

# ROGER MADRIGAL BALLESTERO

## WORKING ADDRESS

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Tropical Agricultural Research and Higher Education Center (CATIE)

7170 CATIE, 30501 Turrialba, Costa Rica

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## EDUCATION

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Ph.D. (D.Phil.). Institutional Economics. Freiburg University, Germany

M.Sc. Environmental Economics. CATIE, Costa Rica

Licentiate. Economics. University of Costa Rica

B.A. Economics. University of Costa Rica

## PROFESSIONAL EXPERIENCE

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2023. Visiting Scholar. Macmillan Scholar, Gund Institute for Environment, University of Vermont.

2017-to date. Director, Environment for Development (EfD) at CATIE. [Madrigal-Ballester, Roger | EfD - Initiative](#)

2017-to date. Director, Latin-American Chair on Environmental Decisions for Global Change.

2010-2025. Academic coordinator, M.Sc. Program in Economics, Development, and Climate Change at CATIE.

2007-to date. Senior Research Fellow. Environment for Development Center (EfD-CATIE).

2004-to date. Senior Researcher. CATIE.

2007. Visiting scholar. Workshop in Political Theory and Policy Analysis, Indiana University.

## PROJECTS & CONSULTANCIES (Last five years, non-exhaustive list, role team leader)

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- Enhancing Rural Water Management Networks in Colombia and Costa Rica. Tinker Foundation.
- Economic incentives to support a transition to sustainable and equitable agriculture in Central America and the Dominican Republic. Interamerican Development Bank (IADB).
- The economic cost of plastic in Costa Rica. PNUD.

- Financial feasibility study for the creation of a sustainable fishing fleet for tuna in Costa Rica's Exclusive Economic Zone. Forever Costa Rica Association.
- Design of a PES scheme for ecosystem restoration in El Salvador. UICN.
- Eastern Tropical Pacific Marine Corridor (CMAR): Financial mechanism and economic valuation of ecosystem services. The World Bank.
- Ecosystem Services Mapping, Prioritization and Economic Valuation in the Shekerley Mountains Management Area. Department of Environment, Antigua and Barbuda.
- Developing a financial programme for Sustainable Land Management and Climate Smart Agriculture practices in St Kitts and Nevis. UICN
- Feasibility assessment of a Water Fund in the Trifinio region (El Salvador, Honduras, and Guatemala). IADB.
- Access to carbon markets in the spice sector in Jamaica: feasibility assessment. USAID-ACDI/VOCA.
- The economics of Marine Spatial Planning. The World Bank.
- Impact evaluation of Payments for Ecosystem Services (PES) on water resources in Costa Rica. Agence Française de Développement (AFD).
- Mangroves for Development. Financial mechanism design to sustain mangrove ecosystem services in the Dominican Republic. Caribbean Biodiversity Fund. 2021-2022.
- Sustainable Consumption and Production (SCOPE). Chile, China, Costa Rica, India and South Africa. EfD Initiative.

## TEACHING EXPERIENCE

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### Graduate MSc Level:

- 2024. Environmental Economics. Universidad de Costa Rica.
- 2020-to date. Coastal-Marine Governance. Universidad de Costa Rica.
- 2019-to date. Climate Change Economics. CATIE.
- 2004-to date. Introduction to Environmental Economics and Natural Resource Economics. CATIE.

### Undergraduate level:

- 2022. Environmental Economics. Universidad de Costa Rica.
- 2021. Engineering Economics. Universidad de Costa Rica

### On-the-job training:

- 2004-to 2022. CATIE: Annual course on Economic Valuation and Management of Ecosystem Services.
- 2007 & 2013. INFOR, Chile; Universidad Nacional, Paraguay; National Technological University, Argentina. Economic Valuation of Ecosystem Services
- 2019. CATIE. Water Economics
- 2019. Forestry Department, Jamaica. Natural Resources Valuation.

