###### Marcel P. Dulay, Ph.D., P.E. 4099 Gadsden Rd. • Jacksonville, FL 32207 • H (904) 391-1019 M (904) 525-9358 • mdulay@ju.edu

Mr. Dulay has over 20 years of work experience in civil/environmental engineering interests on how infrastructure and environmental policy can better serve the public interests. Areas of engineering expertise include feasibility studies and design related to civil infrastructure and water resources; solution methods such as GIS, simulation/optimization modeling, statistics, qualitative analysis, and advanced computer modeling techniques; and drainage design. His particular policy experience is in transboundary natural resource issues, environment policy development, conflict resolution, and public participation. Mr. Dulay has managed multi-million dollar projects, dealt with international clients, and supervised dozens of people. He has presented papers on his engineering work, and co-chaired conferences and panels on environmental issues. He serves in various capacities in his community to promote poverty relief and human health.

**PE Licensure:** TX 87692 (2001), FL 70382 (2009), GA PE035318 (2010), NCEES 42085 (2010)

**Professional Preparation:**

University of Texas at Austin (2011) – Ph.D., Public Policy (environmental/economics focus), Dissertation: *From Chaos to Harmony: Public Participation in Environmental Policy*

* Graduate Integrated Watershed Science Portfolio – water resources management focus
* Doctoral Dispute Resolution Portfolio – public participation focus
* Graduate Portfolio in Sustainability – infrastructure focus
* Course work: economics, sustainable development, statistics, public financial management, decision support analysis, water resources, policy, and experimental design

Center for Alternative Dispute Resolution (2005): 40-hour Mediation Certification

Univ. of TX at Austin (1996) – M.S. Env. Eng. (water resource & stormwater treatment focus)

Univ. of TX at El Paso (1994) - B.S. Civil Engineering with honors (water focus)

**Employment History:**

PSC (1990-1994), Enron (summer 1994), Univ. of TX at Austin (1994 - 1996), Parsons (1996 - current), Univ. of TX at Austin (2002 - 2011), and Jacksonville University (2011- current)

**Skills:**

Bilingual (Spanish and English)

Software: Geo Spatial (ArcInfo); database (Access, SQL, and XML); analysis (Stata, SAS, and Excel); optimization (GAM, Neural Nets, and Excel solver); programming (Visual Basic, HTML, Avenue Script, Fortran, and Basic); and multimedia (Finalcut Pro, Fireworks, AutoCAD, and MicroStation)

**Affiliations:**

American Water Works Association; Society of Hispanic Professional Engineers; Water Environment Federation (Latin American Regional Committee member); Water for People (Mexico projects director); Engineers for a Sustainable World (Founding member of U.T. at Austin Chapter); and American Society of Civil Engineers (Environmental Water Resources Institute Standards Committee); and Florida Stormwater Association (Education Committee).

**Awards:**

City of Austin, 2009 – Dedication to Service Award; University of Texas at Austin Research Showcase, 2008 – 3rd Place; Save Barton Creek Association’s Positive Impacts, 2006 – Best Project Award; MODFLOW and More Conference, 2006 – Best Student Abstract Award

Professional Experience:

JACKSONVILLE UNIVERSITY (2013-Present): Adjunct Professor, Public Policy

**Teaching Experience:**

Fall 2017 PPOL 521: Statistics and Research Methods in Public Policy

Fall 2017 PPOL 541: Public Policy Analysis

Fall 2016 PPOL 699: Capstone Intensive

Spring 2016 PPOL 697: Capstone I

Fall 2016 PPOL 541: Public Policy Analysis

Fall 2015 PPOL 541: Public Policy Analysis

Fall 2014 PPOL 541: Public Policy Analysis

**Capstone Projects Advised:**

1. Barth, Kevin. “The Sky’s the Limit: If the FAA Allows Beyond Visual Line of Sight sUAS Operations”. April 2016.
2. Falk, Marni. “Keeping the Lights on for Endangered Species: A framework for addressing conflicting legislation”. December 2016.
3. Lopes, Alannah. “Policy Evaluation of Water Infrastructure in Larsen Acres”. December 2016.

