

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

President-Elect/President, Society of Wetland Scientists (2023-present)

Vice-chair, 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 (2021-2023)

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

Special Issue Editor (Environmental Flows in an Uncertain Future), Frontiers in Environmental Science (2022)

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

Coastal and Estuarine Research Federation

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

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.

Doughty, C.L., H. Gu, R.F. Ambrose, E.D. Stein, E. Borgnis Sloane, M. Martinez, K.C. Cavanaugh. 2024. Climate drivers and human impacts shape 35-year trends of coastal wetland health and composition in an urban region. *Ecosphere* DOI:10.1002/ecs2.4832.

Stein, E.D., C.L. Jerde, E. Andruszkiewicz Allan, A.J. Sepulveda, C.L. Abbott, M.R. Baerwald, J. Darling, K.D. Goodwin, R.S. Meyer, M.A. Timmers, P.M. Thielen. 2024. Critical considerations for communicating environmental DNA science. *Environmental DNA* DOI:10.1002/edn3.472.

Kelly, R.P., D.M. Lodge, K.N. Lee, S. Theroux, A.J. Sepulveda, C.A. Scholin, J.M. Craine, E.A. Allan, K.M. Nichols, K.M. Parsons, K.D. Goodwin, Z. Gold, F.P. Chavez, R.T. Noble, C.L. Abbott, M.R. Baerwald, A.M. Naaum, P.M. Thielen, A.L. Simons, C.L. Jerde, J.J. Duda, M.E. Hunter, J.A. Hagan, R.S. Meyer, J.A. Steele, M.Y. Stoeckle, H.M. Bik, C.P. Meyer, E.D. Stein, K.E. James, A.C. Thomas, E. Demir-Hilton, M.A. Timmers, J.F. Griffith, M.J. Weise, S.B. Weisberg. 2024. Toward a national eDNA strategy for the United States. *Environmental DNA* DOI:10.1002/edn3.432.

Goodrich, K.A., N. Ulibarri, R. Matthew, E.D. Stein, M. Brand, B.F. Sanders. 2023. Toward improved sediment management and coastal resilience through efficient permitting in California. *Environmental Management* 72:558-567.

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.

Siu, J., E.D. Stein, J.S. Brown. 2023. When is Aquatic Resource Type Conversion Appropriate: A Framework for Cleaning Sand out of the Gears and a Case Study for McInnis Marsh. *Wetland Science and Practice* 41:70-85.

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.

Sutula, M., E.D. Stein, J.N. Collins, A.E. Fetscher, R. Clark. 2006. A practical guide for the development of a wetland assessment method: the California experience. *Journal of the American Water Resources Association* 42:157-175.

Stein, E.D., L.L. Tiefenthaler, K.C. Schiff. 2006. Watershed-based sources of polycyclic aromatic hydrocarbons in urban storm water. *Environmental Toxicology and Chemistry* 25:373-385.

Nezlin, N.P., P.M. DiGiacomo, E.D. Stein, D. Ackerman. 2005. Stormwater runoff plumes observed by SeaWiFS radiometer in the Southern California Bight. *Remote Sensing of Environment* 98:494-510.

Ackerman, D., E.D. Stein, K.C. Schiff. 2005. Dry-season water quality in the San Gabriel River watershed. *Bulletin of the Southern California Academy of Sciences* 104:125-145.

Nezlin, N.P., E.D. Stein. 2005. Spatial and temporal patterns of remotely-sensed and field-measured rainfall in southern California. *Remote Sensing of Environment* 96:228-245.

Stein, E.D., L.L. Tiefenthaler. 2005. Dry-weather metals and bacteria loading in an arid, urban watershed: Ballona Creek, California. *Water, Air, and Soil Pollution* 164:367-382.

Stein, E.D., M. Mattson, A.E. Fetscher, K.J. Halama. 2004. Influence of Geologic Setting on Slope Wetland Hydrodynamics. *Wetlands* 24:244-260.

Horne, A.C., R.E. Tharme, J. Tonkin, E.D. Stein, eds. 2022. Environmental Flows in an Uncertain Future. Frontiers Media SA. Lausanne, Switzerland. DOI:10.3389/978-2-83250-863-3

Book Chapters

Ainslie, W., E.D. Stein. 2022. Additional Considerations for Incorporating Ecosystem Services into Compensatory Mitigation Programs. in: C.A. Jackson,, T.H. DeWitt (eds.), *Incorporating Ecosystem Services into Restoration Effectiveness Monitoring & Assessment: Frameworks, Tools, and Examples* pp. 177-201. U.S. Environmental Protection Agency. Washington, D.C..

