Dr. Kristine Taniguchi-Quan

Hydrologist
Biology Department
Southern California Coastal Water Research Project

Education

Ph.D., geography, San Diego State University / University of California, Santa Barbara, 2018.

M.S., geography, San Diego State University, 2014.

B.S., environmental Science, watershed Science, San Diego State University, 2011.

Professional Experience

Principal Scientist, Southern California Coastal Water Research Project (SCCWRP), Costa Mesa, CA. 2026-present

Senior Scientist, Southern California Coastal Water Research Project (SCCWRP), Costa Mesa, CA. 2022-2026.

Scientist, Southern California Coastal Water Research Project (SCCWRP), Costa Mesa, CA. 2018-2022.

Teaching Associate, San Diego State University, San Diego, CA. 2014-2018.

Graduate Research Assistant, San Diego State University, San Diego, CA. 2012-2014.

Laboratory Assistant, Southern California Coastal Water Research Project (SCCWRP), Costa Mesa, CA. 2013.

Professional Appointments

American Society for Photogrammetry & Remote Sensing, Pacific Southwest Region, Immediate Past President, 2025.

American Society for Photogrammetry & Remote Sensing, Pacific Southwest Region, President, 2024.

Vice President, American Society for Photogrammetry & Remote Sensing, Pacific Southwest Region, 2023.

Regional Director, American Society for Photogrammetry & Remote Sensing, Pacific Southwest Region, 2019-2022.

Honors and Awards

American Society for Photogrammetry & Remote Sensing Rising Star Award, 2018.
American Society for Photogrammetry & Remote Sensing Pacific Southwest Region Geospatial Student Scholarship, 2018.
Consortium of Universities for the Advancement of Hydrologic Science, Inc. Student Travel Grant Sensor Network Bootcamp in an Urban Environment, 2017.
California State University Council on Ocean Affairs, Science & Technology Graduate Student Research Award, 2017.
SDSU Inamori Fellowship, 2016-2017.
California State University Council on Ocean Affairs, Science & Technology Travel Award, 2016.
SDSU Vivian Finch Latin American Research Award, 2015.
SDSU McFarland Geography Scholarship, 2015.
SDSU Student Research Symposium Library Research Excellence Award, 2015.
SDSU Teaching Associateship, 2014-2018.
California State University Sally Casanova California Pre-Doctoral Scholar, 2013-2014.
SDSU Graduate Assistantship, 2012-2014.
Edna Bailey Sussman Foundation Graduate Summer Research Award, 2012.
SDSU Dean's List Semester Honors, 2008-2011.

Selected Presentations and Conference Proceedings

Taniguchi-Quan, K.T., E.D. Stein. 2024. Developing a statewide environmental flows program in California. United Nations Intergovernmental Hydrological Programme’s Science-based Governance Meeting (virtual).

Taniguchi-Quan, K.T., S. Yarnell, J. Zimmerman, B. Stanford, T. Grantham, D. Schultz, A. Obester, A. Milward, E.D. Stein. 2023. California Environmental Flows Framework: Overview and Nexus with Sustainable Groundwater Management. CA Department of Water Resources Environmental

Coordination Committee Open Forum (virtual).

Taniguchi-Quan, K.T., E.D. Stein, K. Irving, J. Wolfand, D. Philippus, A. Systema, Y. Sanchez, T.S. Hogue. 2023. Development of decision support tools for flows in the Los Angeles River. 2023 State of the Los Angeles River Watershed Symposium. Los Angeles, CA.

Taniguchi-Quan, K.T., T. Grantham, S. Yarnell, J. Zimmerman, A. Obester, A. Milward, E.D. Stein. 2022. The California Environmental Flows Framework Workshop: Overview, Application, and Tools. The California Aquatic Bioassessment Workgroup and the California Chapter of the Society for Freshwater Science (SFS) Annual Meeting. Sacramento, CA.