JACKSONVILLE UNIVERSITY (2011-2013): Sustainability Coordinator

**Teaching Experience:**

Spring 2013 ECON 480 S/T: Environmental Economics

Spring 2013 SUST-100-02: Sustainability Seminar I

Fall 2012 SUST 335 Sustainability: Instructor

Spr. 2012 SOC 400C S/T: Applied Sociology: Class contributor/lecture

Spr. 2012 GEOG 400 S/T: Environ Planning & Policy: Guest Lecture

Fall 2011 SOC 410C Green Societies: Class contributor/lecture

**Grants and Contracts, year awarded (amount):**

Within the short time Mr. Dulay has been at JU he has already made an impact by raising over $80,000 dollars and has currently on target to bring in another $80,000 in 2012. His grants are as follows:

* NAS JAX Water Quality Grant, 2012 ($2,500) – navy water conservation
* Siemens Social Responsibility Grant, 2012 ($5000) – campus projects
* Keep America Beautiful, Inc, 2012($400) – campus recycling
* JEA Energy Efficiency, 2012 ($2,500) – computer applications for mobile device
* Jessie Ball DuPont Fund, 2011 ($80,000) – campus sustainability

Mr. Dulay developed the curriculum for BS/BA and BBA in sustainability, as well as made Jacksonville University a more sustainable campus. He has gathered an advisory board for the curriculum, worked on internships for students, developed projects for professors, and assessed the campus. He is worked with JU facility staff to identify projects and developed a sustainability master plan for the campus.

THE UNIVERSITY OF TEXAS AT AUSTIN (2002-2011): GRA and TA

**Teaching Experience (Graduate Courses):**

Fall 2005 PA 682A CROSS-BORDER WATER MANAGEMENT (63923): TA

Fall 2006 PA 682A CROSS-BORDER ENVIRONMNTL MGMT (65195): Co-Instructor

Fall 2006 PA 682A GROUNDWATER MANAGEMENT IN TX (65180): Co-Instructor

Spr. 2007 PA 682B CROSS-BORDER ENVIRONMNTL MGMT (63340): Co-Instructor

Spr. 2007 PA 682B GROUNDWATER MANAGEMENT IN TX (63365): Co-Instructor

**Grants and Contracts, year awarded (amount):**

Mr. Dulay is an aggressive fundraiser where has been able to use his business developments skills as a consultant to win large grants for academic research. His grants are as follows.

* Texas Soil and Water Conservation Board, 2008 ($450,000) – Public process for planning
* Texas Water Development Board Contract, 2006 ($100,000) – Public process for planning
* Division of Instructional Innovation and Assessment Grant, 2006 ($15,000) – Interactive DVD
* NADBank Contract, 2005 ($50,000) – Documentary Film on the Rio Grande
* KGC Grant, 2005 ($8,000) – Build decision support model for Rio Grande
* Sandia National Laboratories Contract, 2004 ($500,000) – Decision support for groundwater
* EPA Border 2012 Grant, 2004 ($45,000) – Study of the impacts of environmental infrastructure
* CBIRD–GLOBAL Grant, 2004 ($10,000) –Research in Mexico City, Mexico
* University of Texas at Austin Fellowship, 2002 ($51,000) – Graduate research fellowship

**Public Policy Dissertation (2002-2011):** Mr. Dulay combined his engineering experience and course work, mostly related to economics, environmental law, engineering, and statistics, into a doctoral research program that seeks to improve the environmental planning process by integrating public participation, science, engineering, and decision support. The research develops an experimental approach that refines the traditional stakeholder process that allows stakeholders to be heard through narratives, but also integrates parameters that reflect stakeholder interests into scientific and engineering models. Responsibilities included model building, water quality data analysis, statistical analysis, and technical presentations, as well as student oversight and training, grant administration, and submittal preparations. Projects are as follows:

