Dr. David Gillett

Ecologist
Biology Department
Southern California Coastal Water Research Project

Education

Ph.D., marine science, The College of William and Mary, 2010

M.S., marine biology, University of Charleston, 2003

B.S., marine science, Eckerd College, 1997

Professional Experience

Senior Scientist, Southern California Coastal Water Research Project, Costa Mesa, CA 2017-present

Scientist, Southern California Coastal Water Research Project. Costa Mesa, CA. 2010-2017

Graduate Research Fellow, Chesapeake Bay National Estuarine Research Reserve of Virginia. Gloucester Point, VA. 2006-2008

Graduate Fellow, Virginia Institute of Marine Science. Gloucester Point, VA. 2003-2006; 2008-2010

Research Assistant, South Carolina Department of Natural Resources. Charleston, SC. 1999-2003

Teaching Assistant, College of Charleston. Charleston, SC. 1998-1999

Professional Appointments

Associate Editor Estuaries and Coasts (2025-present)

NERRS Catalyst proposal review panel (2025)

CERF International committee (2024-2025)

NOAA Nearshore SAVE Project Workshop (2024)

Alabama Center of Excellence RESTORE Act proposal review panel (2023)

Washington Department of Ecology Benthic Index Technical Advisory Group (2022-2023)

UC Santa Barbra-RESON Coastal Monitoring workshop (2021)

Alabama Center of Excellence RESTORE Act proposal review panel (2021)

Osmar Roberto Araujo Leyva dissertation committee Universidad Autonoma de Baja California (2019-2022)

NOAA NCCOS Best Practices for Deep Sea Coral Distribution Modelling Workshop (2019)

Kenny McCune thesis committee California State University, Long Beach (2018-present)

U.S. Army Corps of Engineers East San Pedro Bay Ecosystem Restoration Study Habitat Technical Advisory Commission (2016-present)

U.S. Environmental Protection Agency National Coastal Condition Assessment Program Great Lakes Benthic Indicator Development Workshop panel (2016)

National Oceanic and Atmospheric Administration RESTORE Act Science Program proposal review panel (2015)

Honors and Awards

National Estuarine Research Reserve Graduate Research Fellowship (2006-2008)
Program Chair, Atlantic Estuarine Research Society (2006-2007)
Best Student Poster Presentation, Atlantic Estuarine Research Society Spring Conference (2006)
Outstanding Student Presentation, Estuarine Research Federation Conference (2005)
Outstanding Graduate Student Award, University of Charleston (Spring 2003)
Virginia Institute of Marine Science Graduate Fellowship (2003-2005)

Professional Societies and Certifications

Association for the Sciences of Limnology and Oceanography
California Estuarine Research Society
Coastal and Estuarine Research Federation

Estuarine and Coastal Sciences Association
Society of Environmental Chemistry and Toxicology
Society of Freshwater Science
Southern California Association of Marine Taxonomists

Selected Presentations and Conference Proceedings

Gillett, D.J., J. Tupitza, C. Whitcraft, and C. Blanch. Regional Assessment of the Condition and Quality of Eelgrass Across the Southern California Bight. Presentation at Coastal Estuarine Research Federation in Richmond, VA.

Gillett, D.J. 2024. Assessing the Condition of Seagrasses Through the Lens of Ecosystem Services. NOAA Nearshore SAVE Project Meeting, Sausalito, CA

Gillett, D.J. 2023. The evolution of causal assessment in California. Presentation to US EPA National Biocriteria webinar series.

Gillett, D.J., K. McCune, E. Stein, and C. Whitcraft. 2020. A conceptual framework and sampling methodology for bioassessment in eelgrass (*Zostera marina*) beds in California's estuaries. Presentation at California Bioassessment Workshop, Virtual.

Gillett, D.J., S. Weisberg, M. O'Mahoney, and C. Meyer. 2019. Choose your weapon: comparing the identification of benthic infauna via eDNA, single-specimen barcodes, and morphology. Presentation at the Coastal and Estuarine Research Federation in Mobile, AL.

Gillett, D.J. 2018. A New Generation of Bioassessment Tools: Pursing next steps of rocky intertidal health indices. Invited presentation at MARINE Annual Meeting.

Gillett, D.J., and S. Bay. 2017. Developing a causal assessment framework for stressor identification in marine and estuarine systems. Presentation at the Coastal and Estuarine Research Federation in Providence, RI.

Gillett, D.J., and G. Sharp. 2017. Developing a Screening Causal Assessment Framework for California's Waters. Invited Presentation at SWAMP Data Science Symposium

Gillett, D.J. and K.C. Schiff. 2016. Changes in Condition and Composition of Channel Islands Macrobenthic Communities. Presentation at the California Islands Symposium in Ventura, CA.