## PUBLICATIONS (Refereed)

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2025. Madrigal-Ballester, R; Gleeson, T; López-Ruiz, M; Castillo-Cruz, A. Bright but flickering lights of sustainable, community-based groundwater supply and management: ASADAS in Costa Rica. *Environmental Research Letters*, Volume 20, Number 5.
2024. Madrigal-Ballester, R; Mullan, K; Pacay, E; Pattanayak, S.K; Robalino, J; Evia, P. Volumetric pricing in rural Central America: Drivers of adoption and potential effects on water delivery, *World Development Sustainability*, Volume 4.
2024. Viguera, B; Madrigal, R; Pacay, E; Navarrete, G. Alternatives for improving PES effectiveness on water resources. *Journal of Soil and Water Conservation* 79(1):5A-9A. <https://doi.org/10.2489/jswc.2024.1103A>
2023. Palou, N; Madrigal-Ballester, R; Schlüter, A; Alvarado, JJ. Applying the SES Framework to coral reef restoration projects on the Pacific coast of Costa Rica. *Revista de Biología Tropical*, Vol. 71 (S1). <https://doi.org/10.15517/rev.biol.trop..v71iS1.54853>
2021. Albers, J., Ashworth, M., Tabaré, C., Madrigal-Ballester, R., Preonas, L. MPAs and Aspatial Policies in Artisanal Fisheries. *Marine Resource Economics* 36(4). <https://www.journals.uchicago.edu/doi/10.1086/715818>
2021. Alpízar, F., Tabaré, C., Madrigal-Ballester, R., Pattanayak, S. Time-Varying Pricing May Increase Total Electricity Consumption: Evidence from Costa Rica. *Resource and Energy Economics* 66(4). <https://www.sciencedirect.com/science/article/pii/S092876552100049X?via%3Dihub>
2020. Amaechina, E., et al. Policy Note: Policy Responses to Ensure Access to Water and Sanitation Services During COVID-19: Snapshots from the Environment for Development (EfD) Network. *Water Economics and Policy* 2020 06:04
2020. Albers, H.J., Preonas, L., Capitán, T. Robinson, E., Madrigal, R. Optimal Siting, Sizing, and Enforcement of Marine Protected Areas. *Environmental & Resource Economics*. <https://doi.org/10.1007/s10640-020-00472-7>
2019. Madrigal, R; Capitán, T; Salas, A; Córdoba, D. Household and community responses to seasonal droughts in rural areas of Costa Rica. *Waterlines* 38(4):297-315
2019. Chávez, I; Partelow, S; Madrigal-Ballester, R; Schlüter, A; Gutierrez, I. Do responsible fishing areas work? Comparing collective action challenges in three small-scale fisheries in Costa Rica. *International Journal of the Commons*. 13.
2017. Madrigal, R; Albers, J; Capitán, T, Salas, A. Spatial decisions, livelihoods and perceptions in small-scale fishing grounds of Costa Rica. *AMBIO A Journal of the Human Environment* 46(4):1-10.

2017. Madrigal, R; Jurado, D. Livelihoods, attitudes towards regulation and the participation in performance-based payments for protecting turtles: Empirical evidence from Nicaragua. *Conservation and Society* 15(1): 74-86.
2015. Madrigal, R; Naranjo, M. Adaptive capacity, drought and the performance of community-based drinking water organizations in Costa Rica. *Journal of Water and Climate Change* 6(4).
2013. Madrigal, R; Alpízar, F; Schlüter, A. Public perceptions of the performance of community-based drinking water organizations in Costa Rica, *Water Resources and Rural Development*, 1–2, 43-56.
2013. Madrigal, R; Schlüter, A; López, M C. What makes them follow the rules? Empirical evidence from turtle egg harvesters in Costa Rica. *Marine Policy*, 37, 270–277.
2012. Schlüter, A; Madrigal, R. The SES Framework in a marine setting: methodological lessons. *Rationality, Markets and Morals*, 3: 158-179.
2011. Madrigal, R; Alpízar, F; Schlüter, A. Determinants of performance in rural water community organizations in Costa Rica. *World Development*, 39 (9): 1663-1675. <https://doi.org/10.1016/j.worlddev.2011.02.011>
2009. Madrigal, R; Alpízar, F. ¿Existen posibilidades de cooperar?: Los experimentos económicos como herramienta de diagnóstico de campo rural. *Revista Centroamericana de Ciencias Sociales*. V (1): 205-234.
2008. Madrigal, R; Alpízar, F. Diseño y gestión adaptativa de un esquema de pagos por servicios ecosistémicos en Copán Ruinas, Honduras. *Revista Investigación Agraria: Sistemas y Recursos Forestales*. 17(1): 79-90. España.

## BOOK CHAPTERS

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2011. Madrigal, R. Estimating the cost and benefits of supplying hydrological ecosystem services: an application for small-scale rural drinking water organizations In: B. Rapidel, F. DeClerck, J.F. Le Coq and J. Beer (Editors), *Ecosystem Services from Agriculture and Agroforestry: Measurement and Payment*. Earthscan, London, UK, pp. 161-178.