* **Groundwater Management Area Stakeholder Process (Nine counties in central Texas).** Mr. Dulay provided project oversight, management, and training of students to learn and implement a public participation process that helped groundwater district managers collectively manage groundwater.
* **Environmental Documentary Film (Texas-Mexico Border)** was part of the U.S./Mexico EPA report where Mr. Dulay produced and directed a documentary film showing how the lives of citizens along the Rio Grande have been changed by water infrastructure (human elements, socioeconomic and health impacts).
* **Groundwater District Stakeholder Process (Austin, TX)** was a project with Sandia National Labs to develop conflict resolution and planning approaches and tools for natural resource allocation for the Barton Springs Segment of the Edwards Aquifer (BSEA) Groundwater Management District.
* **Infrastructure Evaluation (communities along the Rio Grande River**) was reported to U.S. EPA that addressed the environmental and socio-economic impact of water and wastewater projects that have been funded through U.S.-Mexican agencies on both sides of the border along the entire U.S.-Mexico border.
* **River Basin Stakeholder Process (Alberta, Canada)** with the University of Lethbridge prepared students to conduct stakeholder interviews and develop stakeholder narratives to understand social-economic impacts from the management of the Saskatchewan River Basin.

**Environmental Engineering Masters (Sept. 1994 – May 1996):** Mr. Dulay’s research was to understand how to better treat urban storm water runoff. He developed a synthetic mixture based on chemistry and particle distribution of storm water runoff. This mixture was applied in pilot scale studies directed to evaluate type I sedimentation properties and filtration efficiency through three horizontal flow filter media.

PARSONS, Austin, TX (January 1996 – Present): Environmental Engineer

Mr. Dulay served in various capacities with Parsons on projects for water-related infrastructure (water, wastewater, and storm water) and water resources that include feasibility studies and planning; conceptual and final design; and construction. As a technical director he has been responsible for the integrity of project deliverables, analyses, and evaluations. He developed and implemented quality assurance procedures for projects and authored advanced technical documents. Mr. Dulay has been a project manager where he was responsible for completing projects on time and on budget; assuring employees were performing well, and meeting clients needs. He developed work plans, performed engineering evaluations, developed progress reports, and reviewed project deliverables. Mr. Dulay was also a task manager and project engineer on several large projects with responsibilities that included performing engineering calculations, performing field inspections, managing supporting staff, and interacting with other project members. His most recent role with the company is directing public involvement during the planning and development of infrastructure. A summary of his responsibilities is as follows:

* **5 Landfills:** landfill covers, storm water drainage, a leachate collection system, and treatment systems
* **2 Hazardous Waste Projects:** compliance, closure programs, buildings, maps, and estimating
* **12 Water and Wastewater Studies:** planning, field work, forecasting, and management
* **6 Wastewater Treatment Plant Design:** planning, feasibility, design, and construction
* **Ocean Marina Design:** coastal protection, modeling, cost estimates, and environmental
* **7 Storm water projects:** storm water models, information gathering, crews training, and inspections
* **5 Water Resource Studies:** water availability, water quality, and watershed protection

ENRON, Houston, TX (April 1994 – September 1994): Environmental Engineering Internship

As part of his graduate scholarship Mr. Dulay was given an appointment with ENRON’s Department of Environmental Affairs as an engineering co-op student. His tasks included data collection, data evaluation using spreadsheets and database systems to determine if the company was compliant with Resource Conservation and Recovery Act standards. Key projects were the development of a waste minimization program and closure of hazardous waste site. He worked closely with various field units to develop Enron’s comprehensive environmental program.

