

Curriculum Vitae et Studiorum

Gabriele Bonaiti
Extension Program Specialist I
Biological and Agricultural Engineering Department
Texas A&M AgriLife Extension Service
2117 TAMU | College Station, Texas 77843-2117
p: +1 (979) 862-2593 | c: +1 (979) 922-4991 | f: +1 (979) 847-8828
email: gbonaiti@ag.tamu.edu | Skype: bonaiti3

Dr. Bonaiti has conducted academic research work on weed management, management of nutrients and water quality (corn, soybean, wheat, sugar beet, and forage), crop growth modeling, soil and water conservation, and management of non-point source pollution.

Working for the agricultural office of a drainage and irrigation district he developed expertise on management of large irrigation schemes and drainage watersheds, including water right management, irrigation scheduling, Geographic Information Systems development and implementation, water quantity and quality monitoring, and education program development and implementation.

Dr. Bonaiti has been active internationally by conducting cooperation programs among Europe, Middle East, and US, and by representing Italian and Euro-Mediterranean irrigation and drainage districts as stakeholders within the activities of the European Union to address the challenge of water scarcity and drought.

At Texas A&M AgriLife Extension Service he developed and implemented educational programs for water districts to help them conserve and efficiently use water resources (irrigation scheduling, identification of head and seepage issues in open canals, soil water balance and quality modeling, data management, Geographic Information Systems), and for home owners to help them correctly manage onsite wastewater and water resources (on-site sewage facilities inventory). Programs are delivered through educational material, training, field demonstrations, research, and web based tools.

EDUCATION

B.S., Agriculture, Department of Environmental Agronomy and Crop Science (DAAPV), University of Padova, Italy, 1992^{1;2}

Ph.D., Agronomy, Department of Environmental Agronomy and Crop Science (DAAPV), University of Padova, Italy, 1999³

B.S., Hydrology and Water Resources, Department of Hydraulic, Marine and Geotechnical Engineering (IMAGE), University of Padova and University of Rovigo, Italy, 2008⁴

POSITIONS AND EMPLOYMENT

9/2015 - Present Texas A&M Agrilife Extension Service, Texas - Extension Program Specialist I. Emphasis on OSSF Program⁵ and Water Districts Program

12/2012 - 8/2015 Texas A&M Agrilife Extension Service, Texas - Extension Program Specialist I. Water Districts Program: Improve the efficiency of water and irrigation districts so that they can conserve water and better serve their clientele⁶

¹ Experimental Thesis: Variation of the Competition Related to the Aggregation of Weeds in Soybean. Tutor Prof. G. Zanin, assistant Dr. A. Berti

² Supplementary Experimental Thesis: Influence of Applied Doses of Pacobutrazole on the Vegetative Characteristics of Liliun Longiflorum Thumb. Tutor Prof. F. Pimpini, assistant Dr. G. Gianquinto

³ Experimental Thesis: Water table management and use of wetlands to reduce nitrate-nitrogen losses from agriculture lands. Tutor Prof. L. Giardini, assistant Prof. M. Borin

⁴ Experimental Project Work: Proposal of flow measurement in rivers and channels managed by an Irrigation and Drainage District, with focus on drought conditions. Tutor Prof. C. Avanzi

⁵ Tasks: (1) Develop and deliver educational material addressing onsite wastewater and water resources management. Program delivery includes producing an inventory of onsite sewage facilities (OSSF) systems in selected counties of the coastal zone of Texas, and conducting presentations at local county meetings, field days, and regional, state, and national conferences. (2) Manage and support projects and programs related to onsite wastewater treatment systems, water district modernization, and water quality. Participate in and help develop Extension personnel training programs as needed. (3) Obtain contracts and grants to support research and education programs. (4) Conduct training programs on GIS, web based informational delivery and other Information Technology areas. Produce GIS related products for general support of Biological and Agricultural Engineering Extension Unit programs. (5) Develop fact sheets, technical reports, popular press articles and other Extension publications to meet the needs of clientele. (6) Obtain training, certification, and licenses needed to more efficiently perform responsibilities of this position. Supervise student workers and wage employees. (7) Other job related duties as assigned.

⁶ Tasks: (1) Develop a program to provide technical and educational support to water districts in Texas; (2) Develop fact sheets, technical reports, popular press articles and other Extension publications to meet the needs of clientele; (3) Obtain contracts and grants to support research and education programs; (4) Conduct training programs on GIS, web based informational delivery and other Information Technology areas; (5) Support field projects and county Extension programs in water district modernization and improved management. Participate in and help develop Extension personnel training programs as needed; (6) Produce GIS related products for general support of Biological and Agricultural Engineering Extension Unit programs; (7) Other job related duties as assigned

- 2/2009 - 11/2012 Texas A&M Agrilife Extension Service, Texas - Visiting Research Scholar and Extension Associate. Efficient Irrigation for Water Conservation in the Rio Grande Basin project, supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture
- 9/2003 - 7/2010 Drainage and Irrigation District Riviera Berica/Alta Pianura Veneta⁷, Vicenza, Italy - Head of the Agricultural Office/Department⁸
- 9/2000 - 8/2003 Drainage and Irrigation District Riviera Berica, Vicenza, Italy - Technical-agronomical collaboration
- 5/1999 - 12/2000 University of Padova - Post-doctorate scholarship. Project Title: The use of agronomic techniques to reduce the impact of animal waste on agricultural soil and groundwater quality
- 2-4/1999 CNR (Italian National Research Council) - Technical collaboration. Project Title: Agronomic aspects of the use of animal waste
- 9/1995 - 1/1999 University of Padova - Ph.D. scholarship
- 7/1994 - 8/1995 Environment Framework Programme 1990-1994, European Union - Technical collaboration. Project Title: Soil and Water Quality as Affected by Agrochemicals Under Different Soil Tillage Systems

PROFESSIONAL MEMBERSHIPS AND LICENSES

Certified Professional Agronomist (Italy)

European Drought Center (2007-)

TAMU Geospatial Sciences, Applications and Technology (GEOSAT) Center (2014-)

American Society of Agricultural and Biological Engineers (ASABE) (November 2016-)

TCEQ license for OSSF Designated Representative (2017-2020)

⁷ The Drainage and Irrigation District Riviera Berica was merged to adjacent areas and renamed Drainage and Irrigation District Alta Pianura Veneta, as for Region Law N. 12 (5/18/2009)

⁸ On 11/1/2009 the Agricultural Office was merged to other offices and renamed Agricultural Department

PUBLICATIONS

Peer view papers and Factsheets

Bonaiti, G., Karimov, A., and Fipps, G. A Simple Method for Calibrating a Radial Gate for Use as a Flow Measuring Device. Accepted for publication as full article paper in the Applied Engineering in Agriculture Journal (Accepted December 18, 2017)

Bonaiti, G., and Fipps, G., 2016. Methodology for quantifying impacts of urbanization on the water distribution networks of irrigation districts. *Agr. Wat. Manag.* 176, 270–279, DOI: <http://dx.doi.org/10.1016/j.agwat.2016.05.023>

Bonaiti, G., Fipps, G., 2016. Lining Irrigation Canals with Synthetic Materials – The Texas Experience. Draft extension factsheet

Bonaiti G., Borin M., 2010. Efficiency of controlled drainage and subirrigation in reducing nitrogen losses from agricultural fields. *Agr. Wat. Manag.* 98, 343-352. DOI: 10.1016/j.agwat.2010.09.008

Borin M., Bonaiti G., Giardini L., 2004. Matching water conservation and crop production by controlled drainage and subirrigation: five years' experience in NE Italy. *Ital. J. Agron.*, 7, 2, 111-118

Borin M., Bonaiti G., Santamaria G., Giardini L., 2001. A constructed surface flow wetland for treating agricultural waste waters. *Water Sci. Technol.*, 44, 11-12, 523-530