Stein, E.D., M.E. McClain, A. Sengupta, T.E. Grantham, J. Zimmerman, S.M. Yarnell . 2022. Allocations and Environmental Flows. in: J. Rouillard, C. Babbitt, E. Challies, J.D. Rinaudo (eds.), *Water Resources Allocation and Agriculture: Transitioning from Open to Regulated Access* pp. 49-59. IWA Publishing. London, UK.

Collins, J., E.D. Stein. 2018. California Rapid Assessment Method for Wetlands and Riparian Areas (CRAM). in: J. Dorney, R. Savage, R. Tiner, P. Adamus (eds.), *Wetland and Stream Rapid Assessments: Development, Validation, and Application* pp. 353-362. Elsevier Publishers. London, UK.

Technical Reports

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.

Stein, E.D., J.B. Walker, K. O'Connor, C. Toms. 2023. Estuary Marine Protected Area - Monitoring Program Implementation Blueprint. Technical Report 1315.C. California Ocean Protection Council. Sacramento, CA.

O'Connor, K., R. Clark, B. Fulkerson, J.B. Walker, E.D. Stein, C. Whitcraft, S. Garcia. 2023. Estuary Marine Protected Area - 2021 Data Analysis Report. Technical Report 1315.B. California Ocean

Protection Council. Sacramento, CA.

Walker, J.B., E.D. Stein, K. O'Connor, R. Clark, C. Whitcraft, S. Garcia, B. Hughes, A. Cooper, D. Jacobs, M. Abrecht, J. Largier, R. Roettger, C. Toms. 2023. Estuary Marine Protected Area - Monitoring Protocol. Technical Report 1315.A. Ocean Protection Council. Sacramento, CA.

Stein, E.D., J.B. Walker, K. O'Connor, R. Clark, C. Whitcraft. 2023. Development of a Statewide Estuary Monitoring Program to Evaluate California's Estuarine Marine Protected Areas - Estuary Marine Protected Area Program Overview. Technical Report 1315. California Ocean Protection Council. Sacramento, CA.

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. Technical Report 1246. 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.

Stein, E.D., J.S. Brown, N. Bishop, R. Kihlslinger, B.J. Topping, P. Hough. 2022. An Integrated Framework for Evaluating Wetland and Stream Compensatory Mitigation. Technical Report 1209. Environmental Protection Agency. Washington, DC.

Stein, E.D., J.S. Brown, T. Smith, C. Cox, N. Nibbelink, K. Sheehan Hill, B.J. Topping, P. Hough. 2022. An Integrated Framework for Evaluating Wetland and Stream Compensatory Mitigation - Summary of Pilot Applications. Technical Report 1210. Environmental Protection Agency. Washington, DC.

Stein, E.D., J.S. Brown, J.D. Siu. 2022. Aquatic Resource Type Conversion Evaluation Framework Version 2.0. Technical Report 1110. Southern California Coastal Water Research Project. Costa Mesa, CA.

Ramus, J., E. Garvey, S. Brown, E. Fassman-Beck, E.D. Stein. 2022. Assessing the State of Knowledge and Research Needs for Stormwater Harvesting. Technical Report 1305. The Water Research Foundation. Alexandria, VA .

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.

Mazor, R.D., J.S. Brown, E.D. Stein, J.R. Olson, M.D. Robinson, A. Caudillo, S. Johnson, G. Mak, C. Clarke, K. O'Connor, K.K. Hammerstrom, R. Clark. 2021. Development of an Assessment Framework for Dry Ephemeral and Intermittent Streams in California and Arizona. Technical Report 1176. 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.

Grantham, T., J. Mount, E.D. Stein, S.M. Yarnell. 2020. Making the Most of Water for the Environment: A Functional Flows Approach for California's Rivers. Technical Report 1142. Public Policy Institute of California. San Francisco, CA.

McCune, K., D.J. Gillett, E.D. Stein. 2020. Methods and Guidance on Assessing the Ecological Functioning of Submerged Aquatic Vegetation in Southern California Estuaries and Embayments. Technical Report 1136. Southern California Coastal Water Research Project. Costa Mesa, CA.