PSC, El Paso, Texas (September 1989 – April 1994): Student Engineer Part-time

Mr. Dulay worked as a part time employee as he was a full-time student where his engineering responsibility progressed as he progressed through his classes. He assisted engineers with various tasks to support planning studies, feasibility evaluations, detailed designs, and construction. Tasks included data development, application development, AutoCAD drafting, and hydraulic modeling to support the design of water-related infrastructure. He also collected and evaluated water quality data for compliance with regulatory standards. Some of his notable projects are as follows:

* **Jonathan Rogers Water Treatment Plant (El Paso, TX)** supported final design, construction, and start-up.
* **Northwest Collector (El Paso, TX)** designed several miles of a gravity sewer line.
* **Rio Grande River Modeling (El Paso, TX)** entered channel and flow data into a HEC-2 hydraulic model.
* **Asset Inventory (Juarez, Mexico)** managed pump station inspection data.
* **Clardy Fox Flood Control Project (El Paso, TX)** designed large flood control pump station.
* **Jonathan Rogers Water Transmission Pipeline (El Paso, TX)** designed and inspected pipeline.
* **Water Quality Sampling (Artesia, NM)** environmental sampling and water quality analyses.

**Publications:**

**Documentary films:**

“Agua for Life,” produced by Marcel Dulay and David Eaton, Directed by Marcel Dulay and Yaron Shemer (April 2008, 44 minutes) reveals how the quality of life for people in the drought-prone region along the U.S.-Mexican border depends on the availability of water and on prudent wastewater management.

“Leon River Stakeholder Perspectives” produced and directed by Marcel Dulay (June 2009, 30 minutes). It reveals the concerns and desires of stakeholders addressing bacteria pollution in the Leon River Watershed in Central Texas.

Production assistance on “The Future of the South Saskatchewan River Basin.” It shows stakeholder perspectives on water issues in Southern Central Canada. It is part of an LBJ School of Public Affairs Policy Research Report (see Report 2 below).

**Book Section:**

Dulay, Marcel, and Eaton, David. 2009. *How Investments in Wastewater Infrastructure Has Improved Water Quality along the U.S.-Mexico Border*. Edited by C. Lipchin, D. Sandler and E. Cushman, The Jordan River and Dead Sea Basin. Dordrecht, The Netherlands: Springer.

**Journal:**

Dulay, Marcel, and Eaton, David, “Infrastructure Investment and Water Quality along the Mexico-Texas Border,” Conocimiento, no. 71 (2008), pp. 64-68.

**Publically Available Reports:**

1. Dulay, M. 2011. From Chaos to Harmony: Public Participation in Environmental Policy. Dissertation at the University of Texas at Austin, Lyndon B. Johnson School of Public Affairs.
2. Policy Research Project on Groundwater Management in Texas. 2008. What do Groundwater Users Want? Desired Future Conditions for Groundwater in the Texas Hill Country. In *Policy Research Project Report 161*, edited by D. Eaton. Austin, TX: Lyndon B. Johnson School of Public Affairs. (M. Dulay Project Co-Director)
3. Cross-Border Environmental Management Policy Research Project Group on South Saskatchewan River Basin in Alberta. 2008. The Future of the South Saskatchewan River Basin: Stakeholder Perspectives. In *Policy Research Project Report 162*, edited by D. Eaton. Austin, TX: The Lyndon B. Johnson School of Public Affairs. (M. Dulay Project Co-Director)
4. Dulay, M. and Eaton, D. 2007. How Investment in Water, Wastewater, and Irrigation Infrastructure Has Affected the Mexico-Texas Border. A report for U.S. Environmental Protection Agency, EPA #X4-976742-01.