## OTHER PUBLICATIONS AND REPORTS

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2025. Madrigal, R; Evia, P; Rivera, D. Externalidades negativas por la inadecuada gestión de los residuos plásticos. PNUD. [Informe-Externalidades-negativas-del-plastico.pdf](#)
2024. Pacay, E; Madrigal, R. Evidencias de la Integración del Enfoque “Adaptación basada en Ecosistemas” -AbE- en Productos Financieros y de Seguros Comerciales. [Evidencias de la integración del enfoque “Adaptación basada en Ecosistemas” -AbE en productos financieros y de seguros comerciales](#)

2023. Madrigal, R; Alpízar, F. Análisis de oportunidades para la introducción de instrumentos fiscales que incentiven la descarbonización del sector de gestión de residuos en Costa Rica. Documentos de Proyectos (LC/TS.2023/28), Santiago, Comisión Económica para América Latina y el Caribe (CEPAL), 2023. <https://www.cepal.org/es/publicaciones/48861-analisis-oportunidades-la-introduccion-instrumentos-fiscales-que-incentiven-la>
2022. Alpízar, F; Madrigal, R; Castaño, J. Applying Economic Analysis to Marine Spatial Planning (English). Washington, D.C.: World Bank Group <http://documents.worldbank.org/curated/en/099515006062210102/P1750970bba3a60940831205d770baece51>
2020. Alpízar, F., Madrigal, R., Alvarado, I., Brenes Vega, E., Camhi, A., Maldonado, J. H., Marco, J., Martínez, A., Pacay, E., and G. Watson (2020), 'Mainstreaming of Natural Capital and Biodiversity into Planning and Decision-Making: Cases from Latin America and the Caribbean', IDB Working Paper Series, No. IDB-WP-01193. [Mainstreaming of Natural Capital and Biodiversity into Planning and Decision-Making: Cases from Latin America and the Caribbean \(iadb.org\)](https://www.iadb.org/publications/english/Documents/Working-Paper-Series/IDB-WP-01193-Mainstreaming-of-Natural-Capital-and-Biodiversity-into-Planning-and-Decision-Making-Cases-from-Latin-America-and-the-Caribbean.pdf)
2018. Alpízar, F; Madrigal, R; Salas, A. Environmental challenges in Costa Rica. Technical Note IDB-TN-1531. Interamerican Development Bank.
2018. Alpízar, F; Salas, A; Madrigal, R. Plan de inversión para las NDC de Costa Rica. Dirección de Cambio Climático, MINAE.
2017. Alpizar, F; Madrigal, R. Conditional cash transfers and payments for ecosystem services. *Revista Integración y Comercio*, 41: 100-114.
2016. Kim, J; Madrigal, R; Alpizar, F; Rojas, S. Learning from Costa Rican Experience and Roads Ahead: Bridging the Policy and Investment Gap for Payment for Ecosystem Services. GGGI, Seoul, Corea. [Bridging the Policy and Investment Gap for Payment for Ecosystem Services: Learning from the Costa Rican Experience and Roads Ahead — Global Green Growth Institute \(gggi.org\)](https://www.gggi.org/publications/learning-from-the-costa-rican-experience-and-roads-ahead)
2012. Madrigal, R. Managing rural water systems: keys to success. *Resources*, 180:18-19.
2009. Boscolo, M; Eckelmann, C; Madrigal, R; Mendez, B; Paveri, M; Zapata, J. Experiences on implementing mechanisms for the compensation of hydrological environmental services from forests in Central America and the Caribbean. FAO-Roma.
2008. Madrigal, R; Alpízar, F. El pago por servicios ambientales dentro del contexto de la acción colectiva en cuencas hidrográficas. FOCUENCAS II-CATIE. Turrialba, CR. 17 p.
2008. Retamal, R; Madrigal, R; Alpízar, F; Jiménez, F. Oferta de servicios ecosistémicos hídricos en el municipio de Copán Ruinas: ¿dónde se generan? ¿cómo protegerlos? ¿cuánto pagar por la protección? FOCUENCAS II-CATIE, Turrialba, CR. 40 p.

