

Dr. Eric Stein

Department Head

Biology Department

Southern California Coastal Water Research Project

Education

D.Env., environmental science and engineering, University of California, Los Angeles, 1995

M.Ed., science education, University of California, Los Angeles, 1988

B.S., biology, University of California, Los Angeles, 1987

Professional Experience

Department Head, Southern California Coastal Water Research Project. Costa Mesa, CA. 2002-Present

Adjunct Associate Professor, California State University, Los Angeles, Department of Geography and Urban Analysis. Los Angeles, CA. 1998-2001

Principal Ecologist, Associate Principal, PCR Services Corporation. Pasadena, CA. 1998-2002

Biologist, Senior Project Manager, U.S. Army Corps of Engineers, Los Angeles District, Regulatory Branch. Los Angeles, CA. 1993-1998

Graduate Researcher, UCLA Environmental Science and Engineering Program. Los Angeles, CA. 1991-1993

Biology Teacher, Alhambra High School, Alhambra City School District. Alhambra, CA. 1988-1991

Educational Technology Consultant, IBM Educational Instruction Division. 1990-1995

Research Associate, UCLA Department of Physiology. Los Angeles, CA. 1984-1991

Honors and Awards

Doug Wilcox Award for Outstanding Associate Editor for Wetlands (2012)

Paul Douglas State Teaching Fellowship

U.S. Army Achievement Medal for Civilian Service

Professional Appointments

US Army Science Advisory Board/Environmental Advisory Board - 2022 - present

Associate Editor Frontiers in Environmental Science: Freshwater Science - 2021 - present

Society of Wetland Scientist, Ways and Means Committee - 2021 - present

Associate Editor, Water, Hydrology and Hydroecology Section (MDPI Journal) - 2021 - present

Special Issue Editor (New Perspectives in Wetland Bioassessment and Monitoring), Water (2021-present)

Public Policy Institute of California (PPIC) Water Policy Center research network (2020-present)

LMU Center for Urban Resilience Academic Science Advisory Committee (2019-present)

California Environmental Flows Workgroup (2017-present)

Special Issue Guest Editor (Issue on Environmental Water), Freshwater Biology (2016-2018)

Santa Clara River Estuary Ecological Flows Science Review Panel (2017-2020)

California 4th Climate Assessment Workgroup (2017-2018)

Tijuana Estuary Tidal Restoration Program, Science Advisory Team (2016-present)

Wetland Recovery Project, Science Advisory Panel member (2014-present)

California Healthy Streams Partnership (2011-present)

Santa Monica Bay Restoration Commission Technical Advisory Committee (2013-present)

USEPA, Environmental Law Institute (ELI), Nature Conservancy (TNC) - applying a watershed approach to wetlands mitigation decisions - technical advisory committee (2012-2020).

Associate Editor, Wetlands (Journal of the Society of Wetland Scientists) (2010-2015)

California Wetland Monitoring Workgroup, Co-chair (2008-2014)

USDA-NRCS National Easement Assessment Project - technical team (2011-2013)

U.S. Army Corps of Engineers Workgroup: Quantifying Significance of Aquatic Ecosystems (2010)

Southern California Wetlands Recovery Program Science Advisory Panel, Chair (2004-2010)

Ormond Beach Restoration Science Advisory Committee (2010)

Ballona Wetland Restoration Scientific Advisory Committee, Co-chair (2007-2010)

NOAA National Estuary Eutrophication Workgroup, S. Pacific Coast Coordinator (2007)

Society of Wetland Scientists, Western Chapter President (2008-2010)

Society of Wetland Scientists, Wetland Concerns Committee (2006-present)

National Wetlands Awards, Selection Committee (2007, 2008, 2012)

California State Stream and Wetland Protection Policy Science Advisory Team (2009-2012)

NOAA Water Quality Synthesis, Assessment, and Data Management (SAM) Technical Advisory Committee (2007-2009)

San Francisco Estuary Institute Sources Pathways and Loading Work Group (2006-2011)

Malibu Legacy Park Technical Advisory Committee (2008-2010)

US Army Corps of Engineers - National Workgroup on Arid Stream Assessment (2008)

Bay Area Wetlands Regional Monitoring Program - Science Advisory Group (2008-2012)

Technical Advisory Committee member for Assessment of Ecosystem Values of Watersheds in Southern California (2009-2011)

Science Advisory Panel for the National Evaluation of the Ecological Performance of Compensatory Mitigation (2009-2010)

Professional Societies and Certifications

Society for Freshwater Science

International Association for Hydro-Environment Engineering and Research

Society of Environmental Toxicology and Chemistry

Society for Wetland Scientists
American Water Resources Association
American Geophysical Union
Pi Lambda Theta Educational Honor Society

Journal Articles

Stein, E.D., A.C. Horne, R.E. Tharme, J. Tonkin. 2022. Editorial: Environmental flows in an uncertain future. *Frontiers in Environmental Science* 10:1-5.