Borin M., Bonaiti G., Giardini L., 2001. Controlled drainage and wetlands to reduce agricultural pollution: a lysimetric study. *J. Environ. Qual.* 30, 1330-1340

Borin M., Morari F., Bonaiti G., Paash M., Skaggs R.W., 2000. Analysis of DRAINMOD performances with different detail of soil input data in the Veneto Region of Italy. *Agr. Wat. Manag.* 42, 259-272

Borin M., Bonaiti G., Semerari M., Semerari A., Carone M., 1997. Use of treated waste waters for irrigation of some vegetables in Mediterranean environment. *Riv. di Irr. e Dren.* 44 (4), 20-24

Borin M., Bonaiti G., 1997. Un dispositivo sperimentale di drenaggio controllato con zona umida per studiare le possibilità di controllo delle perdite di nitrati dai terreni agricoli⁹. *Riv. di Irr. e Dren.* 44 (1), 39-46

Conference Proceedings

Bonaiti, G., Karimov, A.K., Gerlich, R., and Jantrania, A., 2017. Knowing source of sewage: Methodologies and geographic online database tools to update and retrieve information in real time. Written for presentation at the 2017 ASABE Annual International Meeting. Sponsored by

⁹ An experimental scheme with controlled drainage and wetland to control nitrate losses from agricultural soils

ASABE. Spokane, Washington, July 16-19, 2017. DOI: 10.13031/aim.201700469, Paper Number: 1700469

Fipps, G., and Bonaiti, G., 2017. Modernization of Irrigation Schemes through Training of Water User Associations in the Rapid Intervention Program. Accepted for poster presentation at the 23rd International Congress on Irrigation and Drainage: Towards A New Green Revolution 2.0, 8-14 October 2017, Mexico City, Mexico (not presented, not published in the proceedings)

Fipps, G., and Bonaiti, G., 2016. Modernization of Irrigation Schemes through Training of Water User Associations in the Rapid Intervention Program. 2nd World Irrigation Forum, Water Management in a Changing World: Role of Irrigation for Sustainable Food Production, 6 - 8 November 2016, Chiang Mai, Thailand, ICID

Karimov, A.K., Gerlich, R., Bonaiti, G., and Jantrania, A., 2016. The Impacts of On-Site Sewage Systems on Coastal Areas of Texas. 2016 ASABE Annual International Meeting, Orlando, Florida, July 17-20, Paper No. 162461437. St. Joseph, MI: ASABE. DOI: 10.13031/aim.20162461437

Bonaiti, G., 2014. Progress in Developing Web-Based Management Systems for Water Districts. Presented at the American Water Resources Association (AWRA) Spring Specialty Conference on: Geographic Information Systems VIII - Data to Decisions, May 14, Snowbird, Utah

Bonaiti G., Fipps G., 2013. Rapid Intervention Program (RIP) to Improve Operational Management and Efficiencies in Irrigation Districts in Iraq. In Brian T. Wahlin and Susan S. Anderson (Eds.), Proceedings of the 7th USCID International Conference on Irrigation and Drainage, Using 21st Century Technology to Better Manage Irrigation Water Supplies, April 16-19, Phoenix, Arizona, 45-57

Bonaiti G., Flahive, D., Fipps G., 2013. Development of a Web-Based GIS Management System for Agricultural Authorities in Iraq. In: Brian T. Wahlin, Susan S. Anderson (Eds.) Proceedings of the 7th USCID International Conference on Irrigation and Drainage, Using 21st Century Technology to Better Manage Irrigation Water Supplies, April 16-19, Phoenix, Arizona, 373-381

Bonaiti G., and Fipps G. 2012. Methodologies for Analyzing Impact of Urbanization on Irrigation Districts. In: Gerald A. Gibbens, Susan S. Anderson (Eds.) Proceedings of the USCID Water Management Conference, Irrigated Agriculture Responds to Water Use Challenges — Strategies for Success, April 3-6, Austin, Texas, 267-282

Bonaiti G., Fipps G., 2011. Effects of Use of GIS as a Real Time Decision Support System for Irrigation Districts in Texas. In: Charles M. Burt, Laura A. Schroeder, Susan S. Anderson (Eds.) Proceedings of the 6th USCID International Conference on Irrigation and Drainage, The Struggle for Efficiency — Actions and Consequences, November 15-18, San Diego, California, 275-288

Bonaiti G., Fipps G., 2011. Evaluation of the CRITERIA Irrigation Scheme Soil Water Balance Model in Texas - Initial Results. In: R. Edward Beighley, Mark W. Killgore (Eds.) Proceedings

of the Conference World Environmental & Water Resources Congress, Bearing Knowledge for Sustainability, May 22-26, Palm Springs, California, 2692-2699

Bonaiti G., Fipps G., 2011. Urbanization of Irrigation Districts in the Texas Rio Grande River Basin. In: Rhonda Skaggs, Susan S. Anderson (Eds.) Proceedings of the USCID Conference, Emerging Challenges and Opportunities for Irrigation Managers - Energy, Efficiency and Infrastructure, April 26-29, Albuquerque, New Mexico, 35-48

Bonaiti G., Fipps G., 2010. GIS as a Real Time Decision Support System in Brownsville Irrigation District. Poster, Proceedings of the Annual Rio Grande Basin Initiative Conference, May 17-21, Alpine, Texas

Bonaiti G., Fipps G., 2010. Use of GIS as a Real Time Decision Support System for Irrigation Districts. In: Gerald A. Gibbens, Susan S. Anderson (Eds.) Proceedings of the USCID Conference, Meeting Irrigation Demands in a Water-Challenged Environment - SCADA and Technology: Tools to Improve Production, September 28 - October 1, Fort Collins, Colorado, 189-202

Bonaiti G., Leigh E., Karimov A., Fipps G., 2010. Flow Calibration of the Bryan Canal Radial Gate at the United Irrigation District. In: Gerald A. Gibbens, Susan S. Anderson (Eds.) Proceedings of the USCID Conference, Meeting Irrigation Demands in a Water-Challenged Environment - SCADA and Technology: Tools to Improve Production, September 28 - October 1, Fort Collins, Colorado, 89-100

Bonaiti G., Brun R., Anzio F., 2007. Monitoring surface water bodies quality and suitability for irrigation. In: Proceedings of the ICID 22nd European Regional Conference, Workshop on European Framework Directive in the Field of Water, September 2-7, Pavia, Italy

Rinaldo S., Carollo F., Leoni C., Marletto V., Tonelli T., Bonaiti G., 2007. Water requirements calculation for crops irrigated with the Adige River water. In: Proceedings of the ICID 22nd European Regional Conference, September 2-7, Pavia, Italy

Bonaiti G., Gaino M., Battistello G., Brun R., Anzio F., 2007. Automation and control of irrigation on the Monti Berici hills. In: Proceedings of the ICID 22nd European Regional Conference, September 2-7, Pavia, Italy

Bonaiti G., Nicolin T., 2007. Forestation of a retention pond to improve the quality of life. Poster in Proceedings of the International Conference on Multi-functions of wetland systems, June 26-29, Legnaro, Padova, Italy

Carollo F., Rinaldo S., Marletto V., Tonelli T., Bonaiti G., 2006. Monitoraggio e calcolo del fabbisogno idrico di singole colture agrarie¹⁰. In: Proceedings of the 10th National Conference ASITA, November 14-17, Fiera di Bolzano, Bolzano, Italy

Bonaiti G., 2006. Irrigation pilot project for hilly areas in the North East Italy flood-plain. Poster of Local Action LA1404, 4th World Water Forum, March 16-22, Mexico City, Mexico

Borin M., Bortolini L., Bonaiti G., 2005. Irrigation Management in an Irrigation District of the Veneto Region: A Case Study in the Berici Hills. In: Raymond Walton, P.E., (Ed.): EWRI