Gillett, D.J. 2015. Building better bioassessment with ecogenomics. Invited seminar at City of San Diego Ocean Monitoring Division in San Diego, CA.

Gillett, D.J. 2012. Causal Assessment in California: Concepts, Case Studies, and a Vision for its Future Application. Invited talk at California Bioassessment Workshop. Sacramento, CA.

Gillett, D.J. 2008. Measuring pollution and its effects in estuaries and coastal waters: A review. Invited seminar at the KORDI South Sea Research Institute. Jangmok, South Korea.

Journal Articles

Gillett, D.J., R.D. Mazor, M. Sutula, A. Holt. 2024. Reach-scale models show heterogeneity of stream benthic invertebrate responses to eutrophication stress. *Ecological Indicators* 160:111791.

Gillett, D.J., S.B. Weisberg, S.R. Alin, D. Cadien, R. Velarde, K. Barwick, C. Larsen, A. Latker. 2023. Changes in the macrobenthic infaunal community of the Southern California continental margin over five decades in relation to oceanographic factors. *Marine Ecology Progress Series* 722:65-88.

Simons, A.L., N. Aulerich, H. Carlson, I. Chandra, J. Chancellor, G. Gemayel, D.J. Gillett, D. Levene, J. Lin, G. Nichol, H. Patel, S. Zhu. 2023. Using Zeta Diversity in Describing the Health of Soft Sediment Benthic Macroinvertebrates in the Southern California Bight. *Journal of Coastal Research* 39:418-430.

Walker, J.B., D.J. Gillett, M. Sutula. 2022. Establishing biologically relevant sediment organic matter thresholds for estuaries and embayments of the Southern California Bight, USA. *Ecological Indicators* 143:1-12.

Gillett, D.J., L. Gilbane, K.C. Schiff. 2021. Characterizing Community Structure of Benthic Infauna From the Continental Slope of the Southern California Bight. *Frontiers in Marine Science* DOI:10.3389/fmars.2021.605858/full.

Gillett, D.J., L. Gisbane, K.C. Schiff. 2020. Benthic habitat condition of the continental shelf surrounding oil and gas platforms in the Santa Barbara Channel, Southern California. *Marine Pollution Bulletin* DOI:10.1016/j.marpolbul.2020.111662.

Winship, A.J., J.T. Thorson, M.E. Clarke, H.M. Coleman, B. Costa, S.E. Georgian, D.J. Gillett, A. Gruss, M.J. Henderson, T.F. Hourigan, D.D. Huff, N. Kreidler, J.L. Pirtle, J.V. Olson, M. Poti, C.N. Rooper, M.F. Sigler, S. Veihman, C.E. Whitmire. 2020. Good Practices for Species Distribution Modeling of Deep-Sea Corals and Sponges for Resource Management: Data Collection, Analysis, Validation, and Communication. *Frontiers in Marine Science* DOI:10.3389/fmars.2020.00303.

Beck, M.W., C. O'Hara, J.S. Stewart-Lowndes, R.D. Mazor, S. Theroux, D.J. Gillett, B. Lane, G.

Gearheart. 2020. The importance of open science for biological assessment of aquatic environments. *PeerJ* DOI:10.7717/peerj.9539.

Gillett, D.J., R.D. Mazor, S.B. Norton. 2019. Selecting comparator sites for ecological causal assessment based on expected biological similarity. *Freshwater Science* 38:554-565.

Lyon, K., D. Kacev, A. Preti, D.J. Gillett, H. Dwar, S. Kohin. 2019. Species-Specific Characteristics Influence Contaminant Accumulation Trajectories and Signatures Across Ontogeny in Three Pelagic Shark Species. *Environmental Science & Technology* DOI:10.1021/acs.est.8b07355.

Pelletier, M.C., D.J. Gillett, A. Hamilton, T. Grayson, V. Hansen, E.W. Leppo, S.B. Weisberg, A. Borja. 2018. Adaptation and application of multivariate AMBI (M-AMBI) in US coastal waters. *Ecological Indicators* 89:818-827.

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.

Gillett, D.J., S.B. Weisberg, T. Grayson, A. Hamilton, V. Hansen, E.W. Leppo, M.C. Pelletier, A. Borja, D. Cadien, D. Dauer, R. Diaz, M. Dutch, J.L. Hyland, M. Kellogg, P.F. Larsen, J.S. Levinton, R. Llanso, L.L. Lovell, P.A. Montagna, D. Pasko, C.A. Phillips, C. Rakocinski, J.A. Ranasinghe, D.M. Sanger, H. Teixeira, R.F. Van Dolah, R.G. Velarde, K.I. Welch. 2015. Effect of ecological group classification schemes on performance of the AMBI benthic index in US coastal waters. *Ecological Indicators* 50:99-107.