Stein, E.D., Y. Sanchez. 2019. Review of Recreational Uses and Associated Flow Needs Along the Main-stem of Los Angeles River. Technical Report 1088. Southern California Coastal Water Research Project. Costa Mesa, CA.

Taylor, J., E.D. Stein, M. Beck, K. Flint, A. Kinoshita. 2019. Vulnerability of Stream Biological Communities in Los Angeles and Ventura Counties to Climate Change Induced Alterations of Flow and Temperature. Technical Report 1084. Southern California Coastal Water Research Project. Costa Mesa, CA.

Stein, E.D., J.S. Brown, A. Barrera. 2019. Aquatic Resource Type Conversion Evaluation Framework: Literature Review and Summary of Existing State of Practice. Technical Report 1074. Southern California Coastal Water Research Project. Costa Mesa, CA.

Lowe, J., E.D. Stein, E. Beller, J. Collins, M. Cooper, J. Crooks, H. Dennis, C. Doughty, G. Gauthier, J. Gonzalez, K. Kalchmayr, S. Kelly, K. McKnight, A. Richey, A. Robinson, E. Sloane, M. Sutula, C. Whitcraft. 2018. Wetlands on the Edge: The Future of Southern California's Wetlands: Regional Strategy 2018. Technical Report 1055. California State Coastal Conservancy. Oakland, CA.

Kacev, D., D.J. Gillett, A.F. de Carvalho, C. Cash, S. Walther, C.D. Larsen, A. Thompson, L. Thompson, N. Bowlin, K. Goodwin, E.D. Stein. 2018. Assessment of Ichthyoplankton Metabarcoding for Routine Monitoring. Technical Report 1031. Southern California Coastal Water Research Project. Costa Mesa, CA.

Stein, E.D., J. Taylor, A. Sengupta, S.M. Yarnell. 2018. Evaluating the Effect of Changes in Flow and Water Temperature on Stream Habitats and Communities in the Los Angeles/Ventura Region. Technical Report 1034. Southern California Coastal Water Research Project. Costa Mesa, CA.

Beck, M., R.D. Mazor, E.D. Stein, R. Maas, D.D. Mello, D. Bram. 2017. Mapping of Non-Perennial and Ephemeral Streams in the Santa Ana Region. Technical Report 1012. Southern California Coastal Water Research Project. Costa Mesa, CA.

Stein, E.D., K.B. Lunde, J.S. Brown. 2017. Assessment of the condition of San Francisco Bay Area depressional wetlands. Technical Report 940. Surface Water Ambient Monitoring Program. Sacramento, CA.

Safran, S., S. Baumgarten, E. Beller, J. Crooks, R. Grossinger, J. Lorda, T. Longcore, D. Bram, S. Dark, E.D. Stein, T. McIntosh. 2017. Tijuana River Valley Historical Ecology Investigation. Technical Report 967. San Francisco Estuary Institute. Richmond, CA.

Stein, E.D., R.D. Mazor, A. Sengupta, K. McCune, B. Bledsoe, S. Adams, S. Eberhart, M. Pyne, P. Ode, A. Rehn. 2017. Development of Recommended Flow Targets to Support Biological Integrity Based on Regional Flow-ecology Relationships for Benthic Macroinvertebrates in Southern California Streams. Technical Report 974. Southern California Coastal Water Research Project. Costa Mesa, CA.

Mazor, R.D., E.D. Stein. 2017. 2015 Report on the Stormwater Monitoring Coalition Regional Stream Survey. Technical Report 963. Southern California Coastal Water Research Project. Costa Mesa, CA.

Mazor, R.D., P.R. Ode, A.C. Rehn, E.D. Stein. 2017. Spatial statistical network models to estimate the spatial representativeness of bioassessment samples. Technical Report 979. Southern California Coastal Water Research Project. Costa Mesa, CA.

Mazor, R.D., J.S. Brown, E.D. Stein, J.R. Olson, M.D. Robinson, T. Clark. 2017. Assessment of Episodic Streams in the San Diego Region. Technical Report 1011. Southern California Coastal Water Research Project. Costa Mesa, CA.