¹⁰ Monitoring and calculating water requirements of agricultural crops

2005: Impacts of Global Climate Change. Proceedings of the 2005 World Water and Environmental Resources Congress, ASCE/EWRI, May 15-19, Anchorage, Alaska, 1-11

Borin M., Bisol T., Bonaiti G., Morari F., Amatya D.M., 2004. Evaluation of Actual Nitrogen Losses From a Watershed - Preliminary Results of a Case Study in the Po Valley (Northern Italy). In: Altinakar, M.S., Wang, S.S.Y., Holz, K.P. and Kawahara, M. (Eds.). Proceedings of the 6th International Conference on Hydrosience and Engineering, May 30 – June 3, Brisbane, Australia, 329-340

Borin M., Bonaiti G., Giardini L., 2002. Matching water conservation and crop production by controlled drainage and subirrigation: five years' experience in NE Italy. In: Ragab R., Scarascia M.E., De Wrachien D., Mermoud A., Al-Attar M., Taha F. and Hamdy A. (Eds.): 18th ICID Congress on Crop Water Management For Food Production Under Limited Water Supplies, Montreal, Canada, 21-28 July. ICID, New Delhi, India, 135-146

Borin M., Bonaiti G., Santamaria G., Giardini L., 2000. A superficial flow constructed wetland for treating agricultural waste waters. Proceedings 7th International Conference on Wetland Systems for Water Pollution Control, IWA, 11-16 November, Grosvenor Resort, Lake Buena Vista, Florida, 1399-1405

Giardini L., Borin M., Bonaiti G., 1999. Studio agronomico di *Typha latifolia* L. ai fini della fitodepurazione¹¹. Proceedings of the XXXIII Annual Conference of the Società Italiana di Agronomia on Le colture «non alimentari», September 20-23, Legnaro, Padova, Italy, 337-338

Giardini L., Borin M., Bonaiti G., 1999. Studio agronomico di *Phragmites australis* (Cav.) Trin. ai fini della fitodepurazione¹². Proceedings of the XXXIII Annual Conference of the Società Italiana di Agronomia on Le colture «non alimentari», September 20-23, Legnaro, Padova, Italy, 335-336

Giardini L., Borin M., Bonaiti G., 1999. Studio agronomico di *Carex elata* All. (= *C. stricta* Good. non Lam.) ai fini della fitodepurazione¹³. Proceedings of the XXXIII Annual Conference of the Società Italiana di Agronomia on Le colture «non alimentari», September 20-23, Legnaro, Padova, Italy, 333-334

Borin M., Bonaiti G., Giardini L., 1998. First Result on Controlled Drainage to Reduce Nitrate Losses from Agricultural Sites. In: Pereira L.S., Gowing J.W., (Eds.). Water and the Environment: Innovative Issues in Irrigation and Drainage, selected papers of the 1st Inter-Regional Conference on Environmental-Water: Innovative Issues in Irrigation and Drainage, Lisbona, Portugal, September 16-18, E & FN Spon, London, Great Britain, 35-42

Giupponi C., Bonaiti G., Capri E., Errera G., Trevisan M., 1996. Effects of alternative soil tillage systems on the degradation and sorption of herbicides. In: Del Re A.A.M., Capri E., Evans S.P., Trevisan M., (Eds.). The Environmental Fate of Xenobiotics. X Symposium Pesticide Chemistry, September 30 - October 30, Castelnuovo Fogliani, Piacenza, La Goliardica Pavese, 151-160

¹¹ Agronomic study of *Typha latifolia* L. for wastewater treatment purposes

¹² Agronomic study of *Phragmites australis* (Cav.) Trin. for wastewater treatment purposes

¹³ Agronomic study of *Carex elata* All. (= *C. stricta* Good. non Lam.) for wastewater treatment purposes

Borin M., Bonaiti G., Sartori L., Menini C., 1996. Effects of Soil Tillage on Penetration Resistance in Maize and Wheat. Proceedings of the XIII CIGR World Congress and International Conference on Agricultural Engineering, September 23-26, Madrid, Spain, 122-123

Other Journal and Newsletter Publications

Bonaiti G., Borin M., 2000. Agronomic observations of *Phragmites australis* (Cav.) Trin. And *Typha latifolia* L.: biomass and nitrogen seasonal dynamics. IWA Macrophytes Newsletter, 22, 20-24

Giardini L., Berti A., Bonaiti G., Borin M., Morari F., 2000. Effetti ambientali conseguenti all'applicazione del regolamento 2078/92 nel Veneto¹⁴. *Agricoltura Ricerca*, 184, 63-96

Borin M., Bonaiti G., 2000. Osservazioni sull'apparato ipogeo di *Typha latifolia* e *Phragmites australis*¹⁵. *Inquinamento*, 17, 48-52

Borin M., Bonaiti G., Semerari M., Semerari A., Carone M., 1997. Use of treated waste waters for irrigation of some vegetables in Mediterranean environment. International Conference on Water management, salinity and pollution control towards sustainable irrigation in the Mediterranean region, September 22-26, Valenzano, Bari, *Riv. di Irr. e Dren.*, 44, 4, 20-24

Borin M., Bonaiti G., 1997. Versatilità dei sistemi wetland per la fitodepurazione delle acque inquinate. Alcuni esempi applicativi in Texas¹⁶. *Inquinamento*, 10, 56-59

Bulletin/Technical/Special Reports

Bonaiti G., Gerlich, R., Karimov, A.K., and Jantrania, A., 2017. OSSF Inventory and Analysis Report. Final Project Report, Submitted to TCEQ on October 31 (Approved by TCEQ on December 8)

Bonaiti G., Fipps G., 2014. Evaluation of Canal Lining Projects in the Lower Rio Grande Valley of Texas - 2013 Ratings and Analysis. Texas A&M AgriLife Extension Service, Texas Water Research Institute Technical Report, TR-465

Bonaiti G., Fipps G., 2012. Use of GIS as a Real Time Decision Support System for Irrigation Districts. Rio Grande Basin Initiative, Irrigation Technology Program, Texas A&M AgriLife Extension Service. Texas Water Research Institute Technical Report, TR-435. [online] URL: <http://twri.tamu.edu/reports/2012/tr435.pdf>

Bonaiti G., Fipps G., 2011. Methodologies for Analyzing Impact of Urbanization on Irrigation Districts. Rio Grande Basin Initiative, Irrigation Technology Center, Texas AgriLife Extension

¹⁴ Environmental effects resulting from the application of European Regulation 2078/92 in the Veneto Region of Italy

¹⁵ Observations on the below-ground organs of *Typha latifolia* e *Phragmites australis*

¹⁶ Versatility of wetland systems for the treatment of polluted waters. Some examples of application in Texas

Service. Texas Water Research Institute Technical Report, TR-419. [online] URL:
<http://twri.tamu.edu/reports/2011/tr419.pdf>

Bonaiti G., Fipps G., 2011. Evaluation of the CRITERIA Irrigation Scheme Soil Water Balance Model in Texas. Rio Grande Basin Initiative, Irrigation Technology Center, Texas AgriLife Extension Service. Texas Water Research Institute Technical Report, TR-418. [online] URL:
<http://twri.tamu.edu/reports/2011/tr418.pdf>

Bonaiti G., Karimov A., Fipps G., 2011. Evaluation of Canal Lining Projects in the Lower Rio Grande Valley of Texas - 2011 Ratings and Analysis. Technical Report Rio Grande Basin Initiative, Irrigation Technology Center, Texas AgriLife Extension Service. Extension Service. Texas Water Research Institute Technical Report, TR-412. [online] URL:
<http://twri.tamu.edu/reports/2011/tr412.pdf>

Project Reports

Bonaiti, G., 2017. Maintenance of Spatial Database Structure, Final Project Report. Submitted to the Gonzales County Underground Water Conservation District, December 22

Bonaiti, G., 2016. Maintenance of Spatial Database Structure, Final Project Report. Submitted to the Gonzales County Underground Water Conservation District, December 20