Taniguchi-Quan, K.T., K. Irving, E.D. Stein, A. Poresky, R.A. Wildman, A. Aprahamian, C. Rivers, G. Sharp, S. Yarnell, and J.R. Feldman. 2022. Developing Ecological Flow Needs in an Altered Region: Application of California Environmental Flows Framework in Southern California, USA. Joint Aquatic Sciences Meeting. Grand Rapids, Michigan.

Taniguchi-Quan, K.T., K. Irving, E. Stein, R. Wildman, A. Poresky, A. Aprahamian, C. Rivers, G. Sharp. 2021. Evaluating Hydrologic Alteration using a Functional Flows Approach. Society of Freshwater Science Annual Meeting (virtual).

Taniguchi-Quan, K.T., R. Wildman, A. Aprahamian, K. Irving, E. Stein, A. Poresky, C. Rivers, G. Sharp. 2021. The South Orange County Flow Ecology Study: Flow Ecology Approach for Watershed Prioritization. California Stormwater Quality Association 2021 Conference (virtual).

Taniguchi-Quan, K.T. 2021. Vulnerability of Streams to Hydrologic Alteration across San Diego Region. San Diego Monitoring & Management Coordination Meeting (virtual).

Taniguchi-Quan, K.T. 2020. South Orange County Environmental Flows Study: A California Environmental Flows Framework (CEFF) Case Study. California Water Quality Monitoring Council - Environmental Flows Workgroup Meeting (virtual).

Taniguchi-Quan, K.T., E. Stein, S. Yarnell, J. Zimmerman, S. Sandoval Solis, B. Lane, J. Howard, T. E. Grantham, A. Obester, R. Lusardi. 2019. A coordinated approach for developing statewide environmental flow regulations in California. American Fisheries Society and The Wildlife Society Joint Annual Conference. Reno, NV.

Taniguchi, K.T., T. Biggs, E. Langendoen, C. Castillo, N. Gudino, D. Liden, R. Bingner, and Y. Yuan. 2017. The application of 3-D Structure-from-Motion (SfM) techniques and CONCEPTS channel evolution model to simulate stream channel instability downstream of hardpoints in a rapidly urbanizing, semi-arid region of Tijuana, Mexico. American Association of Geographers (AAG) Annual Meeting. Boston, MA.

Taniguchi, K.T., T. Biggs, E. Langendoen, N. Gudino, Y. Yuan, and D. Liden. 2016. Channel

stability and erosion in a rapidly urbanizing region of the US-Mexico Border: Importance of channel hardpoints. American Association of Geographers (AAG) Annual Meeting. San Francisco, CA.

Taniguchi, K.T., N. Gudino, T. Biggs, C. Castillo, E. Langendoen, R. Bingner, E. Taguas, D. Liden, and Y. Yuan. 2015. Hydrology and sediment budget of Los Laureles Canyon, Tijuana, MX: Modelling channel, gully, and rill erosion with 3D photo-reconstruction, CONCEPTS, and AnnAGNPS. European Geosciences Union (EGU) General Assembly (virtual). Vienna, Austria.

Journal Articles

Irving, K., K.T. Taniguchi-Quan, A. Santana, M.L. Treglia, R.N. Fisher, J. Haas, C. Loflen, C. Brown, E.D. Stein. 2025. Vulnerability of an Endangered Amphibian to Climate-Change Induced Hydrologic Change. *River Research and Applications* 41:1438-1455.

Sytsma, A., D. Philippus, J.M. Wolfand, K. Irving, K.T. Taniguchi-Quan, E.D. Stein, T.S. Hogue. 2024. Channel restoration in urbanized systems: Guiding design using ecological flow targets and future management scenarios. *Journal of the American Water Resources Association* DOI:10.1111/1752-1688.13232.

Wolfand, J.M., A. Sytsma, K.T. Taniguchi-Quan, E.D. Stein, T.S. Hogue. 2023. Impact of wastewater reuse on contaminants of emerging concern in an effluent-dominated river. *Frontiers in Environmental Science* DOI:10.3389/fenvs.2023.1091229.