Brown, J.S., E.D. Stein, C. Solek, A.E. Fetscher. 2016. Assessment of the Condition of Southern California Depressional Wetlands: Application of Macroinvertebrate, Diatom and Overall Condition Indices for Assessing Southern California Depressional Wetlands. Technical Report 921. State Water Resources Control Board Surface Water Ambient Monitoring Program. Sacramento, CA.

Stein, E.D., A. Sengupta, R.D. Mazor, K. McCune. 2016. Application of Regional Flow-ecology to Inform Management Decision in the San Diego River Watershed. Technical Report 948. Southern California Coastal Water Research Project Authority. Costa Mesa, CA.

Fetscher, A.E., K. Lunde, E.D. Stein, J.S. Brown. 2015. Standard Operating Procedures (SOP) for Collection of Macroinvertebrates, Benthic Algae, and Associated Physical Habitat Data in California Depressional Wetlands. Technical Report 832. Southern California Coastal Water Research Project Authority. Costa Mesa, CA.

Johnston, K., I. Medel, S. Anderson, E.D. Stein, C. Whitcraft, J. Crooks. 2015. Estuarine Wetland Monitoring Manual: Application and Assessment of USEPA Three-Tiered Monitoring Strategy to Southern California Coastal Wetlands. Technical Report 880. The Bay Foundation. Los Angeles, CA.

Stein, E.D., P. Pendleton, K. O'Connor, C. Endris, J. Adalaars, M. Salomon, K. Cayce, A. Jong. 2015. Demonstrating the California Wetland Status and Trends Program: A Probabilistic Approach for Estimating Statewide Aquatic Resource Extent, Distribution and Change over Time. Technical Report 859. Southern California Coastal Water Research Project Authority. Costa Mesa, CA.

Stein, E.D., K. Cayce, M. Salomon, D.L. Bram, D. De Mello, R. Grossinger, S. Dark. 2014. Wetlands of the Southern California Coast: Historical Extent and Change Over Time. Technical Report 826. Southern California Coastal Water Research Project Authority. Costa Mesa, CA.

Beller, E., S. Baumgarten, R. Grossinger, T. Longcore, E.D. Stein, S. Dark, S. Dusterhoff. 2014. Northern San Diego County Lagoons: Historical Ecology Investigation. Technical Report 831. San Francisco Estuary Institute. Richmond, CA.

Stein, E.D., J.S. Brown, K. Cayce, M. Klatt, M. Salomon, P. Pendleton, S. Dark, K. O'Connor, C. Endris. 2014. California Aquatic Resources Status and Trends Program: Mapping Methodology. Technical Report 833. Southern California Coastal Water Research Project Authority. Costa Mesa, CA.

Schiff, K.C., E.D. Stein, S. Aminzadeh, A. Boehm, G. Hildebrand, L. Honeybourne, I. Nasser, P. Ode, S. Taylor, D. Senn, J. Smith, C. Sommers, E. Strecker. 2014. Southern California Stormwater Monitoring Coalition 2014 Research Agenda. Technical Report 828. Southern California Coastal Water Research Project Authority. Costa Mesa, CA.

Stein, E.D., B. Bledsoe. 2013. Framework for Developing Hydromodification Monitoring Programs. Technical Report 752. Southern California Coastal Water Research Project. Costa Mesa, CA.

Stein, E.D., B. Bledsoe. 2013. Modeling and Managing Hydromodification Effects: Summary of Available Tools and Decision-Making Approach. Technical Report 753. Southern California Coastal Water Research Project. Costa Mesa, CA.

Tunis, L., K. Lunde, R. Payne, G. Sibbald, C. Clark, K. O'Connor, R. Clark, A. Solomesheh, C. Witham, M. Denn, C. Roberts, M. Stevens, C. Grosso, J. Collins, S. Pearce, C. Solek, E.D. Stein, C.

Harvey, D. Weixelman, P. Jones, M. Scianni. 2013. California Rapid Assessment Method for Wetlands User's Manual Version 6.1. Technical Report 788. California Wetlands Monitoring Workgroup. Sacramento, CA.

Ranasinghe, J.A., E.D. Stein, M.R. Frazier, D.J. Gillett. 2013. Development of Puget Sound Benthic Indicators. Technical Report 755. Southern California Coastal Water Research Project. Costa Mesa, CA.

Fetscher, A.E., M. Sutula, L.B. Busse, E.D. Stein. 2013. Condition of California perennial wadeable streams based on algal indicators. Technical Report 781. Southern California Coastal Water Research Project. Costa Mesa, CA.