Bonaiti, G., Gerlich, R., Karimov, A.K., and Jantrania, A., 2016. OSSF Inventory and Analysis Report. Final Project Report, Submitted to TCEQ, August 26

Bonaiti, G., 2015. Improvement of Data Access and Analysis, Final Report. Submitted to the Gonzales County Underground Water Conservation District, November 17

Bonaiti, G., 2015. Improvement of Data Access and Analysis, Final Report. Submitted to the Pecan Valley Groundwater Conservation District, August 31

Bonaiti, G., 2014. Improvement of Spatial Data Management, Final Report. Submitted to the Gonzales County Underground Water Conservation District, September 30

Bonaiti, G., 2014. Improvement of Spatial Data Management and Web Application, Final Report. Submitted to the Evergreen Underground Water Conservation District, September 30

Bonaiti, G., 2014. Creation and Deployment of Water-Use Efficient Technology Platforms Project. TAMU Research, Extension and Engineering, Semiannual Report, August 31

Bonaiti G., 2013. Drainmod-NII to assess the effect of controlled drainage on N losses under different scenarios of N input management in NE Italy. Final Report, submitted to the Department of Agronomy, Food, Natural Resources, Animals and the Environment, University of Padova, Achieving good water QUality status in intensive Animal production areas (AQUA), LIFE+ funded by the European Commission, December 10

Bonaiti G., Fipps G., 2013. Selection and Ranking of Canals in the Gulf Coast Irrigation Division by Expected Seepage and/or Other Types of Losses. Final Report, submitted to the Lower Colorado River Authority, September 10

Bonaiti G., Fipps G., 2013. Tools for Improved Water Management and Conservation in Irrigation Districts. Efficient Irrigation for Water Conservation in the Rio Grande Basin Project - Water Conservation in the Rio Grande Basin, Texas Water Resources Institute, USDA-NIFA, Final Report

Bonaiti G., 2013. On-Site Sewage Facilities (OSSF) project. Final Report, including 79 maps, analysis for 17 new locations, and 2 tables reporting affected basins and 303(d) impairment for the new locations

Bonaiti G., Fipps G., 2012. Rapid Intervention Program (RIP) - Reference Manual. Rapid Intervention Program Project, USAID-Inma Agribusiness Program, Iraq, Final Report

Bonaiti G., Fipps G., 2012. Regional GIS Support Program. Regional GIS Support Program Project, USAID-Inma Agribusiness Program, Iraq, Final Report

Bonaiti G., 2006 - Progetto di Divulgazione e Comunicazione sulla Utilita' del Rimboschimento del Bacino di Campiglia Dei Berici in Comune di Campiglia Dei Berici per Migliorare la Qualita' della Vita¹⁷. Rules for the Implementation of Forest in the Veneto Plain Project, Regional Law 5/2/2003 No 13, Veneto Region Agency, Italy, Final Report

Casotto M, Salvato M, Bonaiti G, Borin M, 2006 - Riqualficazione e Iniziative Didattico-Formative per la Valorizzazione di una Cassa di Espansione¹⁸. Poster in Plants Water Nature (P.A.N.). [online] URL: <http://www.panspinoff.com/riqualificazione.JPG>

News Articles

Extension specialist offers GIS services to EUWCD, The Pleasanton Express, April 30. [online] URL: http://www.pleasantonexpress.com/news/2014-04-30/News/Extension_specialist_offers_GIS_services_to_EUWCD.html

Web Materials

OSSF facilities database and online map. Published in the ossf.tamu.edu website, and hosted in the team server (<https://ossf.tamu.edu/test-map/>) (maintained/updated 2016-2017)

Registered wells interactive maps, including: for mobile devices; for data access and analysis by district personnel (password protected); and for data access by the public. Gonzales County Underground Water Conservation District. Mantained and upgraded database, and published maps in the District website and hosted in the team server (http://watergis.tamu.edu/flexviewers/GCUWCD_2003_shp2/index.html) (maintained/updated 2014-2017)

¹⁷ Outreach and Communication Project on the Usefulness of the Afforestation of the Retention Basin of Campiglia Dei Berici to Improve Quality of Life

¹⁸ Restoration and Training-Educational Initiatives for the Enhancement of a Retention Basin

Registered wells interactive map, for data access and analysis by district personnel (password protected). Evergreen Groundwater Conservation District. Hosted in the team server.

(<http://watergis.tamu.edu/flexviewers/euwcd2/>) (maintained/updated 2014-2017)

Water Districts GIS (WATERGIS) Program. [online] URL: <http://watergis.tamu.edu> (maintained/updated 2009-2017)

Irrigation District Engineering and Assistance (IDEA) Program. [online] URL: <http://idea.tamu.edu> (maintained/updated 2009-2016)

Iraqi Ministry of Agriculture Agro-Environmental Zoning (AEZ) Department Program. [online] URL: <http://aez-gisonline.org> (maintained/updated 2012-2014)

Other Professional Meeting Papers

Cawthon, T., Texas AgriLife Extension (Contact: Gabriele Bonaiti). 2017. "Coastal Zone On-Site Sewage Facility (OSSF) Geodatabase". Presented to the TCEQ Water Quality Division GIS Work Group and Water Quality Planning Division Planning and Implementation Sections. Presentations were given by Tim Cawthon on 11/28 and 11/30

Gabriele Bonaiti, Lisa Prcin, Ryan Gerlich, Anish Jantrania. 2017. "Inventory and Mapping of OSSFs in the Lampasas River Watershed". Presented at the Lampasas River Watershed Partnership Stakeholders at Partnership Meeting, Lampasas TX. Presentation was given by Anish Jantrania on 10/12

Bonaiti G., 2014. Conserve water and operate efficiently: 5-years program for Water Districts in Texas. Poster presented at the Texas Extension Specialists Association annual meeting, July 16-18, San Antonio, Texas

Bonaiti G., 2014. Improvement of Data Access and Analysis for Water Districts in Texas. Presented at the AWRA Annual Water Resources Conference, November 6, Tysons Corner, Virginia

Bonaiti G., 2014. An Extension education program to help water districts conserve water and operate more efficiently: Introduction. Invited presentation at the Texas Alliance of Groundwater Districts Quarterly Meeting, February 26, Austin, Texas

Bonaiti G., Fipps G., 2013. Rapid Intervention Program (RIP) to Improve Operational Management and Efficiencies in Irrigation Districts. Presented at the Irrigation Show Technical Sessions, November 6-7, Austin, Texas

Bonaiti G., Fipps G., 2013. Update on Evaluation of Irrigation Canal Lining Materials and Systems. Poster presented at the Rio Grande Basin Project Meeting, April 16, San Antonio, Texas. In Post-conference web site. [online] URL: <http://riogrande-conference.tamu.edu/wrapup/2013/>

Bonaiti G., Fipps G., 2013. Progress in Developing Web-Based Management Systems for Irrigation District. Presented at the Rio Grande Basin Project Meeting, April 16, San Antonio,

Texas. In Post-conference web site. [online] URL: <http://riogrande-conference.tamu.edu/wrapup/2013/>

Bonaiti G., Fipps G., 2013. Updates on Methodologies to Evaluate Irrigation Canal Lining. Presented at the 7th USCID International Conference on Irrigation and Drainage, Using 21st Century Technology to Better Manage Irrigation Water Supplies, April 16-19, Phoenix, Arizona

Bonaiti G., Fipps G., 2013. Web-GIS per una Piu' Efficiente Gestione del Servizio Irriguo¹⁹. Live Poster presented at the 14th ESRI Users Italian Conference, April 17-18, Rome, Italy. In Post-conference web site. [online] URL: http://www.esriitalia.it/conferenza/LivePosterDemo/Web_GIS/