**Conference Presentations:**

1. Dulay, M. and Vargas, M. “Five steps for a successful public participation process,” 85th Annual Water Environment Federation Technical Exhibition and Conference, New Orleans, LA (September 29 – October 3, 2012)
2. Dulay, M. and Eaton, D. “The Consequences of Mexican and US Investments in Water Resources Infrastructure along the Rio Grande/ Rio Bravo” Proceedings of World Environmental & Water Resources Congress 2008, Honolulu, Hawaii (May 2008).
3. Dulay, M. and Eaton, D. “Have Improvements in Water and Wastewater Infrastructure along the Rio Grande/Rio Bravo Affected the Lives of Mexico and Texas Border Residents?” Proceeding of Texas Water 2008 Conference, San Antonio, TX (March 2008).
4. Dulay, M. and Eaton D. “How Investment in Wastewater Infrastructure Has Improved Water Quality along the Mexico-Texas Border” Proceedings of Texas Water 2008 Conference, San Antonio, TX (March 2008).
5. Dulay, M. and Eaton, D. “Achieving Harmony: Stakeholder Support of Public Policies” Texas Water 2008 Conference in San Antonio, TX (March 26, 2008).
6. Dulay, M and Thomason M. “Narrative Techniques in Conflict Management: Use of Narrative in Water Resource Disputes,” Presented at the Texas Association of Mediators the Six Flags of Mediation Conference in San Antonio, TX (February 2007).
7. Dulay, M and Pierce, S. “Rapid Prevention of Disputes in Public Policy and Planning Process,” Presented at the American Society of Civil Engineers Operations Management Conference, Omaha, NE (August 2006).
8. Dulay, M. and Eaton, D. “Evaluation of Infrastructure Impacts on Rio Grande River Water Quality,” Presented at the ASCE World Environmental and Water Resources Congress, Tucson, AZ (May 2006).
9. Dulay, M. “Linking GIS and OASIS – A Rio Grande Case Study,” Presented at the 15th Annual GIS Forum J.J. Pickle Research Center, Austin, TX (April 2005).
10. Dulay, M. “Computer Assisted Negotiations in Transboundary River Systems,” 4 hour workshop presented at the National Conference of the American Water Works Association, San Antonio, TX (January 2004).
11. Dulay, M. and Berg, M. “Water for People: Project in Manuel Benavides, Chihuahua, Mexico,” presented at Texas Water, WEAT and Texas Section AWWA Joint Annual Conference, San Antonio, TX (July 2003).
12. Dulay, M. “Risk Assessment of Sustainable Developments in Developing Countries,” presented at 5th Annual Graduate Student Colloquium in Urban Studies, Austin, TX (February 2003).
13. Dulay, M. and Lair, S. “Cost Effective Wastewater Planning: Integrating GIS and Hydra with Custom Scripted Programs,” presented at the International ESRI User Conference in San Diego, CA (June 2002).
14. Dulay, M. “Reduction of Wastewater Discharges to the Rio Grande in Nuevo Laredo, Mexico,” presented at Texas Water, WEAT and Texas Section AWWA Joint Annual Conference, Corpus Christi, TX (April 2002).
15. Pierce, S., Dulay, M., and Lowery, T., “Defining tenable groundwater management: Integrating stakeholder preferences, distributed parameter models, and systems dynamics to aid groundwater resource allocation.” Presented at the MODFLOW and More: Managing Ground-Water Systems, Golden, CO (May 2006).
16. Guggemos, D. and Dulay, M. “Potable Water and Wastewater Planning in Nuevo Laredo,” presented at WEFTEC 74th Annual Conference & Exposition, Atlanta, GA (October 2001).
17. Pierce, S., Sharp, J., Eaton, D., and Dulay, M., “Conflict Resolution and Integrating Science Into Groundwater Policy,” to be presented at the South-Central Section - 43rd Annual Meeting of GSA, Dallas, TX (March 2009).
18. J.M. Sharp, Jr., S.A. Pierce, B.A. Smith, M.P. Dulay, D.J. Eaton, “Conflict Resolution and Integration of Science in Groundwater Policy Development.” Proceedings of Water Down Under 2008, Adelaide, Australia (March 2008).
19. Lowry, T., Pierce, S., Tidwell, V., Dulay, M., Sharp, J., Gold, A., Eaton, D., and Jenevein, R. “Integration of Spatially Aggregated Physical Process Models Within a Systems Dynamics Framework to Assist the Policy Development and Decision Support Process”, The Geological Society of America, Salt Lake City Annual Meeting (October 2005).
20. Suzanne A. Pierce, Michael Ciarleglio, Marcel Dulay, Thomas S Lowry, John M. Sharp, Jr., J.W. Barnes, David J. Eaton, Vincent C. Tidwell, “Solving for Efficiency or Decision Criteria: When the Non-unique Nature of Solutions Becomes a Benefit,” presented at the American Geophysical Union, San Francisco, CA (December 2006).