Brand, M.W., K. Buffington, J.B. Rogers, K. Thorne, E.D. Stein, B.F. Sanders . 2022. The Multi-Decadal Simulation of Marsh Topography Under Sea Level Rise and Episodic Sediment Loads. *Journal of Geophysical Research* 127:1-20.

Wolfand, J.M., A. Sytsma, V.L. Hennon, E.D. Stein, T.S. Hogue. 2022. Dilution and Pollution: Assessing the Impacts of Water Reuse and Flow Reduction on Water Quality in the Los Angeles River Basin. *Environmental Science and Technology* DOI:10.1021/acsestwater.2c00005.

Stein, E.D., J.S. Brown, A. Canney, M. Mirkhanian, H. Lowman, K. O'Connor, R. Clark. 2022. Prioritizing Stream Protection, Restoration and Management Actions Using Landscape Modeling and Spatial Analysis. *Water* 14:1375.

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.

Yarnell, S.M., A. Willis, A. Obester, R.A. Peek, R.A. Lusardi, J. Zimmerman, T.E. Grantham, E.D. Stein. 2022. Functional Flows in Groundwater-Influenced Streams: Application of the California Environmental Flows Framework to Determine Ecological Flow Needs. *Frontiers in Environmental Science* 9:788295.

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.

Peek, R., K. Irving, S.M. Yarnell, R. Lusardi, E.D. Stein, R.D. Mazor. 2022. Identifying Functional Flow Linkages Between Stream Alteration and Biological Stream Condition Indices Across California. *Frontiers in Environmental Science* 9:790667.

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.

Rogers, J.B., E.D. Stein, M.W. Beck, K. Flint, A. Kinoshita, R.F. Ambrose. 2021. Modelling future changes to the hydrological and thermal regime of unaltered streams using projected changes in climate to support planning for sensitive species management. *Ecohydrology*
DOI:10.1002/eco.2299.

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.

Brand, M.W., L. Guo, E.D. Stein, B.F. Sanders. 2021. Multi-decadal simulation of estuarine sedimentation under sea level rise with a response-surface surrogate model. *Advances in Water Resources* DOI:10.1016/j.advwatres.2021.103876.

Stein, E.D., E.M. Gee, J.B. Adams, K. Irving, L.V. Niekerk. 2021. Advancing the Science of Environmental Flow Management for Protection of Temporarily Closed Estuaries and Coastal Lagoons. *Water* DOI:10.3390/w13050595.

Theroux, S., R.D. Mazor, M.W. Beck, P.R. Ode, E.D. Stein, M. Sutula. 2020. Predictive biological indices for algae populations in diverse stream environments. *Ecological Indicators*
DOI:10.1016/j.ecolind.2020.106421.

Taylor, J., E.D. Stein, M.W. Beck, R.F. Ambrose. 2020. The impact of climate change induced alterations of streamflow and stream temperature on the distribution of riparian species. *PLoS*

ONE DOI:10.1371/journal.pone.0242682.

Ulibarri, N., K.A. Goodrich, P. Wagle, M. Brand, R. Matthew, E.D. Stein, B.F. Sanders. 2020. Barriers and opportunities for beneficial reuse of sediment to support coastal resilience. *Ocean and Coastal Management* DOI:10.1016/j.ocecoaman.2020.105287.

Aylagas, E., A. Borja, X. Pochon, A. Zaiko, N. Keeley, K. Bruce, P. Hong, G.M. Ruiz, E.D. Stein, S. Theroux, N. Geraldi, A. Ortega, L. Gajdzik, D.J. Coker, Y. Katan, T. Hikmawan, A. Saleem, S. Alamer, B.H. Jones, C.M. Duarte, J. Pearman, S. Carvalho. 2020. Translational Molecular Ecology in practice: Linking DNA-based methods to actionable marine environmental management. *Science of the Total Environment* DOI:10.1016/j.scitotenv.2020.140780.