Guy Fipps, Gabriele Bonaiti, and Charles Swanson, 2012. Climate and ET: Does Plant Water Requirements Increase during Droughts? Accepted paper for poster presentation at the European Geosciences Union (EGU) General Assembly, Vienna, Austria, April 22-25 (not presented)

Bonaiti G., and G. Fipps, 2012. Progress in Developing a Web-based Management System for Irrigation Districts. Presented at the USCID Water Management Conference, Irrigated Agriculture Responds to Water Use Challenges — Strategies for Success, April 3-6, Austin, Texas

Bonaiti G., and Fipps G., 2012. Methodologies for Evaluation of Canal Lining Systems. Presented at the USCID Water Management Conference, Irrigated Agriculture Responds to Water Use Challenges — Strategies for Success, April 3-6, Austin, Texas

Bonaiti G., Battistello G., and Fipps G., 2012. Effects of SCADA Innovation at the Riviera Berica District in Northern Italy. Presented at the USCID Water Management Conference, Irrigated Agriculture Responds to Water Use Challenges — Strategies for Success, April 3-6, Austin, Texas

Bonaiti G., Gaino M., Gamba M., and Fipps G., 2012. Automation and Control of Irrigation in the Monti Berici Hills in Northern Italy. Presented at the USCID Water Management Conference, Irrigated Agriculture Responds to Water Use Challenges — Strategies for Success, April 3-6, Austin, Texas

Bonaiti G., Fipps G., 2009. Irrigation District Database Integration Into GIS and the Web. Poster, Proceedings of the Annual Rio Grande Basin Initiative Conference, August 12, McAllen, Texas

Borin M., Bonaiti G., 1997. Nitrate-nitrogen Concentration in Soil and Water under Wetland Macrophytes and Maize Grown in Lysimeters with Various Water Table Management. Gumpensteiner Lysimetertagung, Lysimeter und nachhaltige Landnutzung, April 7-9, BAL Gumpenstein, Austria, 147-148

¹⁹ Web-GIS to Improve Water Management in Irrigation and Drainage Districts

RECENT PROFESSIONAL MEETING PRESENTATIONS

Knowing source of sewage: Methodologies and geographic online database tools to update and retrieve information in real time. 2017 ASABE Annual International Meeting. Sponsored by ASABE. July 17, 2017, Spokane, Washington

Improvement of Data Access and Analysis for Water Districts in Texas. Presented at the AWRA Annual Water Resources Conference, November 6, 2014, Tysons Corner, Virginia

Conserve water and operate efficiently: 5-years program for Water Districts in Texas. Poster presented at the Texas Extension Specialists Association annual meeting, July 17, 2014, San Antonio, Texas

Progress in Developing Web-Based Management Systems for Water Districts. Presented at the American Water Resources Association (AWRA) Spring Specialty Conference on: Geographic Information Systems VIII - Data to Decisions, May 14, 2014, Snowbird, Utah

An Extension education program to help water districts conserve water and operate more efficiently: Introduction. Invited presentation at the Texas Alliance of Groundwater Districts Quarterly Meeting, February 26, 2014, Austin, Texas

Rapid Intervention Program (RIP) to Improve Operational Management and Efficiencies in Irrigation Districts. Presented at the Irrigation Show Technical Sessions, November 6, 2013, Austin, Texas

Progress in Developing Web-Based Management Systems for Irrigation District. Rio Grande Basin Project Meeting, April 16, 2013, San Antonio, Texas In Post-conference web site. [online] URL: <http://riogrande-conference.tamu.edu/wrapup/2013/>

Update on Evaluation of Irrigation Canal Lining Materials and Systems. Poster, Rio Grande Basin Project Meeting, April 16, 2013, San Antonio, Texas In Post-conference web site. [online] URL: <http://riogrande-conference.tamu.edu/wrapup/2013/>

Extension's Irrigation District Engineering and Assisting Program Results after 10 Years. 8th Rio Grande Valley Irrigation Conference and Trade Show, January 29, 2013, Weslaco, Texas

Water Use Technical Meeting, USAID-INMA Project, June 27, 2012, Baghdad, Iraq

Methodologies for Analyzing Impact of Urbanization on Irrigation Districts. In USCID Water Management Conference, Irrigated Agriculture Responds to Water Use Challenges — Strategies for Success, April 5, 2012, Austin, Texas

Progress in Developing a Web-based Management System for Irrigation Districts. USCID Water Management Conference, Irrigated Agriculture Responds to Water Use Challenges — Strategies for Success, April 5, 2012, Austin, Texas

Effects of SCADA Innovation at the Riviera Berica District in Northern Italy. USCID Water Management Conference, Irrigated Agriculture Responds to Water Use Challenges — Strategies for Success, April 5, 2012, Austin, Texas

Automation and Control of Irrigation in the Monti Berici Hills in Northern Italy. USCID Water Management Conference, Irrigated Agriculture Responds to Water Use Challenges — Strategies for Success, April 5, 2012, Austin, Texas

Effects of Use of GIS as a Real Time Decision Support System for Irrigation Districts in Texas. 6th USCID International Conference on Irrigation and Drainage, The Struggle for Efficiency — Actions and Consequences, November 17, 2011, San Diego, California

Canal Lining Project Evaluation Updates and Methodologies. 6th USCID International Conference on Irrigation and Drainage, The Struggle for Efficiency — Actions and Consequences, November 17, 2011, San Diego, California

Urbanization of Irrigation Districts in the Texas Rio Grande River Basin. USCID Conference, Emerging Challenges and Opportunities for Irrigation Managers - Energy, Efficiency and Infrastructure, April 27, 2011, Albuquerque, New Mexico

Use of GIS as a Real Time Decision Support System for Irrigation Districts. USCID Conference, Meeting Irrigation Demands in a Water-Challenged Environment - SCADA and Technology: Tools to Improve Production, September 30, 2010, Fort Collins, Colorado

Flow Calibration of the Bryan Canal Radial Gate at the United Irrigation District. USCID Conference, Meeting Irrigation Demands in a Water-Challenged Environment - SCADA and Technology: Tools to Improve Production, September 29, 2010, Fort Collins, Colorado

GIS as a Real Time Decision Support System in Brownsville Irrigation District. Annual Rio Grande Basin Initiative Conference, May 20, 2010, Alpine, Texas

Irrigation District Database Integration Into GIS and the Web. Poster, Annual Rio Grande Basin Initiative Conference, August 12, 2009, McAllen, Texas

The WaterGIS website and the functionality of web applications. Online presentation at the Consortium for Irrigation Research and Education (CIRE) Conference, May 27-29, 2009, Bushland, Texas

IDEA program. Presentation at the Lower Rio Grande Valley Irrigation Districts' manager meeting, May 19, 2009, Harlingen, Texas

Monitoring surface water bodies quality and suitability for irrigation. ICID 22nd European Regional Conference, European Framework Directive in the Field of Water Workshop, September 3, 2007, Pavia, Italy

Water requirements calculation for crops irrigated with the Adige River water. ICID 22nd European Regional Conference, September 3, 2007, Pavia, Italy

Automation and control of irrigation on the Monti Berici hills. ICID 22nd European Regional Conference, September 3, 2007, Pavia, Italy

Forestation of a retention pond to improve the quality of life. Poster, International Conference on Multi-functions of wetland systems, June 26-29, 2007, Legnaro, Padova, Italy

Monitoraggio e calcolo del fabbisogno idrico di singole colture agrarie²⁰. 10th National Conference ASITA, November 17, 2006, Fiera di Bolzano, Bolzano

Irrigation pilot project for hilly areas in the North East Italy flood-plain. Poster of Local Action LA1404, 4th World Water Forum, March 16-22, 2006, Mexico City, Mexico

OTHER RECENT PRESENTATIONS – Extension training, demonstrations, etc.