Biggs, T., A. Zeigler, K.T. Taniguchi-Quan. 2022. Runoff and sediment loads in the Tijuana River: Dam effects, extreme events, and change during urbanization. *Journal of Hydrology: Regional Studies* 42:101162.

Murphy, B.M., K. Russell, C.C. Stillwell, R. Hawley, M. Scoggins, K.G. Hopkins, M.J. Burns, K.T. Taniguchi-Quan, K.H. Macneal, R. Smith. 2022. Closing the gap on wicked urban stream restoration problems: A framework to integrate science and community values. *Freshwater Science* 41:3.

Hawley, R.J., K. Russell, K.T. Taniguchi-Quan. 2022. Restoring geomorphic integrity in urban streams via mechanistically-based storm water management: minimizing excess sediment transport capacity. *Urban Ecosystems* DOI:10.1007/s11252-022-01221-y.

Grantham, T.E., D.M. Carlisle, J. Howard, B. Lane, R. Lusardi, A. Obester, S. Sandoval-Solis, B. Stanford, E.D. Stein, K.T. Taniguchi-Quan, S.M. Yarnell, J.K.H. Zimmerman. 2022. Modeling Functional Flows in California's Rivers. *Frontiers in Environmental Science* 10:787473.

Wolfand, J.M., K.T. Taniguchi-Quan, R. Abdi, E. Gallo, K. Irving, D. Philippus, J.B. Rogers, E.D. Stein, T.S. Hogue. 2022. Balancing water reuse and ecological support goals in an effluent dominated river. *Journal of Hydrology X* 15:100124.

Taniguchi-Quan, K.T., K. Irving, E.D. Stein, A. Poresky, R.A. Wildman Jr., A. Aprahamian, C. Rivers, G. Sharp, S.M. Yarnell, J.R. Feldman. 2022. Developing Ecological Flow Needs in a Highly Altered Region: Application of California Environmental Flows Framework in Southern California, USA. *Frontiers in Environmental Science* 10:787631.

Irving, K., K.T. Taniguchi-Quan, A. Aprahamian, C. Rivers, G. Sharp, R.D. Mazor, S. Theroux, A. Holt, R. Peek, E.D. Stein. 2022. Application of Flow-Ecology Analysis to Inform Prioritization for Stream Restoration and Management Actions. *Frontiers in Environmental Science* 9:787462.

Abdi, R., A. Rust, J.M. Wolfand, K.T. Taniguchi-Quan, K. Irving, D. Philippus, E.D. Stein, T.S. Hogue. 2022. Thermal Suitability of the Los Angeles River for Cold Water Resident and Migrating Fish Under Physical Restoration Alternatives. *Frontiers in Environmental Science* 9:749085.

Stein, E.D., J. Zimmerman, S.M. Yarnell, B. Stanford, B. Lane, K.T. Taniguchi-Quan, A. Obester, T.E. Grantham, R.A. Lusardi, S. Sandoval-Solis. 2021. The California Environmental Flows Framework: Meeting the Challenges of Developing a Large-Scale Environmental Flows Program. *Frontiers in Environmental Science* 9:769943.

Abdi, R., J.B. Rogers, A. Rust, J.M. Wolfand, D. Philippus, K.T. Taniguchi-Quan, K. Irving, E.D. Stein, T.S. Hogue. 2021. Simulating the thermal impact of substrate temperature on ecological restoration in shallow urban rivers. *Journal of Environmental Management* DOI:10.1016/j.jenvman.2021.112560.

Gudino-Elizondo, N., T.W. Biggs, R.L. Bingner, E.J. Langendoen, T. Kretzschmar, E.V. Taguas, K.T. Taniguchi-Quan, D. Liden, Y. Yuan. 2019. Modelling Runoff and Sediment Loads in a Developing Coastal Watershed of the US-Mexico Border. *Water* 11:1024.