Harvey, M.E., S.N. Giddings, E.D. Stein, J.A. Crooks, C. Whitcraft, T. Gallien, J.L. Largier, L.L. Tiefenthaler, H. Meltzer, G. Pawlak, K. Thorne, K. Johnston, R. Ambrose, S.C. Schroeter, H.M. Page, H. Elwany. 2020. Effects of Elevated Sea Levels and Waves on Southern California Estuaries During the 2015–2016 El Niño. *Estuaries and Coasts* DOI:10.1007/s12237-019-00676-1.

Sultana, R., M. Mroczek, A. Sengupta, S. Dallman, E.D. Stein. 2020. Improving Effective Impervious Estimates to Inform Stormwater Management. *Water Resources Management* DOI:10.1007/s11269-019-02474-7.

Stein, E.D., C.L. Doughty, J. Lowe, M. Cooper, E. Sloane, D. Bram. 2020. Establishing Targets for Regional Coastal Wetland Restoration Planning Using Historical Ecology and Future Scenario Analysis: The Past, Present, Future Approach. *Estuaries and Coasts* DOI:10.1007/s12237-019-00681-4.

Yarnell, S.M., E.D. Stein, J.A. Webb, T. Grantham, R.A. Lusardi, J. Zimmerman, R.A. Peek, B.A. Lane, J. Howard, S. Sandoval-Solis. 2020. A Functional Flows Approach to Selecting Ecologically Relevant Flow Metrics for Environmental Flow Applications. *River Research and Applications* DOI:10.1002/rra.3575.

Giraldo, M.A., S. Dark, P. Pendleton, E.D. Stein, R.D. Mazor, J. Andreas. 2019. Environmental predictors of stream flow in semi-arid watersheds for biological assessments. *Ecological Indicators* 104:429-438.

Beck, M., R.D. Mazor, S. Johnson, K. Wisenbaker, J. Westfall, P.R. Ode, R. Hill, C. Loflen, M. Sutula, E.D. Stein. 2019. Prioritizing Management Goals for Stream Biological Integrity Within the Developed Landscape Context. *Freshwater Science* DOI:10.1086/705996.

Simons, A.L., R.D. Mazor, E.D. Stein, S. Nuzhdin. 2019. Using alpha, beta, and zeta diversity in describing the health of stream-based benthic macroinvertebrate communities. *Ecological Applications* DOI:10.1002/eap.1896.

Parker, S.R., S.K. Adams, R.W. Lammers, E.D. Stein, B.P. Bledsoe. 2019. Targeted hydrologic model calibration to improve prediction of ecologically-relevant flow metrics. *Journal of Hydrology* 573:546-556.

Doughty, C.L., K.C. Cavanaugh, R.F. Ambrose, E.D. Stein. 2019. Evaluating regional resiliency of coastal wetlands to sea level rise through hypsometry-based modeling. *Global Change Biology* 25:78-92.

Lane, B.A., S. Sandoval-Solis, E.D. Stein, S.M. Yarnell, G.B. Pasternack, H.E. Dahlke. 2018. Beyond Metrics? The Role of Hydrologic Baseline Archetypes in Environmental Water Management. *Environmental Management* DOI:10.1007/s00267-018-1077-7.

Guo, L., M. Brand, B.F. Sanders, E. Foufoula-Georgiou, E.D. Stein. 2018. Tidal asymmetry and residual sediment transport in a short tidal basin under sea level rise. *Advances in Water Resources* 121:1-8.

Mazor, R.D., J.T. May, A. Sengupta, K. McCune, B.P. Bledsoe, E.D. Stein. 2018. Tools for managing hydrologic alteration on a regional scale: Setting targets to protect stream health. *Freshwater Biology* DOI:10.1111/fwb.13062.

Arthington, A.H., J.G. Kennen, E.D. Stein, J.A. Webb. 2018. Recent advances in environmental flows science and water management - Innovation in the Anthropocene. *Freshwater Biology* DOI:10.1111/fwb.13108.

Kennen, J.G., E.D. Stein, J.A. Webb. 2018. Evaluating and managing environmental water regimes in a water-scarce and uncertain future. *Freshwater Biology* DOI:10.1111/fwb.13104.