**Invited Talks:**

1. Florida Department of Environmental Protection – Technical Speaker on how the department can introduce sustainability into various department policies and activities, February 23, 2012
2. EPA, Washington DC – Technical Speaker on how to better engage stakeholders in developing infrastructure and environmental policy, January 17, 2012.
3. Engineering Senior Dinner, University of North Florida– Keynote Speaker, April 22, 2011
4. Life and the Pursuit of Water: The socio-economic impacts of water infrastructure along the U.S.-Mexico Border, International Studies Program and the Environmental Center, April 15, 2010, University of North Florida.
5. Watershed Protection in the Brazos River, Texas; After Copenhagen: Collaborative responses to climate change, April 8, 2010, Austin, Texas.
6. First Engineering Forum Madrid-Texas, Collaboration among U.S./Spanish Firms, April 6, 2010, Houston, Texas
7. Rio Grande Water Quality Issues, Technical Advisory Work Group of the Lower Rio Grande Water Quality Initiative, September 2008.
8. U.S. Mexico Issues, Texas Commission on Environmental Quality Board, August 2008.
9. Rio Grande Hydrology, International Boundary and Water Commission Board, July 2007.
10. Decision Support Systems, Sandia National Labs, May 2006.
11. International Environmental Policy Lecture, University of North Florida, Special Speaker Series, April 2010
12. Stakeholder Collaboration on Environmental Policy, International Conference on Climate Change, University of Texas at Austin, April 8, 2010

**Service:**

Mr. Dulay is actively involved in serving the community. He works on many projects that involve students and big picture issues such as poverty alleviation, sustainability, and the environment. He serves in various capacities for several organizations and voluntarily provides his expertise to various colleges, agencies, and institutions. A list of his services is as follows:

* Mayor Alvin Brown’s Mentors initiative (2012-current): Mentor to public school children
* Jacksonville Community Council Inc. (2011-current): Task force member on implementation efforts for Recession, Recovery, and Beyond
* Kozmetsky Global Collaboratory on Poverty Reduction (2011-current): affiliated researcher
* College of Engineering, University of North Florida (2011-current): Senior Exam Reviewer
* Florida Storm Water Association (2010-current): Education Committee member
* US Government Accounting Office (2009): U.S. – Mexico Advisor
* Jacksonville University (2009-2011): Sustainability program advisor
* Clinton Global Initiative-University (2009): Facilitator
* University Task Force on Sustainability (2007-2009): student member
* Parsons College Mentor (2006-current): University of Texas at Austin Mentor
* Engineers for a Sustainable World National Conference (2005): Planning committee
* Senate of College Councils (2004): Chair of the Graduate Committee
* Doctoral Representative to Student Government (2003): Doctoral students’ liaison to student council
* U.T. Austin College of Engineering's Open Mentoring Program (2002-current): Mentor
* Water for People Silent Auction (2002): Planning committee and conference member
* Austin Clean Water Program (2001-2009): At-large member
* Principals and Practice of Environmental Engineering Exam (2001-2003): Instructor

**References:**

David Eaton, Ph.D., Bess Harris Jones Centennial Professor of Natural Resource Policy Studies, Lyndon B. Johnson School of Public Affairs at The University of Texas at Austin (512) 471-8972

Joseph F. Malina, Jr., Ph.D., P.E., DEE, D.WRE, C.W. Cook Professor in Environmental Engineering at The University of Texas at Austin (512) 471-4614

Jim Patek, P.E., Technical Director, Parsons Water and Infrastructure (512) 719-6000

Steven T. Morgan, West Regional Director, Brown & Caldwell (915) 545-4400