Lampasas River Watershed Protection Plan Implementation – On-Site Sewage Facilities Database Project. Texas – 2017 Presentations to Authorized Agents: September 19, Temple; September 20, Lampasas and Hamilton; October 16, Burnet; October 17, Goldthwaite

Improvement of Spatial Data Management and Web Applications for Water Districts, Texas - 2017 Training and Demonstration Series: Gonzales County Underground Water Conservation District: August 1, 8, 14, 15, 16, October 13, College Station (remote sessions); Brush Country Groundwater Conservation District: September 12, College Station (remote session)

Urbanization impact on water district distribution systems. District personnel survey: March 2, 2017, Harlingen

Oso Creek: Septic System Evaluation Project. Supported presentation and discussion at two workshops, and conducted field surveys with home owners: February 16-17, 2017, Corpus Christi

Improvement of Spatial Data Management and Web Applications for Water Districts, Texas - 2016 Training and Demonstration Series: Gonzales County Underground Water Conservation District: March 1, 7, May 13, August 31, College Station (remote sessions); Brush Country Groundwater Conservation District: January 15, June 15, September 2, October 19, College Station (remote sessions)

Phases I and II of the Coastal On-Site Sewage Facilities (OSSF) Inventory. Texas – 2016 Presentations to Authorized Agents and sewer service providers: January 26-28, Corpus Christi; February 8, Orange; February 8, Orangefield; February 8, Vidor; February 9, Houston and Anahuac; April 18, Orange; June 8, Austin; September 29, Angleton and La Marque; September 30, Beaumont; October 11, Bay City, Edna, and Victoria; October 12, Victoria and Rockport; November 1, San Benito and Raymondville; November 1, Kingsville; November 2, Kingsville and Rockport; November 3, Sinton and Refugio; December 2, Houston

Webcam and remote interpretation for water level monitoring: the GaugeCam case. Lower Rio Grande Valley Water Districts Managers' Association, Monthly Meeting, Echo Hotel, January 19, 2016, Edinburg, Texas

OSSF training center rededication ceremony, Bryan, Texas, September 22, 2015 (Assisted in delivering program)

²⁰ Monitoring and calculating water requirements of agricultural crops

Texas well-owner OSSF training, Mathis, Texas, September 12, 2015 (Assisted in delivering program)

Webcam and remote interpretation for water level monitoring: the GaugeCam case. Lower Rio Grande Valley Water Districts Managers' Association, Monthly Meeting, Echo Hotel, August 18, 2015, Edinburg, Texas

Webcam and remote interpretation for water level monitoring: the GaugeCam case. Demonstration and field installation sessions, August 12-13, Harlingen, Texas

Improvement of Spatial Data Management and Web Application, Brush Country Groundwater Conservation District, Texas – 2015 Training and Demonstration Series, July 24, 27, 28, August 25, 27, 31, September 4, 7, October 2, 6, 9, November 13, College Station; August 18, Falfurrias

Improvement of Spatial Data Management and Web Application, Evergreen Underground Water Conservation District, June 10, Pleasanton, Texas

Improvement of Spatial Data Management. Gonzales County Underground Water Conservation District Board of Directors, June 9, 2015, Gonzales, Texas

Improvement of Data Access and Analysis, Pecan Valley Groundwater Conservation District, Texas – 2015 Training and Demonstration Series, May 11, June 23, September 9, November 12, College Station; August 12, October 7, Cuero

The On-Site Sewage Facility Training Center (Riverside Campus) Rejuvenation Project Meeting #2, May 15, 2015, Bryan (Assisted in delivering program)

Geographical Information System (GIS) for Water Districts, Intermediate. Workshop, April 30-May 1, 2015, College Station, Texas

Spatial Data Management for the Neches Groundwater Conservation District, Texas - Training Series, January 13, 2015, College Station

Improvement of Data Access and Analysis, Gonzales County Underground Water Conservation District, Texas – 2015 Training and Demonstration Series, January 5, February 26, March 27, May 11, 27, June 16, August 24, September 2, 29, College Station; May 18, June 9, October 7, Gonzales

Collaboration with the Evergreen Groundwater Conservation District to Improve Spatial Data Management. Invited presentation at the Public Briefing Water Uses & Issues, Hosted By Frio County Commissioners Court, November 10, 2014, Pearsall, Texas

Spatial data management for the Gonzales County District, Texas – 2014 Training Series, August 21 and September 18, College Station; June 16, July 16 and 30, Gonzales

Spatial data management for the Evergreen Groundwater Conservation Districts, Texas – 2014 Training Series, June 3 and August 15, College Station; July 17, July 30, and November 10, Pleasanton

Data management for Groundwater Conservation Districts, Texas – 2014 Training and Demonstration Series, March 27 and December 5, Gonzales; August 18, Falfurrias; March 20, Sarita; March 7, Jacksonville; February 17, Nacogdoches

Geographical Information System (GIS) for Water Districts, Texas, Getting Started. 2014 Workshops, January 30-31, June 19-20, June 26-27, November 12-13, November 19-20, College Station

The <http://aez-gisonline.org/> website. Demonstration to Iraqi Ministry of Agriculture, GIS Department staff, August 27, 2013, College Station, Texas

Orientation to visiting scholar from Burkina Faso, Africa, April, 2013, College Station, Texas

RIP Training. Training and field demonstration to LCRA Irrigation Divisions' managers and staff, March-July, 2013, Bay City, Texas

GIS tools. Training to Agrilife Research Associate, March, 2013, College Station, Texas

Introduction to GIS. Training to USAID-Inma Project Manager, October 4, 7, 8, 27, 2012, Baghdad, Iraq

Application of the Rapid Implementation Program (RIP) to the Thraima Project. Training USAid-Inma Project, August 27-30, September 30–October 3, October 14-16, 2012, Baghdad, Iraq

Web-GIS Tools for Irrigation Districts. Trainings to staff at 4 irrigation districts and Aranda Inc., April 17-18, 2012, Lower Rio Grande Valley of Texas

Optimization of irrigation water distribution in the Al-Shehamiyah water users association command area. Training USAid-Inma Project, February 23 - March 1, April 25 – May 1, June 23-26, 2012, Erbil, Iraq

Effects of use of GIS as a Real Time Decision Support System for Irrigation Districts in Texas. Presentation USAid-Inma Project, Ministry of Agriculture Research Farm, February 29, 2012, Erbil, Iraq

Optimization of Irrigation Water Distribution in the Al-Shehamiyah Water Users Association Command Area. Presentation USAid-Inma Project, Ministry of Agriculture Research Farm, February 29, 2012, Erbil, Iraq

Evaluation of Canal Lining in Texas. Presentation USAid-Inma Project, Ministry of Agriculture Research Farm, February 29, 2012, Erbil, Iraq

Tour of the irrigation improvement projects in south Texas to visiting scholar from India, October 2-7, 2011, Lower Rio Grande Valley of Texas

Orientation to visiting scholar from India, September, 2011, College Station, Texas

Web-based irrigation management system demonstration and recommendations (2011).