Sengupta, A., S.K. Adams, B.P. Bledsoe, E.D. Stein, K. McCune, R.D. Mazor. 2018. Tools for managing hydrologic alteration on a regional scale: Estimating changes in flow characteristics at ungauged sites. *Freshwater Biology* DOI:10.1111/fwb.13074.

Sengupta, A., R.J. Hawley, E.D. Stein. 2018. Predicting Hydromodification in Streams using Non-Linear Memory Based Algorithms. A Southern California case study. *Journal of Water Resources Planning and Management* DOI:10.1061/(ASCE)WR.1943-5452.0000853.

Stein, E.D., A. Sengupta, R.D. Mazor, K. McCune, B.P. Bledsoe, K. McCune, S. Adams. 2017. Application of regional flow-ecology relationships to inform watershed management decisions: Application of the ELOHA framework in the San Diego River watershed, California, USA. *Ecohydrology* 10:1869.

Fong, L.S., E.D. Stein, R.F. Ambrose. 2017. Development of Restoration Performance Curves for Streams in Southern California Using an Integrative Condition Index. *Wetlands* 37:289-299.

Stein, E.D., J.S. Brown, R.D. Mazor. 2017. Transferability of bioassessment indices among water body types and ecoregions: A California experiment in wetland assessment. *Ecological Indicators* 81:65-73.

Howard, M.D.A., C. Nagoda, R.M. Kudela, K. Hayashi, A. Tatters, D.A. Caron, L. Busse, J.S. Brown, M. Sutula, E.D. Stein. 2017. Microcystin Prevalence throughout Lentic Waterbodies in Coastal Southern California. *Toxins* 9:231.

Pyne, M.I., D.M. Carlisle, C.P. Konrad, E.D. Stein. 2017. Classification of California streams using combined deductive and inductive approaches: Setting the foundation for analysis of hydrologic alteration. *Ecohydrology* 10:e1802.

Ode, P.R., A.C. Rehn, R.D. Mazor, K.C. Schiff, E.D. Stein, J.T. May, L.R. Brown, D.B. Herbst, D.J. Gillett, K. Lunde, C.P. Hawkins. 2016. Evaluating the adequacy of a reference-site pool for ecological assessments in environmentally complex regions. *Freshwater Science* 35:237-248.

Mazor, R.D., A.C. Rehn, P.R. Ode, M. Engeln, K.C. Schiff, E.D. Stein, D.J. Gillett, D.B. Herbst, C.P. Hawkins. 2016. Bioassessment in complex environments: designing an index for consistent meaning in different settings. *Freshwater Science* 35:249-271.

Saintilan, N., K. Rogers, C. Toms, E.D. Stein, D. Jacobs. 2016. Intermittent Estuaries: Linking Hydro-geomorphic Context to Climate Change Resilience. *Journal of Coastal Research* 75:133-137.

Brooks, R.P., D. Faber-Langendoen, G. Serenbetz, J. Rocchio, E.D. Stein, K. Walz. 2016. Towards Creating a National Reference Wetlands Registry. *National Wetlands Newsletter* 38:7-11.

Stein, E.D., L.G. Lackey, J.S. Brown. 2015. How accurate are probability-based estimates of wetland extent? Results of a California validation study. *Wetlands Ecology and Management* 24:347-356.

Cox, H., E.D. Stein, L. Protopapadakis, M. Dojiri. 2015. Water Resources: Water Supply and Use from a Water Quality Perspective. *Urban Coast* 5:3-10.

Fetscher, A.E., E.D. Stein, M.D.A. Howard. 2015. Looking Ahead: Preliminary Examination of Stream Cyanotoxins in Santa Monica Bay and California Watersheds. *Urban Coast* 5:198-200.

Fetscher, A.E., M.D.A. Howard, R. Stancheva, R.M. Kudela, E.D. Stein, M. Sutula, L.B. Busse, R.G. Sheath. 2015. Wadeable streams as widespread sources of benthic cyanotoxins in California, USA. *Harmful Algae* 49:105-116.

Stein, E.D. 2015. Habitat Highlights: Regional Stream Monitoring in Southern California. *Urban Coast* 5:128-129.