Stein, E.D., L.G. Lackey. 2012. Technical Design for a Status & Trends Monitoring Program to Evaluate Extent and Distribution of Aquatic Resources in California. Technical Report 706. Southern California Coastal Water Research Project. Costa Mesa, CA.

Stein, E.D., F. Federico, D.B. Booth, B.P. Bledsoe, C. Bowles, Z. Rubin, G.M. Kondolf, A. Sengupta. 2012. Hydromodification Assessment and Management in California. Technical Report 667. Southern California Coastal Water Research Project. Costa Mesa, CA.

Solek, C.W., E.D. Stein. 2012. An Evaluation of Wetland Restoration Projects in Southern California using the California Rapid Assessment Method (CRAM): A Final Report to the Southern California Wetlands Recovery Project. Technical Report 659. Southern California Coastal Water Research Project. Costa Mesa, CA.

Mazor, R.D., K.C. Schiff, P. Ode, E.D. Stein. 2012. Final Report on Bioassessment in Nonperennial Streams - Report to the State Water Resources Control Board. Technical Report 695. Southern California Coastal Water Research Project. Costa Mesa, CA.

Beller, E., R. Grossinger, M. Salomon, S. Dark, E.D. Stein, B. Orr, P. Downs, T. Longcore, G. Coffman, A. Whipple, R. Askevold, B. Stanford, J. Beagle. 2011. Historical ecology of the lower Santa Clara River, Ventura River, and Oxnard Plain: an analysis of terrestrial, riverine, and coastal habitats. Technical Report 662. San Francisco Estuary Institute. Oakland, CA.

Liu, S., T. Hogue, E.D. Stein, J. Barco. 2011. Contemporary and Historical Hydrologic Analysis of the Ballona Creek Watershed. Technical Report 683. Southern California Coastal Water Research Project. Costa Mesa, CA.

Dark, S., E.D. Stein, D. Bram, J. Osuna, J. Monteferrante, T. Longcore, R. Grossinger, E. Beller. 2011. Historical Ecology of the Ballona Creek Watershed. Technical Report 671. Southern California Coastal Water Research Project. Costa Mesa, CA.

Stein, E.D., M. Cover, C. O'Reilly, J.J. Hayes, A.E. Fetscher, R. Ambrose, L.S. Fong, R. Guardado,

C. Solek, G.M. Kondolf, C. Alford, C. Zuri. 2011. Evaluation of Stream Condition Indicators for Determining Effects of Direct Hydromodification via Stream Bank Armoring. Technical Report 643. Southern California Coastal Water Research Project. Costa Mesa, CA.

Stein, E.D., K. Vyverberg, G.M. Kondolf, K. Janes. 2011. Episodic Stream Channels: Imperatives for Assessment and Environmental Planning in California - Proceedings of a Special Technical Workshop. Technical Report 645. Southern California Coastal Water Research Project. Costa Mesa, CA.

Jacobs, D.K., E.D. Stein, T. Longcore. 2011. Classification of California estuaries based on natural closure patterns: Templates for restoration and management (Revised). Technical Report 619.A. Southern California Coastal Water Research Project. Costa Mesa, CA.

Hawley, R.J., B.P. Bledsoe, E.D. Stein. 2011. Hydromodification Effects on Flow Peaks and Durations in Southern California Urbanizing Watersheds. Technical Report 654. Southern California Coastal Water Research Project. Costa Mesa, CA.

Mazor, R.D., D.J. Gillett, K.C. Schiff, K. Ritter, E.D. Stein. 2011. Ecological Condition of Watersheds in Coastal Southern California: Progress Report of the Stormwater Monitoring Coalition's Stream Monitoring Program First Year (2009). Technical Report 639. Southern California Coastal Water Research Project. Costa Mesa, CA.

Grossinger, R., E.D. Stein, K. Cayce, R. Askevold, S. Dark, A. Whipple. 2011. Historical Wetlands of the Southern California Coast: An Atlas of US Coast Survey T-sheets, 1851-1889. Technical Report 589. San Francisco Estuary Institute. Richmond, CA.

Booth, D.B., S.R. Dusterhoff, E.D. Stein, B.P. Bledsoe. 2010. Hydromodification Screening Tools: GIS-based catchment analyses of potential changes in runoff and sediment discharge. Technical Report 605. Southern California Coastal Water Research Project. Costa Mesa, CA.