Demonstrations to Cameron County Irrigation District #2 staff, March 30, San Benito, Texas; to Brownsville Irrigation District staff, Brownsville, Texas, March 31; to Maverick Irrigation District staff, May 10, Maverick, Texas; Harlingen Irrigation District staff, May 12, Harlingen, Texas; Hidalgo and Cameron County Irrigation District #9 staff, May 13, Mercedes, Texas; to

United Irrigation District staff, May 13, Mission, Texas; El Paso Irrigation District staff, May 17, El Paso, Texas; Hidalgo County Irrigation District #2 General Manager, June 14, San Juan, Texas

Web-based irrigation management system demonstration and recommendations. Demonstration to Rio Grande Valley Sugar Growers, Inc. staff, May 12, 2011, Santa Rosa, Texas

ArcGIS for Desktop and Server. Workshop for Water Districts staff, AgriLife Extension Center, August 25 and 27, 2010, Weslaco, Texas

ArcGIS Server demonstration. Demonstrations to Eagle Automation Corporation, February 17, 2010, Corpus Christi, Texas; to Cameron County Irrigation District No.2, March 16, 2010, San Benito, Texas; to Delta Lake Irrigation District, March 17, 2010, Edcouch, Texas

Brownsville Irrigation District database and WebGIS pilot project demonstration. BID Irrigation District, February 17 and August 26, 2010, Brownsville, Texas

ArcGIS tools. Training of staff at HCCID9, December 15-16, 2009, Mercedes, Texas

Operational spills management. Presentation of program to General Manager at HCCID9, December 14-17, 2009, Mercedes, Texas

Orientation and travel support to Iraqi visitors, September 22-24, 2009, Amarillo, Texas

Demonstration of Brownsville Irrigation District database project to visitors from China, September, 9, 2009, College Station, Texas

Database integration into GIS and the Web. Presentation of the project, joined database analysis, and demonstration of tool with recommendations to staff, General Manager and database administrator, Brownsville Irrigation District, June 10-12, August 11, and December 16, 2009, Brownsville, Texas

Estimating flow rate through a radial gate. Presentation of program to General Manager at United ID, February 9-12, 2009, Mission, Texas

RECENT TEACHING ACTIVITY (Academic presentations, classes, etc.)

Water Quality Fellowships 5-Week Summer Program. Invited presentation to students and visiting scholar, July 17, 2017, TAMU, College Station, Texas

Collective Systems and Localized Irrigation. Invited presentation at the BAEN 464-500 Irrigation and Drainage Engineering class, November 17, 2014, TAMU, College Station, Texas

Training on the Rapid Intervention Program (RIP) for Improvement of Irrigation Schemes. Cochran Fellowship Program (Water-use efficiency and Water Capture Applicable for Agriculture, Borlaug Institute), March 24, 2014, College Station, Texas

Training on Irrigation District Modernization Projects. Cochran Fellowship Program²¹, March 18-20, 2014, Lower Rio Grande Valley of Texas

Introduction to IDEA program. Training to visiting professor and to visiting scholar from Burkina Faso, Africa, May 21, 2013, College Station, Texas

Introduction to IDEA program. Training to visiting professor and to visiting scholar from India, June 21, 2013, College Station, Texas

Introduction to GIS. Training to Iraqi Visitor Scholars, February 2, 6 and 8, 2012, College Station, Texas

Web-based irrigation management system demonstration. Demonstration to visiting scholar from India, March 28, 2011, College Station, Texas

The Texas AgriLife Extension Service: Technical Assistance to the Irrigation Districts in the Rio Grande Valley of Texas. Presentation to PhD students and faculty at the University of Padova, Department of Environmental Agronomy and Crop Production, October 7, 2010, Padova, Italy

The Texas AgriLife Extension Service: Technical Assistance to the Irrigation Districts in the Rio Grande Valley of Texas. Presentation within master 1st level course in Drainage and Irrigation, Department of Hydraulic, Marine and Geotechnical Engineering (IMAGE), University of Padova and University of Rovigo, October 7-8, 2010, Rovigo, Italy

Water table management and use of wetlands to reduce nitrate-nitrogen losses from agriculture lands. Presentation within master 1st level course in Drainage and Irrigation, Department of Hydraulic, Marine and Geotechnical Engineering (IMAGE), University of Padova and University of Rovigo, April 1, 2006, Rovigo, Italy

TUTORING ACTIVITY

Vazzoler Corrado, 2006. Studio per l'estensione dell'irrigazione sui Colli Berici²², bachelor degree thesis work, IMAGE Department, University of Padova, tutor Prof. V. Bixio, assistant Dr. G. Bonaiti

Carnio Daniele, 2004. Concentrazione e bilancio dell'azoto in sistemi diversi di regolazione della falda²³, bachelor degree thesis work, DAAPV, University of Padova, tutor Prof. M. Borin, assistant Dr. G. Bonaiti

Maguolo C., 2000. Rilasci di azoto dai terreni agrari²⁴, bachelor degree thesis work, DAAPV, University of Padova, tutor Prof. M. Borin, assistant Dr. G. Bonaiti

²¹ Water-use efficiency and Water Capture Applicable for Agriculture, Borlaug Institute

²² Study for the extension of irrigation network to the Berici Hills

²³ Nitrogen concentration and balance in different water table management systems

²⁴ Nitrogen losses from agricultural fields

Rocco M., 1999. Rilievi conclusivi su sistemi naturali di depurazione delle acque: analisi del terreno, degli organi ipogei di specie palustri e bilancio dell'azoto²⁵, bachelor degree thesis work, DAAPV, University of Padova, tutor Prof. M. Borin, assistants Prof. A. Berti and Dr. G. Bonaiti

CONTRIBUTION TO DOCUMENTS (partial listing)

TCEQ, 2017. Nonpoint Source Annual Report for the Texas Nonpoint Source Program. Three paragraphs article with results from the 319(h) grant project “On-Site Sewage Facility (OSSF) Inventory Phase II”. The article fell under the “Implementation” category, as a measure of the progress Texas is making in meeting goals of the Management Program (submitted August 4)

Burns R., Fipps G., 2012. What’s The Best Irrigation Canal Liner? BAEN Newsletter, May 24

Karimov A., Leigh E., Fipps G., 2009. Evaluation of Canal Lining Projects in the Lower Rio Grande Valley of Texas. Texas A&M AgriLife Extension Service, Texas Water Research Institute Technical Report, TR-353. [online] URL: <http://twri.tamu.edu/reports/2009/tr353.pdf>

Leigh E., Fipps G., 2009. A NEW IDEA. Newsletter of the Irrigation District Engineering and Assistance Program, Issue N.4

Commission of the European Communities, Directorate-General Environment, 2008. Exemptions to the environmental objectives under the Water Framework Directive, art. 4(4), 4(5), and 4(6), ANNEX III

Water Scarcity & Drought Expert Network, 2008. European Regional Process Document toward the 5th World Water Forum – Chapter on Water Scarcity and Droughts

Water Scarcity & Drought Expert Network, 2008. Technical Report 2008 – 023. Drought Management Plan Report - Including Agricultural, Drought Indicators and Climate Change Aspects

European Parliament, 2008. European Parliament resolution of 9 October 2008 on addressing the challenge of water scarcity and droughts in the European Union (2008/2074(INI)): contribution within the Water Scarcity and Drought Stakeholder Forum

Commission of the European Communities, 2007. Communication from the Commission to the European Parliament and the Council - Addressing the challenge of water scarcity and droughts in the European Union - {SEC(2007) 993}, {SEC(2007) 996}, COM/2007/0414 final

Commission of the European Communities, Directorate-General Environment, 2007. Water Scarcity and Drought – Second Interim Report

Borin M., Sartori L., Giupponi C., Mazzoncini M., During R.A., Basch G., (Eds), 1997. Effects of Tillage Systems on Herbicide Dissipation, An Experimental Approach at Field Scale. Commission of the European Communities, Unipress, Padova, 247 pp

²⁵ Concluding remarks on natural systems for wastewater treatment: analysis of soil and below-ground organs of macrophytes, and nitrogen balance

PAPERS AND PROPOSALS REVIEWS

Reviewed 49 papers in peer view Journals: Agricultural Water Management, Applied Water Science, Irrigation and Drainage, Journal of Agricultural Education and Extension, Acta Agriculturae Scandinavica, Agriculture, Ecosystems and Environment, Water

Reviewed 1 research proposal for the Quebec-Ontario Cooperation For Agri-Food Research 2014-2015 Competition

EXTENSION AND OTHER RECENTLY FUNDED PROGRAMS AND ACTIVITIES

(salary + directly managed/spent; date of project start)

Texas Commission on Environmental Quality: Lampasas River Watershed Protection Plan Implementation – On-Site Sewage Facilities Database, \$ 20,000 (approximate amount salary and directly managed/spent to perform new task). Collaborated in writing the proposal and conducting activity (FY17-18)