- Ambrose, R.F., J.H. Dorsey, K. Johnston, E.D. Stein. 2015. Habitat Conditions: Coastal Wetlands. *Urban Coast* 5:59-68.
- Dagit, R., F. Federico, L. Kats, E.D. Stein. 2015. Habitat Conditions: Freshwater Aquatic and Riparian Habitats. *Urban Coast* 5:48-58.
- Von Bitner, T., E.D. Stein, L. Protopapadakis, K. Thorsen. 2015. Water Resources: Trash and Debris. *Urban Coast* 5:29-34.
- Gibson, J.F., E.D. Stein, D.J. Baird, C.M. Finlayson, X. Zhang, M. Hajibabaei. 2015. Wetland Ecogenomics - The Next Generation of Wetland Biodiversity and Functional Assessment. *Wetland Science and Practice* 32:27-32.
- Feldman, D.L., A. Sengupta, L. Stuvick, E.D. Stein, V. Pettigrove, M. Arora. 2015. Governance issues in developing and implementing offsets for water management benefits: Can preliminary evaluation guide implementation effectiveness?. *WIREs Water* 2:121-130.
- White, B.P., E.M. Pilgrim, L.M. Boykin, E.D. Stein, R.D. Mazor. 2014. Comparison of four species-delimitation methods applied to a DNA barcode data set of insect larvae for use in routine bioassessment. *Freshwater Science* 33:338-348.
- Mazor, R.D., E.D. Stein, P.R. Ode, K.C. Schiff. 2014. Integrating intermittent streams into watershed assessments: applicability of an index of biotic integrity. *Freshwater Science* 33:459-474.
- Lackey, L.G., E.D. Stein. 2014. Evaluating Alternative Temporal Survey Designs For Monitoring Wetland Area And Detecting Changes Over Time In California. *Journal of the American Water Resources Association* 51:388-399.
- Lackey, L.G., E.D. Stein. 2014. Selecting the optimum plot size for a California design-based stream and wetland mapping program. *Environmental Monitoring and Assessment* 186:2599-2608.
- Stein, E.D., B.P. White, R.D. Mazor, J.K. Jackson, J.M. Battle, P.E. Miller, E.M. Pilgrim, B.W. Sweeney. 2014. Does DNA barcoding improve performance of traditional stream bioassessment metrics?. *Freshwater Science* 33:302-311.
- Jackson, J.K., J.M. Battle, B.P. White, E.M. Pilgrim, E.D. Stein, P.E. Miller, B.W. Sweeney. 2014. Cryptic biodiversity in streams: a comparison of macroinvertebrate communities based on morphological and DNA barcode identifications. *Freshwater Science* 33:312-324.
- Stein, E.D., M.C. Martinez, S. Stiles, P.E. Miller, E.V. Zakharov. 2014. Is DNA Barcoding Actually Cheaper and Faster than Traditional Morphological Methods? Results from a Survey of

Freshwater Bioassessment Efforts in the United States. *PLoS ONE* 9:e95525.

Fetscher, A.E., R. Stancheva, J.P. Kociolek, R.G. Sheath, E.D. Stein, R.D. Mazor, P.R. Ode, L.B. Busse. 2013. Development and comparison of stream indices of biotic integrity using diatoms vs. non-diatom algae vs. a combination. *Journal of Applied Phycology* 26:433-450.

Stein, E.D., B.P. White, R.D. Mazor, P.E. Miller, E.M. Pilgrim. 2013. Evaluating ethanol-based sample preservation to facilitate use of DNA barcoding in routine freshwater biomonitoring programs using benthic macroinvertebrates. *PLoS ONE* 8:e51273.

Lackey, L.G., E.D. Stein. 2013. Evaluation of design-based sampling options for monitoring stream and wetland extent and distribution in California. *Wetlands* 33:717-725.

Burke, M.P., T.S. Hogue, A. Kinoshita, J. Barco, C. Wessel, E.D. Stein. 2013. Pre- and post-fire pollutant loads in an urban fringe watershed in Southern California. *Environmental Monitoring and Assessment* 185:10131-10145.

Brown, J.S., E.D. Stein, D. Ackerman, J.H. Dorsey, J. Lyon, P.M. Carters. 2013. Metals and bacteria partitioning to various size particles in Ballona Creek storm water runoff. *Environmental Toxicology and Chemistry* 32:320-328.

Stein, E.D. 2013. Using regional stormwater monitoring programs to provide reference data for wetland mitigation performance evaluation. *National Wetlands Newsletter* 35:13-14.

Stein, E.D., M.R. Cover, A.E. Fetscher, C. O'Reilly, R. Guardado, C.W. Solek. 2013. Reach-scale geomorphic and biological effects of localized streambank armoring. *Journal of the American Water Resources Association* 49:780-792.