Bledsoe, B.P., R.J. Hawley, E.D. Stein, D.B. Booth. 2010. Hydromodification Screening Tools: Field Manual (Appendix A). Technical Report 606.A. Southern California Coastal Water Research Project. Costa Mesa, CA.

Bledsoe, B.P., R.J. Hawley, E.D. Stein, D.B. Booth. 2010. Hydromodification Screening Tools: Field Manual (Appendix B). Technical Report 606.B. Southern California Coastal Water Research Project. Costa Mesa, CA.

Bledsoe, B.P., R.J. Hawley, E.D. Stein, D.B. Booth. 2010. Hydromodification Screening Tools: Field manual for assessing channel susceptibility. Technical Report 606. Southern California Coastal Water Research Project. Costa Mesa, CA.

Bledsoe, B.P., R.J. Hawley, E.D. Stein, D.B. Booth. 2010. Hydromodification Screening Tools:

Technical Basis (Appendix A). Technical Report 607.A. Southern California Coastal Water Research Project. Costa Mesa, CA.

Bledsoe, B.P., R.J. Hawley, E.D. Stein, D.B. Booth. 2010. Hydromodification Screening Tools: Technical Basis (Appendix B). Technical Report 607.B. Southern California Coastal Water Research Project. Costa Mesa, CA.

Bledsoe, B.P., R.J. Hawley, E.D. Stein, D.B. Booth. 2010. Hydromodification Screening Tools: Technical Basis (Appendix C). Technical Report 607.C. Southern California Coastal Water Research Project. Costa Mesa, CA.

Bledsoe, B.P., R.J. Hawley, E.D. Stein, D.B. Booth. 2010. Hydromodification Screening Tools: Technical basis for development of a field screening tool for assessing channel susceptibility to hydromodification. Technical Report 607. Southern California Coastal Water Research Project. Costa Mesa, CA.

Jacobs, D., E.D. Stein, T. Longcore. 2010. Classification of California estuaries based on natural closure patterns: Templates for restoration and management. Technical Report 619. Southern California Coastal Water Research Project. Costa Mesa, CA.

Stein, E.D., J.S. Brown. 2009. Effects of post-fire runoff on surface water quality: Development of a southern California regional monitoring program with management questions and implementation recommendations. Technical Report 598. Southern California Coastal Water Research Project. Costa Mesa, CA.

Stein, E.D., J.S. Brown. 2009. Effects of post-fire runoff on surface water quality: Development of a southern California regional monitoring program with management questions and implementation recommendations (Appendix A). Technical Report 598.A. Southern California Coastal Water Research Project. Costa Mesa, CA.

Sutula, M., J.N. Collins, R. Clark, C. Roberts, E.D. Stein, C. Grosso, A. Wiskind, C. Solek, M. May, K. O'Connor, E. Fetscher, J.L. Grenier, S. Pearce, A. Robinson, C. Clark, K. Rey, S. Morrissette, A. Eicher, R. Pasquinelli, K. Ritter. 2008. California's Wetland Demonstration Program Pilot - A Final Project Report to the California Resources Agency. Technical Report 572. Southern California Coastal Water Research Project. Costa Mesa, CA.

Sutula, M., J.N. Collins, R. Clark, C. Roberts, E.D. Stein, C. Grosso, A. Wiskind, C. Solek, M. May, K. O'Connor, E. Fetscher, J.L. Grenier, S. Pearce, A. Robinson, C. Clark, K. Rey, S. Morrissette, A. Eicher, R. Pasquinelli, K. Ritter. 2008. California's Wetland Demonstration Program Pilot - A Final Project Report to the California Resources Agency (Appendix 1). Technical Report 572.1. Southern California Coastal Water Research Project. Costa Mesa, CA.

Sutula, M., J.N. Collins, R. Clark, C. Roberts, E.D. Stein, C. Grosso, A. Wiskind, C. Solek, M. May, K. O'Connor, E. Fetscher, J.L. Grenier, S. Pearce, A. Robinson, C. Clark, K. Rey, S. Morrisette, A. Eicher, R. Pasquinelli, K. Ritter. 2008. California's Wetland Demonstration Program Pilot - A Final Project Report to the California Resources Agency (Appendix 2). Technical Report 572.2. Southern California Coastal Water Research Project. Costa Mesa, CA.