Gudino, N., T. Biggs, R. Bingner, Y. Yuan, E. Taguas, E. Langendoen, K. Taniguchi, T. Kretzschmar, and D. Liden, 2018. Modeling ephemeral gully erosion from unpaved urban roads: Equifinality and implications for scenario analysis. Geosciences, 137(8). https://doi.org/10.3390/geosciences8040137

Gudino, N., T. Biggs, R. Bingner, C. Castillo, E. Langendoen, K. Taniguchi, T. Kretzschmar, Y. Yuan, and D. Liden, 2018. Measuring Ephemeral Gully Erosion Rates and Topographical Thresholds in an Urban Watershed Using Unmanned Aerial Systems and Structure from Motion Photogrammetric Techniques. Land Degradation & Development, 1-10. https://doi.org/10.1002/ldr.2976

Taniguchi, K., T. Biggs, E. Langendoen, C. Castillo, N. Gudino, Y. Yuan, and D. Liden, 2018. Stream channel erosion in a rapidly urbanizing region of the US-Mexico Border: Documenting the importance of channel hardpoints with Structure-from-Motion photogrammetry, Earth Surface Processes and Landforms (ESPL), 43: 1465-1477. doi: 10.1002/esp.4331

Taniguchi, K. and T. Biggs, 2015. Regional impacts of urbanization on stream channel geometry: A case study in semiarid southern California, Geomorphology, 248, 228-236.

Technical Reports

Taniguchi-Quan, K.T., J. Wiener, J. Ayers, B. Gibbons, A. Le Compte Santiago. 2026. Operationalizing Functional Flows to Inform and Evaluate Flood-Managed Aquifer Recharge (Flood-MAR) Diversion Approaches. Technical Report 1501. Southern California Coastal Water Research Project. Costa Mesa, CA.

Taniguchi-Quan, K.T., K. Irving, R. Darling, D. Kim, H. McMillan, E.D. Stein. 2023. Risk-Decision Framework for Evaluating Vulnerability of Streams to Hydrologic Alteration. Technical Report 1322. Southern California Coastal Water Research Project. Costa Mesa, CA.

Taniguchi-Quan, K.T., K. Irving, R.A. Wildman Jr., A. Poresky, J.R. Feldman, E.D. Stein, A. Aprahamian, C. Rivers, G. Sharp. 2022. Evaluation of Hydrologic Alteration to Inform Flow Management Decisions in South Orange County Coastal Watersheds. Technical Report 1245. Southern California Coastal Water Research Project. Costa Mesa, CA.

Sutula, M., J. Butcher, M. Schmidt, C. Boschen, R.D. Mazor, D.J. Gillett, K.T. Taniguchi-Quan, K. Irving, D. Shultz. 2022. Science Supporting Decisions on Biostimulatory Targets and Management of Eutrophication in the Main Stem of the Santa Margarita River Watershed. Technical Report 1185. Southern California Coastal Water Research Project. Costa Mesa, CA.

Stein, E.D., K.T. Taniguchi-Quan, J. Wolfand, E. Gallo, K. Irving, D. Philippus, R. Abdi, V. Hennon, A. Tinoco, P. Mohammadi, A. Rust, T.S. Hogue. 2021. Process and Decision Support Tools for Evaluating Flow Management Targets to Support Aquatic Life and Recreational Beneficial Uses of the Los Angeles River: Los Angeles River Environmental Flows Project. Technical Report 1196. Southern California Coastal Water Research Project. Costa Mesa, CA.

Stein, E.D., J. Wolfand, R. Abdi, K. Irving, V. Hennon, K.T. Taniguchi-Quan, D. Philippus, A. Tinoco, A. Rust, E. Gallo, C. Bell, T.S. Hogue. 2021. Assessment of Aquatic Life Use Needs for the Los Angeles River. Technical Report 1154. Southern California Coastal Water Research Project. Costa Mesa, CA.

Taniguchi-Quan, K.T., R.D. Mazor, J.S. Brown, R. Guill, M. Yeager, A. Suter, J. Rudolph, W. Isham,

S. Johnson. 2020. 2018-2019 Report on the SMC Stream Survey. Technical Report 1127. Southern California Coastal Water Research Project. Costa Mesa, CA.