Bledsoe, B.P., E.D. Stein, R.J. Hawley, D. Booth. 2012. Framework and tool for rapid assessment of stream susceptibility to hydromodification. *Journal of the American Water Resources Association* 48:788-808.

Hawley, R.J., B.P. Bledsoe, E.D. Stein, B.E. Haines. 2012. Channel evolution model of semiarid stream response to urban-induced hydromodification. *Journal of the American Water Resources Association* 48:722-744.

Stein, E.D., J.S. Brown, T.S. Hogue, M.P. Burke, A. Kinoshita. 2012. Stormwater contaminant loading following southern California wildfires. *Environmental Toxicology and Chemistry* 31:2625-2638.

Dark, S., E.D. Stein, D. Bram, J. Osuna. 2012. Historical Ecology as a Living Resource for Informing Urban Wetland Restoration. *Urban Coast* 3:54-60.

- Solek, C.W., M. Sutula, E.D. Stein, C. Roberts, R. Clark, K. O'Connor, K.J. Ritter. 2012. Determining the health of California's coastal salt marshes using rapid assessment. *Wetland Science and Practice* 29:8-28.
- Lopez, S.R., T.S. Hogue, E.D. Stein. 2012. A framework for evaluating regional hydrologic sensitivity to climate change using archetypal watershed modeling. *Hydrology and Earth System Sciences Discussions* 9:13729-13771.
- Ranasinghe, J.A., E.D. Stein, P.E. Miller, S.B. Weisberg. 2012. Performance of two southern California benthic community condition indices using species abundance and presence-only data: Relevance to DNA barcoding. *PLoS ONE* 7:e40875.
- Brown, J.S., D. Ackerman, E.D. Stein. 2012. Continuous in situ characterization of particulate sizes in urban stormwater: Method testing and refinement. *Journal of Environmental Engineering* 138:673-679.
- Solek, C.W., E.D. Stein, M. Sutula. 2011. Demonstration of an integrated watershed assessment using a three-tiered assessment framework. *Wetlands Ecology and Management* 19:459-474.
- Ackerman, D., E.D. Stein, K.J. Ritter. 2011. Evaluating performance of stormwater sampling approaches using a dynamic watershed model. *Environmental Monitoring and Assessment* 180:283-302.
- Tiefenthaler, L.L., E.D. Stein, K.C. Schiff. 2011. Levels and patterns of fecal indicator bacteria in stormwater runoff from homogenous land use sites and urban watersheds. *Journal of Water and Health* 9:279-290.
- Stein, E.D., S. Dark, T. Longcore, R. Grossinger, N. Hall, M. Beland. 2010. Historical ecology as a tool for assessing landscape change and informing wetland restoration priorities. *Wetlands* 30:589-601.
- Stein, E.D., D.B. Cadien. 2009. Ecosystem response to regulatory and management actions: The southern California experience in long-term monitoring. *Marine Pollution Bulletin* 59:91-100.
- Stein, E.D., A.E. Fetscher, R.P. Clark, A. Wiskind, J.L. Grenier, M. Sutula, J.N. Collins, C. Grosso. 2009. Validation of a wetland rapid assessment method: Use of EPA's Level 1-2-3 Framework for method testing and refinement. *Wetlands* 29:648-665.
- Tiefenthaler, L.L., E.D. Stein, G.S. Lyon. 2009. Fecal indicator bacteria (FIB) levels during dry weather from southern California reference streams. *Environmental Monitoring and Assessment* 155:477-492.
- Lyon, G.S., E.D. Stein. 2009. How effective has the Clean Water Act been at reducing pollutant

mass emissions to the Southern California Bight over the past 35 years? *Environmental Monitoring and Assessment* 154:413-426.

Nezlin, N.P., K. Kamer, J. Hyde, E.D. Stein. 2009. Dissolved oxygen dynamics in a eutrophic estuary, Upper Newport Bay, California. *Estuarine, Coastal and Shelf Science* 82:139-151.

Stein, E.D., B. Bernstein. 2008. Integrating probabilistic and targeted compliance monitoring for comprehensive watershed assessment. *Environmental Monitoring and Assessment* 144:117-129.

Ackerman, D., E.D. Stein. 2008. Estimating the variability and confidence of land use and imperviousness relationships at a regional scale. *Journal of the American Water Resources Association* 44:996-1008.