Tiefenthaler, L.L., E.D. Stein, G.S. Lyon. 2008. Fecal Indicator Bacteria (FIB) levels during dry weather from southern California reference streams. Technical Report 542. Southern California Coastal Water Research Project. Costa Mesa, CA.

Bledsoe, B., R. Hawley, E.D. Stein. 2008. Stream channel classification and mapping systems: implications for assessing susceptibility to hydromodification effects in southern California. Technical Report 562. Southern California Coastal Water Research Project. Costa Mesa, CA.

Stein, E.D., D. Ackerman. 2007. Hydrodynamic modeling of the San Gabriel River estuary. Technical Report 511. Southern California Coastal Water Research Project. Costa Mesa, CA.

Stein, E.D., M. Sutula, R. Clark, A. Wiskind, J. Collins. 2007. Improving monitoring and assessment of wetland and riparian areas in California through implementation of a Level 1, 2, 3 framework. Technical Report 555. Southern California Coastal Water Research Project. Costa Mesa, CA.

Rosenberger, K.J., J. Xu, E.D. Stein, M.A. Noble, A.L. Gartner. 2007. Circulation and physical processes within the San Gabriel River estuary during summer 2005. Technical Report 501. U.S. Geological Survey. Reston, VA.

Stein, E.D., S. Dark, T. Longcore, N. Hall, M. Beland, R. Grossinger, J. Casanova, M. Sutula. 2007. Historical ecology and landscape change of the San Gabriel River and floodplain. Technical Report 499. Southern California Coastal Water Research Project. Costa Mesa, CA.

Stein, E.D., S. Dark, T. Longcore, N. Hall, M. Beland, R. Grossinger, J. Casanova, M. Sutula. 2007. Historical ecology and landscape change of the San Gabriel River and floodplain (Appendices A-C). Technical Report 499.A. Southern California Coastal Water Research Project. Costa Mesa, CA.

Stein, E.D., V.K. Yoon. 2007. Assessment of water quality concentrations and loads from natural landscapes. Technical Report 500. Southern California Coastal Water Research Project. Costa Mesa, CA.

Stein, E.D., L.L. Tiefenthaler, K.C. Schiff. 2007. Sources, patterns and mechanisms of storm water pollutant loading from watersheds and land uses of the greater Los Angeles area, California, USA. Technical Report 510. Southern California Coastal Water Research Project. Costa Mesa, CA.

Nezlin, N.P., K. Kamer, E.D. Stein, A. Carr, J. Hyde. 2006. Relationship between dissolved oxygen and macroalgal distribution in Upper Newport Bay. Technical Report 494. Southern California

Coastal Water Research Project. Westminster, CA.

Sutula, M., E.D. Stein, E. Inlander. 2006. Evaluation of a method to cost-effectively map riparian areas in southern California Coastal Watersheds. Technical Report 480. Southern California Coastal Water Research Project. Westminster, CA.

Collins, J.N., M. Sutula, E.D. Stein, M. Odaya, E. Zhang, K. Larned. 2006. Comparison of methods to map California riparian areas. Technical Report 502. San Francisco Estuary Institute. Oakland, CA.

Stein, E.D., S. Zaleski. 2006. Managing runoff to protect natural streams: the latest developments on investigation and management of hydromodification in California. Technical Report 475. Southern California Coastal Water Research Project. Westminster, CA.

Coleman, D., C. MacRae, E.D. Stein. 2005. Effect of increases in peak flows and imperviousness on the morphology of southern California streams (Appendix A - Borrego Canyon & Serrano Creek Map). Technical Report 450.A4. Southern California Coastal Water Research Project. Westminster, CA.

Coleman, D., C. MacRae, E.D. Stein. 2005. Effect of increases in peak flows and imperviousness on the morphology of southern California streams (Appendix A - Dry Canyon Map). Technical Report 450.A6. Southern California Coastal Water Research Project. Westminster, CA.

Coleman, D., C. MacRae, E.D. Stein. 2005. Effect of increases in peak flows and imperviousness on the morphology of southern California streams (Appendix A - Hasley Canyon Map). Technical Report 450.A2. Southern California Coastal Water Research Project. Westminster, CA.

