author of the document. He is a member of the subcommittee developing version 2.0.

**Eastern Municipal Water District – Water Efficient Guidelines for New Development (2012-13)**

Peter Mayer prepared a set of detailed, voluntary water efficiency guidelines for new construction in the Eastern Municipal Water District that go beyond current building codes and standards to increase water use efficiency.

**City of Westminster Residential Demand Study and Conservation Plan Preparation (2012)**

Peter Mayer and Aquacraft conducted a residential end use study in Westminster, Colorado to determine water use patterns and the level of water efficiency achieved. This information was then used in support of preparation of new water conservation plan for the City.

**Northern Water Conservation Survey and Plan Development (2011)**

The Northern Colorado Water Conservancy District hired Peter Mayer and Aquacraft to conduct a survey of its’ 45 municipal members. The results of the survey were used to update Northern’s water conservation plan for the Bureau of Reclamation.

**Colorado Water Supply Initiative Municipal and Industrial Conservation Strategies (2010)**

In support of the Statewide Water Supply Initiative (SWSI), the Interbasin Compact Committee (IBCC), and other water conservation efforts throughout the state, the CWCB contracted with Peter Mayer and Aquacraft to develop the conservation strategies section of the 2010 SWSI update.

**Best Practices Guide for Colorado Water Conservation (2010)**

Colorado Water Wise contracted with Peter Mayer and Aquacraft to research and produce a guidebook on water conservation best practices for Colorado. The guide was published in 2010 and is available for free download.

**Evaluation of California Weather-Based “Smart” Irrigation Controller Programs (2005-2009)**

Smart irrigation controllers that use prevailing weather conditions to adapt water applications to the actual needs of plants represent a significant advancement. Peter Mayer was the principal investigator on this study for the California Department of Water Resources, the California Urban Water Conservation Council, and approximately 30 participating water agencies examined the impact of 3,112 smart controllers on water use in northern and southern California.

#### **Water Conservation: Customer Behavior and Effective Communications (2006 – 2009)**

Peter Mayer and Aquacraft subcontracted to ICF International on this AwwaRF research project which examined water conservation social marketing programs and measured the impact of utility outreach efforts on customer behavior. The study examined water conservation communication campaigns in terms of customer recognition, attitudinal changes, behavior modification, and verifiable water use reductions and recommended the most effective methods and techniques for designing and implementing water conservation social marketing campaigns.

#### **Water Budgets and Rate Structures: Innovative Management Tools (2005-2007)**

Water budget rate structures are an innovative and increasingly popular tool for water utilities trying to convey an effective water efficiency message. This AwwaRF Tailored Collaboration project co-lead by Aquacraft and A&N Technical Services examined all aspects of water budgets and how they fit into the pantheon of water rate structures.

#### **Water Conservation Plan Development and Demand Forecasting (2006–2010)**

The State of Colorado requires that utilities seeking loans file a water conservation plan that includes detailed demand forecasts that incorporate water conservation. Aquacraft has developed conservation plans and demand forecasts for the cities of Aurora, Fort Collins, Glenwood Springs, Westminster, and Greeley, Colorado. In addition, Peter Mayer was contracted by the Colorado Water Conservation Board to review submitted conservation plans for compliance with statute.

#### **Expert Testimony NEORSW Wastewater Case (2008)**

Working with the Department of Justice, Peter Mayer developed a detailed research plan for the City of Cleveland to help them determine the contribution of wastewater flows from single-family, multi-family, and non-residential customers.

#### **US EPA National Water Efficiency Market Enhancement Program (2004-2005)**

The EPA is interested in starting a water efficiency program comparable the Energy STAR program. This project involves investigating potential product categories and product lines that improve water efficiency and could be including the EPA program, such as weather based irrigation control technology.

#### **City of Carnation Water Conservation Demand Analysis (2004-2005)**

In late 2004 Peter Mayer worked with the Pacific Institute, Carollo Engineers, and King County, Washington to determine the conservation potential evaluate the cost-effectiveness of water conservation in new and existing homes and businesses in the City of Carnation. Carnation is a small town that is currently not sewered. The County and the City are working together to

provide a sanitary sewer system and treatment facility.