Tiefenthaler, L.L., E.D. Stein, K.C. Schiff. 2008. Watershed and land use-based sources of trace metals in urban stormwater. *Environmental Toxicology and Chemistry* 27:277-287.

Ackerman, D., E.D. Stein. 2008. Evaluating the effectiveness of best management practices using dynamic modeling. *Journal of Environmental Engineering* 134:628-639.

Yoon, V.K., E.D. Stein. 2008. Natural catchments as sources of background levels of storm-water metals, nutrients, and solids. *Journal of Environmental Engineering* 134:961-973.

Stein, E.D., V.K. Yoon. 2008. Dry weather flow contribution of metals, nutrients, and solids from natural catchments. *Water, Air, and Soil Pollution* 190:183-195.

Nezlin, N.P., K. Kamer, E.D. Stein. 2007. Application of color infrared aerial photography to assess macroalgal distribution in an eutrophic estuary, upper Newport Bay, California. *Estuaries and Coasts* 30:855-868.

Stein, E.D., D. Ackerman. 2007. Dry weather water quality loadings in arid, urban watersheds of the Los Angeles basin, California, USA. *Journal of the American Water Resources Association* 43:398-413.

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Ode, P., A. Rehn, R.D. Mazor, K.C. Schiff, E.D. Stein, J. May, L. Brown, D. Herbst, D.J. Gillett, K. Lunde, C.P. Hawkins. 2013. Evaluating the adequacy of a reference-site pool for the ecological assessment of streams in environmentally complex regions.

White, B.P., E.M. Pilgrim, L.M. Boykin, E.D. Stein, R.D. Mazor. 2013. Comparison of four species-delimitation methods applied to a DNA barcode data set of insect larvae for use in routine bioassessment.

Mazor, R.D., E.D. Stein, P.R. Ode, K.C. Schiff. 2013. Integrating intermittent streams into watershed assessments: Applicability of an index of biotic integrity.

Lackey, L.G., E.D. Stein. 2013. Evaluation of design-based sampling options for monitoring stream and wetland extent and distribution in California.

Lopez, S.R., T.S. Hogue, E.D. Stein. 2013. A framework for evaluating regional hydrologic sensitivity to climate change using archetypal watershed modeling.

Stein, E.D., B.P. White, R.D. Mazor, J.K. Jackson, J.M. Battle, P.E. Miller, E.M. Pilgrim, B.W. Sweeney. 2013. Does DNA barcoding improve performance of traditional stream bioassessment metrics?

Sengupta, A., E.D. Stein, R.J. Hawley. 2012. General regression neural networks to estimate hydromodification response in semi-arid southern California streams.

Stein, E.D., J.S. Brown, T.S. Hogue, M.P. Burke, A. Kinoshita. 2012. Stormwater contaminant loading following wildfires.

Stein, E.D., B.P. White, R.D. Mazor, P.E. Miller, E.M. Pilgrim. 2012. Optimizing ethanol-based sample preservation to facilitate use of DNA barcoding in routine freshwater biomonitoring programs using benthic macroinvertebrates.

Stein, E.D., M.R. Cover, A.E. Fetscher, C. O'Reilly, R. Guardado, C.W. Solek. 2012. Reach-scale geomorphic and biological effects of localized stream bank armoring.

Bledsoe, B.P., E.D. Stein, R.J. Hawley, D. Booth. 2011. Framework and tool for rapid assessment of stream susceptibility to hydromodification.

Brown, J.S., E.D. Stein, D. Ackerman, J.H. Dorsey, J. Lyon, P.M. Carter. 2011. Metals and bacteria partitioning to various size particles in Ballona Creek stormwater runoff.

Hawley, R.J., B.P. Bledsoe, E.D. Stein, B.E. Haines. 2011. Channel evolution model of response to urbanization in southern California.

Solek, C.W., M. Sutula, E.D. Stein, C. Roberts, R. Clark, K. O'Connor, K.J. Ritter. 2011. Determining the health of California's coastal salt marshes using rapid assessment.

Burke, M.P., T.S. Hogue, J. Barco, C. Wessel, A.Y. Kinoshita, E.D. Stein. 2011. Dynamics of pre- and post-fire pollutant loads in an urban fringe watershed.

Ranasinghe, J.A., E.D. Stein, P.E. Miller, S.B. Weisberg. 2011. Relative performance of the Southern California Benthic Response Index using species abundance and presence-only data: Relevance to DNA Barcoding.