Coleman, D., C. MacRae, E.D. Stein. 2005. Effect of increases in peak flows and imperviousness on the morphology of southern California streams (Appendix A - Hicks Canyon Wash Map). Technical Report 450.A7. Southern California Coastal Water Research Project. Westminster, CA.

Coleman, D., C. MacRae, E.D. Stein. 2005. Effect of increases in peak flows and imperviousness on the morphology of southern California streams (Appendix A - Plum Canyon Map). Technical Report 450.A3. Southern California Coastal Water Research Project. Westminster, CA.

Coleman, D., C. MacRae, E.D. Stein. 2005. Effect of increases in peak flows and imperviousness on the morphology of southern California streams (Appendix A - Santiago Creek Map). Technical Report 450.A5. Southern California Coastal Water Research Project. Westminster, CA.

Coleman, D., C. MacRae, E.D. Stein. 2005. Effect of increases in peak flows and imperviousness on the morphology of southern California streams (Appendix A - Topanga Creek Map). Technical Report 450.A1. Southern California Coastal Water Research Project. Westminster, CA.

Coleman, D., C. MacRae, E.D. Stein. 2005. Effect of increases in peak flows and imperviousness on the morphology of southern California streams (Appendix A). Technical Report 450.A. Southern California Coastal Water Research Project. Westminster, CA.

Coleman, D., C. MacRae, E.D. Stein. 2005. Effect of increases in peak flows and imperviousness on the morphology of southern California streams (Appendix B1). Technical Report 450.B1. Southern California Coastal Water Research Project. Westminster, CA.

Coleman, D., C. MacRae, E.D. Stein. 2005. Effect of increases in peak flows and imperviousness on the morphology of southern California streams (Appendix B2). Technical Report 450.B2. Southern California Coastal Water Research Project. Westminster, CA.

Coleman, D., C. MacRae, E.D. Stein. 2005. Effect of increases in peak flows and imperviousness on the morphology of southern California streams (Appendix C). Technical Report 450.C. Southern California Coastal Water Research Project. Westminster, CA.

Coleman, D., C. MacRae, E.D. Stein. 2005. Effect of increases in peak flows and imperviousness on the morphology of southern California streams. Technical Report 450. Southern California Coastal Water Research Project. Westminster, CA.

Stein, E.D., L.L. Tiefenthaler. 2004. Characterization of dry weather metals and bacteria in Ballona Creek. Technical Report 427. Southern California Coastal Water Research Project. Westminster, CA.

Kamer, K., E.D. Stein. 2003. Dissolved oxygen concentration as a potential indicator of water quality in Newport Bay: A review of scientific research, historical data, and criteria development. Technical Report 411. Southern California Coastal Water Research Project. Westminster, CA.

Busse, L., J. Simpson, S. Cooper, K. Kamer, E.D. Stein. 2003. A survey of algae and nutrients in the Malibu Creek Watershed. Technical Report 412. Southern California Coastal Water Research Project. Westminster, CA.

Stein, E.D., D. Ackerman, K.C. Schiff. 2003. Watershed-based sources of contaminants to San Pedro Bay and Marina del Rey: Patterns and trends. Technical Report 413. Southern California Coastal Water Research Project. Westminster, CA.

Sutula, M., E.D. Stein. 2003. Habitat value of natural and constructed wetlands used to treat urban runoff: A literature review. Technical Report 388. Southern California Coastal Water Research Project. Westminster, CA.

Annual Report Articles

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.

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.

Stein, E.D., V.K. Yoon. 2007. Dry-weather flow contribution of metals, nutrients, and solids from natural catchments.

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.

Ackerman, D., E.D. Stein, K.C. Schiff. 2004. Dry-season water quality in the San Gabriel River Watershed.

Steinberger, A., E.D. Stein. 2004. Characteristics of effluents from power generating stations in the Southern California Bight in 2000.

Steinberger, A., E.D. Stein. 2004. Effluent discharges to the Southern California Bight from large municipal wastewater treatment facilities in 2001 and 2002.

Nezlin, N.P., E.D. Stein. 2004. Spatial and temporal patterns of remote-sensed and field-measured rainfall in southern California.

Stein, E.D., L.L. Tiefenthaler. 2004. Characterization and source identification of dry-weather metals and bacteria in Ballona Creek.

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

Steinberger, A., E.D. Stein, K.C. Schiff. 2003. Characteristics of dredged material disposal to the Southern California Bight between 1991 and 1997.