**National Multiple Family Submetering and Allocation Billing Program Study (2002-2004)**

Charging residents in multi-family house separately for water is growing trend in the United States. Peter Mayer was the principal investigator for this study which looked at the entire phenomena of submetering and allocation billing techniques and examined the potential water savings, regulatory issues, utility concerns, water rates, and regulatory climate.

**Tampa Retrofit Project (2002-2003)**

**Colorado Department of Human Services Water Rights Study (2003)**

**Pinellas County Utilities Water Conservation Opportunities Study, (2002)**

**Virtual Water Efficient Home Web Site, (2001-2002)**

**East Bay MUD Conservation Retrofit Study, (2001-02)**

**CII Demand Assessment and Conservation Plan, Westminster, CO, (2000-01)**

**Seattle Home Water Conservation Study, Seattle Public Utilities and EPA, (1999-2000)**

**Commercial and Institutional End Uses of Water, AWWARF, (1998-2000)**

**Water Conservation Plan, City of Thornton, CO, (1998-2000)**

**Demand Analysis for the University of Colorado, (2000)**

**Water Conservation Futures Study, City of Boulder, CO, (1998-1999)**

**Water Efficiency in Water Wise and Standard New Homes, (1999-2000)**

**Residential End Uses of Water Study, AWWARF, (1996-1999)**

**Comparison of Demand Patterns among CI and SF Customers, Westminster, (1997-1998)**

**Analysis of Southern Nevada Xeriscape Project, (1998-2000)**

**Westminster, Peak Use Study, (1996)**

**Westminster Residential Water Use Study, (1995-1996)**

## **PUBLICATIONS AND PRESENTATIONS**

Rupprecht, C., M.M. Hamilton, and P.W. Mayer. 2020. Tucson Examines the Rate Impacts of Increased Water Efficiency and Finds Customer Savings. Journal of the American Water Works Association. January 2020, pp. 33-39. <https://awwa.onlinelibrary.wiley.com/doi/10.1002/awwa.1429>

Mayer, P.W., S. Davis, S. Buchberger, C. Douglas. 2019. Assessing Water Demand Patterns to Improve Sizing of Water Meters and Service Lines. Final Report of Project 4689. Water Research Foundation, Denver, Colorado. <https://www.waterrf.org/research/projects/assessing-water-demand-patterns-improve-sizing-water-meters-and-service-lines>

Douglas, C., S. Buchberger, and P. Mayer. Systematic Oversizing of Water Meters. 2019. AWWA Water Science Journal. December 2019. <https://awwa.onlinelibrary.wiley.com/doi/abs/10.1002/aws2.1165>

Mayer, P.W. 2019. Water Demand Trends, Efficiency and the Future of American Water Use. Keynote Address. University Council on Water Resources (UCOWR) Annual Conference. Snowbird, UT.

Mayer, P.W. 2018. Water Management's Quiet Hero – the Water Meter. Contractor Magazine. November, 2018.

Mayer, P.W., et. al. 2018. Peak Day Water Demand Management Study Heralds Innovation, Connection, Cooperation. Journal of the American Water Works Association. May 2018 110:5.

Mayer, P.W. 2018. Water Demand Trends, Efficiency and the Future of Urban Water Use. Keynote Address. Next Generation Water Summit 2018. Santa Fe, NM.

Mayer, P.W., and R. Smith. 2017. Peak Day Water Demand Management Study. Alliance for Water Efficiency. Chicago, IL.

Mayer, P.W., et. al. 2017. Peer Review of the Water Conservation Programs of the Metropolitan Water District of Southern California. Alliance for Water Efficiency. Chicago, IL.

Mayer, P.W. 2017. Water Conservation Keeps Rates Low in Tucson, Arizona. Alliance for Water Efficiency. Chicago, IL.

Mayer, P.W. 2017. Water Conservation Keeps Rates Low in Gilbert, Arizona. Alliance for Water Efficiency. Chicago, IL.