Texas Commission on Environmental Quality: On-Site Sewage Facility (OSSF) Inventory “Phase III”, \$ 50,000 (approximate amount salary and directly managed/spent to perform new task). Collaborated in writing the proposal and conducting activity (FY18)

Improvement of Spatial Data Management and Web Application for Water Districts. \$3,500. Wrote proposal and conducted activity (2016)

Texas Commission on Environmental Quality: On-Site Sewage Facility (OSSF) Inventory “Phase II”, \$ 60,000 (approximate amount salary and directly managed/spent to perform new task). Collaborated in writing the proposal and conducting activity (FY17)

Texas Commission on Environmental Quality: Coastal Zone Act Reauthorization Amendments (CZARA) On-Site Sewage Facility (OSSF) Training, Reconnaissance, and Replacement - Task 9 (OSSF Inventory), \$ 40,000 (approximate amount transferred from AgriLife Research to AgriLife Extension from the project award, to perform new task, which was added in 2015 to the existing Scope of Work). Collaborated in writing the proposal, conducted activity related to Task 9 (OSSF Inventory), and assisted in field work (FY16)

Lower Rio Grande Valley of Texas ArcGIS shape files dataset sales, Spectra Energy, Inc., \$ 2,500. Conducted all data preparation (2015)

Improvement of Data Access and Analysis. Pecan Valley Groundwater Conservation District, \$3,500. Wrote proposal and conducted activity (2015)

Improvement of Data Access and Analysis. Gonzales County Underground Water Conservation District, \$3,450. Wrote proposal and conducted activity (2015)

Geographic Information System training for Water Districts, Getting Started. GIS Workshops, \$3,613. Prepared training material and conducted all training (2014)

Water-use efficiency and Water Capture Applicable for Agriculture Training, Cochran Fellowship Program. USDA, \$1,500. Collaborated in writing the proposal, and conducted part of the training (2014)

Improvement of Spatial Data Management. Gonzales County Underground Water Conservation District, \$3,224. Wrote proposal and conducted all the activity (2014)

Improvement of Spatial Data Management and Web Application. Evergreen Underground Water Conservation District, \$1,836. Wrote proposal and conducted all the activity (2014)

Creation and Deployment of Water-Use Efficient Technology Platforms. Water Seed, \$20,416.65 (award \$245,706). Collaborated in writing the proposal, and conducted part of the activity (2014)

Water Districts Education Program. Improving the efficiency of water and irrigation districts so that they can conserve water and operate more efficiently (2014)

Onsite Wastewater Treatment Systems Program for the Texas A&M AgriLife Extension Service. Collaboration, \$4,100 (2013)

Achieving good water QUALITY status in intensive Animal production areas (AQUA), Action 3 - Environmental Measures LIFE+, funded by the European Commission, \$2,500. Collaborated in writing the proposal and conducted all the activity (2013)

An Analysis and Prioritization System of Unlined Canal Segments for Lining. Lower Colorado River Authority, Austin, Texas, \$30,000. Collaborated in writing the proposal, conducted all field and data analysis work, collaborated in writing reports (2013)

Tools for Improved Water Management and Conservation in Irrigation Districts. Rio Grande Water Conservation Project, Texas Water Resources Institute, \$41,800 (award \$100,000). Collaborated in writing the proposal, conducted all field and data analysis work, collaborated in writing reports (2013)

Optimization of irrigation water distribution in the Al-Shehamiyah water users association command area, Regional GIS Support Program, and Application of the Rapid Implementation Program (RIP) to the Thraima Project. USAid-Inma Project, Iraq, \$57,600. Collaborated in writing the proposals, conducted all field and data analysis work, collaborated in writing reports

Lower Rio Grande Valley of Texas ArcGIS shape files dataset sales, \$ 2,650. Conducted all data preparation (2012)

Climate Adaptation Modeling Water Scenarios and Sectoral Impacts (ClimWatAdapt). Project funded by European Commission Directorate-General Environment Unit D.1. Water, \$1,500. Expert (2010)

Investigating Europe's risk from droughts (Xerochore). European 7th Framework Programme for research and technological development, European Commission, \$1,400. Network Partner (2010)

Collaboration within the Efficient Irrigation for Water Conservation in the Rio Grande Basin project (Rio Grande Basin Initiative), Tasks 1 and 3, U.S. Department of Agriculture's

National Institute of Food and Agriculture, Texas Water Resources Institute, \$97,000.
Collaborated in conducting field and data analysis work, collaborated in writing reports (2009)
Water Scenarios for Europe and for Neighbouring States (SCENES). European 6th Framework Programme for research and technological development, European Commission, \$2,214.
Member of Pan-European Scenario Panel and Advisory Board (2008)

CURRICULUMS, REFERENCE MANUALS, AND OTHER TEACHING MATERIAL

Geographical Information System (GIS) for Water Districts, Intermediate, 2015. Training curriculum (draft)

Collective Systems and Localized Irrigation, 2014. Presentation prepared for BAEN 464-500 Irrigation and Drainage Engineering class, TAMU

Geographical Information System (GIS) for Water Districts, Getting Started, 2014. Training curriculum

Rapid Intervention Program (RIP), 2012. Reference Manual for large irrigation schemes in Iraq, developed as final report for the USAID-Inma Agribusiness Program project

Geographical Information System (GIS) structure guidelines for Irrigation Districts in South Texas, 2009. GIS data structure recommendations

User Guide for ArcGIS web applications, 2009. A simple guide on how to navigate ArcGIS interactive maps

WaterGIS website (<http://watergis.tamu.edu>), 2009. Website created to host interactive maps for demonstration purposes

OTHER RECENT PROFESSIONAL DEVELOPMENT

WWW305-64: OSSF - Designated Representative, Texas A&M Engineering Extension Service, TEEX-RELLIS Campus, Bryan, Texas, September 29, 2017

ESRI instructor-led online training: Developing Web Apps with ArcGIS API for JavaScript, July 25, 2017

Webpage editing and training session: AgriLife WordPress Training, College Station; February 7-10, 2017

FEW Nexus Workshop on Integrated Science, Engineering & Policy: A Multi Stakeholder Dialogue; Hilton College Station & Conference Center; College Station, TX, January 26-27, 2017

Grant Writing Essentials, NIFA, Webinar, May 11, 2016

Texas A&M AgriLife Research Grant Development Workshop, College Station, TAMU, March 31-April 1, 2015

English Technical Writing class, 210, TAMU. Dr. Christine Murray, Associate Director of Undergraduate Studies, Department of English, TAMU, Fall 2014

Configuring and Managing the Multiuse Geodatabase. Esri instructor led online training, August 25-27, 2014

Extension Foundations. College Station, Texas, April 14-16, 2014

CV Workshop, Dr. Katharyn Strober, Graduate Teaching Academy, College Station, TAMU, November 13, 2013

Colorado State University OnlinePlus, Continuing Education Units for completing requirements of USCID Conference, April 26-29, 2011

SERVICE

Provided to TCEQ selected GIS material collected during the project “On-Site Sewage Facility (OSSF) Inventory Phase II” related to lift stations and sewer lines in the Beaumont and Houston area. The material supported TCEQ (Office of Water and Regional Office) in their effort to help Texas recover from the damage wrought by Hurricane Harvey (submitted August 31, 2017)

Member and moderator of the session “Sustainable Water Use in Agriculture: traditional and alternate water sources” for ASABE meeting 2018, for the ASABE NRES-26 Sustainable Land Resources committee

Member and vice chair for the ASABE NRES-262 Onsite Water Reuse committee

Served as a judge for the Texas Junior science and Humanities Symposium, Thomas G. Hildebrand, DVM '56 Equine Complex, Bryan, TX, January 1, 2017

Served as a judge for the 4-H Roundup Discover Science Method Research Poster Contest, Thomas G. Hildebrand, DVM '56 Equine Complex, Bryan, TX, June 9, 2016