2008. Cisneros, J; Alpízar, F; Madrigal, R. Estimación de la demanda por servicios ambientales hídricos en Copán Ruinas, Honduras. *Revista Recursos Naturales y Ambiente*, 51:143-152.
2008. Benites, A; Campos, JJ; Faustino, J; Villalobos, R; Madrigal, R. Identificación de servicios ecosistémicos como base para el manejo participativo de los recursos naturales en la cuenca del río Otún, Colombia. *Recursos Naturales y Ambiente*, 55:83-90.
2007. Angulo, O; Prins, C; Faustino, J; Madrigal, R. Elementos claves para el manejo y gestión del agua en el municipio de Valle de Ángeles, Honduras. *Recursos Naturales y Ambiente*, 51-52: 124-134.
2007. Alpizar, F; Madrigal, R. “Bienes y servicios ecosistémicos en América Latina y el Caribe: buenas prácticas, mecanismos de financiamiento y rol del Estado”. BID-CATIE. 198 p.
2007. Madrigal, R; Alpízar, F. Principios de diseño e implementación de esquemas de pagos por servicios ecosistémicos. CCAD-Iniciativa Corredor Biológico Mesoamericano. 55 p.
2005. Harvey, C; Alpízar, F; Chacón, M; Madrigal, R. Characterization of the impact of agriculture on biodiversity conservation in Central America. The Nature Conservancy, San José, CR. 140 p.
2005. Alpízar, F; Madrigal, R. “Propuesta metodológica para el establecimiento de tarifas de entrada en las Áreas Silvestres Protegidas de Costa Rica: Casos de estudio en Parque Nacional Braulio Carrillo, Parque Nacional Manuel Antonio y Parque Nacional Corcovado”. The Nature Conservancy, Costa Rica.

## **THESIS SUPERVISION**

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Main advisor: 30 MSc students at CATIE and the Universidad de Costa Rica.

## **SELECTED CONFERENCES (as presenter)**

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- 2020-2022-2023. European Association of Environmental and Resource Economists.
- 2014 & 2024. Workshop on the Ostrom Workshop, Indiana University.
2020. Association of Environmental and Resource Economists.
- 2011-2017-2019. International Association for the Study of the Commons (IASC).
2018. Scotland’s Biennial Land Use and the Environment Conference XII
- 2016-2018. World Water Week
2015. World Water Conference

## **OTHER TRAINING ATTENDED**

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2007. Institutional Analysis and Development Course. Workshop in Political Theory and Policy Analysis. Taught by Elinor Ostrom, Indiana University, U.S.

2007. International Forestry and Resources Institutions. Workshop in Political Theory and Policy Analysis. Taught by Burnell Fisher, Catherine Tucker, and Elinor Ostrom, IU, U.S.

2006. I International Conference on Commons and Citizenship. DF, México.

2006. Welfare and public economics course. Latin American and Caribbean Environmental Economics Program. Taught by David Shogren, Wyoming University, U.S.

2006. Environmental Economics and Policy Course. Latin American and Caribbean Environmental Economics Program. Taught by David Zilberman, Berkeley University, U.S.

## **FELLOWSHIPS AND AWARDS**

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2008. German Academic Exchange Program (DAAD) Fellowship

2007. Norman Borlaug Fellowship

2003. Best Student Award 2002-2003 Class, CATIE

2003. Distinguished MSc. dissertation. 2003. CATIE

2002. Fellowship. KOICA (Korean International Cooperation Agency)

2001. Fellowship. Göteborg University and the Swedish International Development Cooperation Agency

2001. Fellowship. National Council of Science and Technology, Costa Rican Ministry of Technology

## **SPECIAL APPOINTMENTS**

2023-to date. Board of Directors. Nectandra Institute. [Nectandra Institute: About Us - Organization & Mission](#)

From 2023 to date, the Research Advisory Committee (RAC) of the South African Research Chair (SARCHi) has focused on Governance and Economics for Water and Sanitation Institutions.

2020-to date. Steering Committee. GIACT-Universidad de Costa Rica. MSc Program. Posgrado Gestión Integral de Áreas Costeras Tropicales. [Posgrado en gestión integrada de áreas tropicales - CIMAR - Universidad de Costa Rica](#)

**PEER REVIEWER**

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Journal of Environment and Development; Revista Biología Tropical; Global Health Action; Journal of Water, Sanitation and Hygiene for Development; World Development; Water Resources Research; International Journal of the Commons; Revista de Ciencias Económicas-UCR; Conservation Biology; Ecology and Society; Ecosystem Services; Journal of Agricultural and Resource Economics; Journal of Rural Studies.

**RESEARCH INTERESTS**

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Water economics, climate change adaptation, design of policy instruments, circular economy approaches, common-pool resources management, economic valuation of ecosystem services, marine economics.

**LANGUAGES**

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Spanish - mother tongue; English - fluent (speaking, reading, writing)