Mayer, P.W. 2016. Water Research Foundation Study Documents Water Conservation Potential and More Efficiency in Households. Journal of the American Water Works Association. October 2016 108:10.

Mayer, P.W. 2016. American Water Demand Trends and the Future of Conservation. Keynote Address- Gulf Coast Water Conservation Symposium, Houston, TX.

DeOreo, W.B., P. Mayer, J. Kiefer, and B. Dziegielewski. 2016. Residential End Uses of Water, Version 2. Water Research Foundation. Denver, CO.

Shimabuku, M., D. Stellar, and P. Mayer. 2016. Impact Evaluation of Residential Irrigation Audits on Water Conservation in Colorado. *Journal of the American Water Works Association*. May 2016, 108:5. Denver, Colorado.

Mayer, P.W., P. Lander, and D. Glenn. 2015. *Outdoor Water Use: Abundant Savings, Scant Research*. *Journal of the American Water Works Association*. February 2015, 107:2. Denver, Colorado.

Mayer, P.W. 2015. American Water Use Trends 1995-2015 and Future Conservation Potential. WaterSmart Innovations Conference. Las Vegas, NV.

Mayer, P.W. 2015. Introducing AWWA's New M22 Manual - Sizing of Water Service Lines and Meters. Proceedings of the AWWA Annual Conference and Exposition. Anaheim, CA. and North American Water Loss Conference. Atlanta, GA.

Mayer, P.W. et. al. 2014. *Conservation Efforts Limit Rate Increases for Colorado Utility*. *Journal of the American Water Works Association*. April 2014, 106:4. Denver, Colorado.

Mayer, P.W. et. al. 2013. Conservation Limits Rate Increases for a Colorado Utility. Alliance for Water Efficiency, Chicago, IL.

Mayer, P.W. 2013. Residential Water Use Trends in North America: Results from the Residential End Uses of Water Study Update. Proceedings of the AWWA Annual Conference and Exposition. Denver, Colorado.

ANSI/AWWA. 2013. *G480 Water Conservation Program Operation and Management Standard* (First Edition). American Water Works Association. Denver, CO.

Suero F., P.W. Mayer, and D. Rosenberg. 2012. *Estimating and Verifying United States Households' Potential to Conserve Water*. *Journal of Water Resources Planning and Management*. 138(3), 299–306.

DeOreo, W., & P.W. Mayer. 2012. *Insights into Declining Single Family Residential Water Demands*. *Journal of the American Water Works Association*. June 2012. Vol. 104, No. 6.

Mayer, P.W. and S. Feinglas. 2012. Evaluating Changes in Water Use and Conservation Effectiveness. WaterSmart Innovations Conference. Las Vegas, NV.

Maddaus. M. and P.W. Mayer. 2011. Demand Hardening: Assessing Potential Impacts with End Use Models. WaterSmart Innovations Conference. Las Vegas, NV.

Mayer, P.W. and M. Dickinson. 2011. The Alliance for Water Efficiency's Home Water Works



Website. WaterSmart Innovations Conference. Las Vegas, NV.

Mayer, P.W. 2010. Demand Hardening: Big Myth, Small Reality. WaterSmart Innovations Conference. Las Vegas, NV.

Mayer, P.W. 2010. Guidebook of Best Practices for Municipal Water Conservation in Colorado. WaterSmart Innovations Conference. Las Vegas, NV.

Mayer, P.W., et. al. 2010. *Improving Urban Irrigation Efficiency By Using Weather-Based "Smart" Controllers*. Journal of the American Water Works Association. February 2010. Vol. 102, No. 2.

Mayer, P.W. 2009. Do Weather-Based Irrigation Controllers Save Water? Results from a large field study in California. American Water Works Association 2009 Annual Conference and Exposition. San Diego, CA.

Mayer, P.W. et. al. 2009. Water Efficiency Benchmarks for New Single-Family Homes. WaterSmart Innovations Conference. Las Vegas, NV.

Mayer, P.W. et. al. 2009. Evaluation of California Weather-Based "Smart" Controller Programs Results and Perspective on a Large Field Study. WaterSmart Innovations Conference. Las Vegas, NV.