Lyon, G.S., E.D. Stein. 2010. Effluent discharges from offshore oil platforms to the outer continental shelf of southern California in 2005.

Lyon, G.S., E.D. Stein. 2010. Effluent discharges to the Southern California Bight from power generating stations in 2005.

Stein, E.D., S. Dark, T. Longcore, R. Grossinger, N. Hall, M. Beland. 2009. Historical ecology as a

tool for assessing landscape change and wetland restoration priorities.

Stein, E.D., D.B. Cadien. 2009. Ecosystem response to regulatory and management actions: The southern California experience in long-term monitoring.

Ackerman, D., E.D. Stein, K.J. Ritter. 2009. Evaluating stormwater sampling approaches using a dynamic watershed model.

Lyon, G.S., E.D. Stein. 2009. Effluent discharges to the Southern California Bight from industrial facilities in 2005.

Brown, J.S., D. Ackerman, E.D. Stein. 2009. Continuous in situ characterization of particulate sizes in urban stormwater: Method testing and refinement.

Solek, C.W., E.D. Stein, M. Sutula. 2009. Demonstration of an integrated watershed assessment using a three-tiered assessment framework.

Stein, E.D., A.E. Fetscher, R.P. Clark, A. Wiskind, J.L. Grenier, M. Sutula, J.N. Collins, C. Grosso. 2008. Validation of a Wetlands Rapid Assessment Method: Application of the EPA's Level 1-2-3 Framework for method testing and refinement.

Tiefenthaler, L.L., E.D. Stein, G.S. Lyon. 2008. Fecal indicator bacteria levels during dry weather in southern California reference streams.

Stein, E.D., L.L. Tiefenthaler, K.C. Schiff. 2008. Comparison of stormwater pollutant loading by land use type.

Tiefenthaler, L.L., E.D. Stein, K.C. Schiff. 2008. Origins and mechanisms of watershed and land use based sources of fecal indicator bacteria in urban stormwater.

Lyon, G.S., E.D. Stein. 2008. Effluent discharges to the Southern California Bight from small municipal wastewater treatment facilities in 2005.

Nezlin, N.P., K. Kamer, J. Hyde, E.D. Stein. 2008. Dissolved oxygen dynamics in a eutrophic estuary, Upper Newport Bay, California.

Stein, E.D., B. Bernstein. 2007. Integrating probabilistic and targeted compliance monitoring for comprehensive watershed assessment.

Tiefenthaler, L.L., E.D. Stein, K.C. Schiff. 2007. Watershed and land use-based sources of trace metals in urban stormwater.

Ackerman, D., E.D. Stein. 2007. Estimating the variability and confidence of land use and imperviousness relationships at a regional scale.

Ackerman, D., E.D. Stein. 2007. Evaluating the effectiveness of Best Management Practices using dynamic modeling.

Lyon, G.S., E.D. Stein. 2007. How effective has the Clean Water Act been at reducing pollutant mass emissions to the Southern California Bight over the past 35 years?.

Nezlin, N.P., K. Kamer, E.D. Stein. 2007. Application of color infrared aerial photography to assess macroalgal distribution in an eutrophic estuary, upper Newport Bay, California.

Yoon, V.K., E.D. Stein. 2007. Contribution of natural catchments to levels of metals, nutrients, and solids in stormwater.

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Stein, E.D., D. Ackerman. 2006. Dry weather water quality loadings in arid, urban watersheds of the Los Angeles Basin, California, USA.

Nezlin, N.P., P.M. DiGiacomo, E.D. Stein, D. Ackerman. 2006. Stormwater runoff plumes observed by SeaWiFS radiometer in the Southern California Bight.

Stein, E.D., L.L. Tiefenthaler, K.C. Schiff. 2006. Watershed-based sources of polycyclic aromatic hydrocarbons in urban stormwater.

Lyon, G.S., D. Petschauer, E.D. Stein. 2006. Effluent discharges to the Southern California Bight from large municipal wastewater treatment facilities in 2003 and 2004.

Steinberger, A., E.D. Stein, V. Raco-Rands. 2004. Offshore oil platform discharges to the Pacific outer continental shelf along the coast of southern California in 1996 and 2000.

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Stein, E.D., M. Mattson, A.E. Fetscher, K.J. Halama. 2003. Influence of geologic setting on slope wetland classification and hydrodynamics.

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