Mayer, P.W. 2009. Benefit-Cost Analysis for Water Conservation Planning. Colorado Water Wise Annual Event. Denver, CO.

Mayer, P.W. et. al. 2009. Evaluation of California Weather-Based "Smart" Irrigation Controller Programs. California Department of Water Resources, Sacramento, CA.

Mayer, P.W., et. al. 2008. *Water Budgets and Rate Structures: Innovative Management Tools*. American Water Works Association Research Foundation. Denver, CO.

Mayer, P.W. et. al. 2008. The California Water Smart Irrigation Controller Project Results and Perspective on a Large Field Study of an Important Emerging Technology. WaterSmart Innovations Conference. Las Vegas, NV.

Mayer, P.W. et. al. 2008. *Water Budgets and Rate Structures: Innovative Management Tools*. Journal of the American Water Works Association. May 2008. Vol. 100, No. 5.

Mayer, P.W., et. al. 2008. Cost Effective Conservation Programs. Proceedings of the AWWA Water Sources Conference. Reno, NV.

Mayer, P.W., et. al. 2008. Water Use in New and Existing Single-Family Homes - Update on EPA Benchmarking Study. Proceedings of the AWWA Water Sources Conference. Reno, NV.

Mayer, P.W., et. al. 2007. Water Budgets and Rate Structures – Innovative Management Tools. Proceedings of the AWWA Annual Conference, Toronto, Ontario.

Mayer, P.W. 2007. *Saving Water Indoors*. Home Energy Magazine. Special Issue.

Mayer, P.W., et. al. 2006. *Third-party Billing of Multifamily Customers Presents New Challenges to Water Providers*. Journal AWWA. August 2006, Vol. 98, No. 8.

Mayer, P.W. 2006. Submetering Billing Programs in Multi-Family Housing. Proceedings of the Water Sources Conference 2006, Albuquerque, NM.

Mayer, P.W. 2006. WaterWiser - Progress and Change, Benefits and Capabilities of an On-Going On-Line Resource. Proceedings of the Water Sources Conference 2006, Albuquerque, NM.

Mayer, P.W. 2005. End Uses of Water: Practical Data Collection, Analysis, and Utility. Arab Water World. May/June 2005.

Mayer, P.W, et. al. 2004. National Submetering and Allocation Billing Program Study – Project Overview and Preliminary Results. Proceedings of the Water Sources Conference 2004, Austin, TX., Proceedings of the AWWA Annual Conference, Orlando, FL.

Towler, E., P.W. Mayer, et. al. 2004. *Completing the Trilogy – Impact and Acceptance of Retrofit Conservation Products*. Proceedings of the Water Sources Conference 2004, Austin, TX.

Chesnutt, T.W., and P.W. Mayer, 2004. *Water Budget-Based Rate Structures: A New Look at an Old Idea*. Proceedings of the Water Sources Conference 2004, Austin, TX.

DeOreo, W.B., M. Gentili, and P.W. Mayer, 2004. *Advanced Cooling Water Treatment Pays for Itself in Urban Supermarkets*. Proceedings of the Water Sources Conference 2004, Austin, TX.

Mayer, P.W., W. DeOreo, and W. West, 2003. *Conservation Opportunities - A Florida Community Takes Stock*. Proceedings of the AWWA Annual Conference Anaheim, CA.

Mayer, P.W. et. al. 2002. *Great Expectations – Actual Water Savings with the Latest High-Efficiency Residential Fixtures and Appliances*. Proceedings of the Water Sources Conference 2002, Las Vegas, NV.

Mayer, P.W., W.B. DeOreo, & D. Kaunisto. 2002. *Raw Water Irrigation – System Sizing Poses an Interesting Problem*. AWWA Annual Conference Proceedings. Denver, CO.

Mayer, P.W., W.B. DeOreo, A. Dietemann, and T. Skeel. 2001. *Residential Efficiency: The Impact of Complete Indoor Retrofits*. AWWA Annual Conference Proceedings, Washington, D.C.

Maddaus, L.A., & P.W. Mayer. 2001 *Splash or Sprinkler? Comparing Water Use of Swimming Pools and Irrigated Landscapes*. AWWA Annual Conference Proceedings, Washington D.C.

W.B. DeOreo, A. Dieteman, T. Skeel, P. Mayer, et. al. 2001. *Retrofit Realities*. Journal American Water Works Association, March 2001.

DeOreo, W.B., P.W. Mayer, J. Rosales, et.al. 2000. *Impacts of Xeriscape on Single Family Residential Water Use*. Proceedings of Fourth Decennial National Irrigation Symposium, Phoenix, AZ.

Mayer, P.W., K. DiNatale, and W.B. DeOreo. 2000. *Show Me the Savings: Do New Homes Use Less Water?* AWWA Annual Conference Proceedings. Denver, CO.

Mayer, P.W., W.B. DeOreo, et. al. 1999. *Residential End Uses of Water*. American Water Works Association Research Foundation, Denver, Colorado.

Mayer, P.W. and W.B. DeOreo. 1999. *Conservation Potential in Outdoor Residential Water Use*. AWWA Annual Conference Proceedings. Chicago, IL.

Dziegielewski, B., W.Y. Davis, and P.W. Mayer. 1999. *Existing Efficiencies in Residential Indoor Water Use*. AWWA Conserv99 Proceedings. Monterey, CA.

Mayer, P.W., W.B. DeOreo, et. al. 1998. *Residential End Use Study Progress Report: Year 2*. AWWA Annual Conference Proceedings. Dallas, TX.

Mayer, P.W., W.B. DeOreo, R. Allen, et. al. 1997. *North American Residential End Use Study: Progress Report*. AWWA Annual Conference Proceedings. Atlanta, GA.

Mayer, P.W., J.P. Heaney and W.B. DeOreo. 1996. *Conservation Retrofit Effectiveness: A Risk Based Model Using Precise End Use Data*. AWWA Conserv96 Proceedings.

DeOreo, W.B., P. Lander, and P.W. Mayer. 1996. *New Approaches in Assessing Water Conservation Effectiveness*. AWWA Conserv '96 Proceedings.

DeOreo, W.B., J.P. Heaney, and P.W. Mayer. 1996. *Flow Trace Analysis to Assess Water Use*. Journal of the American Water Works Association. Vol.88, No. 1, Jan.

Mayer, P.W. and W.B. DeOreo. 1995. *A Process Approach for Measuring Residential Water Use and Assessing Conservation Effectiveness*. AWWA Annual Conference Proceedings. Anaheim, California.

Mayer, P.W. 1995. *Residential Water Use and Conservation Effectiveness: A Process Approach*. Master's Thesis. University of Colorado, Boulder.

## AWARDS

- 2019 AWE Distinguished Service Award – “In Recognition and with Appreciation for His 12 Years as Editor of the Water Efficiency Watch Newsletter 2007 – 2019).
- 2013 AWWA Water Conservation Division Best Paper Award – “Insights into Declining Single Family Residential Water Demands.”
- 2013 Quentin Martin Best Research-Oriented Paper Award, ASCE-EWRI Journal of Water Resources Planning and Management, March 2013. Awarded for "Estimating and Verifying United States Households’ Potential to Conserve Water" by Francisco J. Suero, A.M.ASCE; Peter W. Mayer; David E. Rosenberg, A.M.ASCE
- 2010 AWWA Water Conservation Division Best Paper Award – “Improving Urban Irrigation Efficiency by using Weather-Based ‘Smart’ Irrigation Controllers.”
- 2008 AWWA Water Conservation Division Best Paper Award – “Water Budgets and Rate Structures: Innovative Management Tools.”
- 2006 AWWA Water Conservation Division Best Paper Award – “Third Party Billing of Multi-family Customers Presents New Challenges to Water Providers”
- 1996 Montgomery-Watson Master’s Thesis Award, Second Place
- 1996 American Water Works Association Academic Achievement Award, Honorable Mention