Schiff, K.C., D.J. Greenstein, N. Dodder, D.J. Gillett. 2015. Southern California Bight regional monitoring. *Regional Studies in Marine Science* 4:34-46.

Gillett, D.J., D.J. Pondella II, J. Freiwald, K.C. Schiff, J.E. Caselle, C. Shuman, S.B. Weisberg. 2012. Comparing volunteer and professionally collected monitoring data from the rocky subtidal reefs of Southern California, USA. *Environmental Monitoring and Assessment* 184:3239-3257.

Technical Reports

Tupitza, J., D.J. Gillett, A. Le Compte Santiago, J.B. Walker, C. Whitcraft, H. Lyford. 2026. Southern California Bight 2023 Regional Monitoring Program: Volume VIII. Submerged Aquatic Vegetation (SAV). Technical Report 1488. Southern California Coastal Water Research Project. Costa Mesa, CA.

Gillett, D.J., W. Enright. 2026. Southern California Bight 2023 Regional Monitoring Program: Volume III. Benthic Infauna. Technical Report 1486. Southern California Coastal Water Research Project. Costa Mesa, CA.

Gillett, D.J., C.R. Whitcraft, C. Blanch, A. Le Compte Santiago, E.D. Stein, J. Tupitza. 2026. A Regional Assessment of the Condition and Quality of Southern California's Eelgrass (Zostera marina) Habitat from the Perspective of Ecosystem Services. Technical Report 1471. Southern California Coastal Water Research Project. Costa Mesa, CA.

Mazor, R.D., K. Irving, D.J. Gillett, J.S. Brown, A. Santana. 2025. Improving biointegrity in engineered channels. Technical Report 1437. Southern California Coastal Water Research Project. Costa Mesa, CA.

Gillett, D.J., A. Holt. 2023. Options, Impediments, and Supports for the Development of an Eelgrass (Zostera marina) Habitat Occupancy Model in the Embayments of Southern California. Technical Report 1334. Southern California Coastal Water Research Project. Costa Mesa, CA.

Gillett, D.J., R.D. Mazor, A.E. Holt, R. Darling, R. Butler. 2023. Instructions for Application of the Rapid Screening Causal Assessment (RSCA) Tools v 2.0 in California's Streams. Technical Report 1310. Southern California Coastal Water Research Project. Costa Mesa, CA.

Gillett, D.J., W. Enright, J.B. Walker. 2022. Southern California Bight 2018 Regional Monitoring Program: Volume III. Benthic Infauna. Technical Report 1289. Southern California Coastal Water Research Project. Costa Mesa, CA.

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

Bay, S.M., D.J. Greenstein, A.N. Parks, D.J. Gillett, W. Lao, D.W. Diehl. 2021. Sediment Quality Assessment Technical Support Manual. Technical Report 777. Southern California Coastal Water Research Project. Costa Mesa, CA.

Henkel, S.K., L. Gilbane, A.J. Phillips, D.J. Gillett. 2020. Cross-Shelf Habitat Suitability Modeling for Benthic Macrofauna. Technical Report 1173. U.S. Department of the Interior, Bureau of Ocean Energy Management. Camarillo, CA.

Poti, M., S.K. Henkel, J.J. Bizzarro, T.F. Hourigan, M.E. Clarke, C.E. Whitmire, A. Powell, M.M. Yoklavich, L. Bauer, A.J. Winship, M. Coyne, D.J. Gillett, L. Gilbane, J. Christensen, C.F.G. Jeffrey. 2020. Cross-Shelf Habitat Suitability Modeling: Characterizing Potential Distributions of Deep-Sea Corals, Sponges, and Macrofauna Offshore of the US West Coast. Technical Report 1171. U.S.

Department of the Interior, Bureau of Ocean Energy Management. Camarillo, 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.

Gillett, D.J., L. Gisbane, K.C. Schiff. 2019. Benthic Infauna of the Southern California Bight Continental Slope: Characterizing Community Structure for the Development of an Index of Disturbance. Technical Report 1096. US Department of the Interior, Bureau of Ocean Energy Management. Camarillo, CA.

Gillett, D.J., A.N. Parks, S.M. Bay. 2019. Calibration of the Multivariate AZTI Marine Biotic Index (M-AMBI) for Potential Inclusion into California Sediment Quality Objective Assessments in San Francisco Bay. Technical Report 1070. San Francisco Estuary Institute. Richmond, 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.

Gillett, D.J., L.L. Lovell, K.C. Schiff. 2017. Southern California Bight 2013 Regional Monitoring Program: Volume VI. Benthic Infauna. Technical Report 971. Southern California Coastal Water Research Project. Costa Mesa, CA.

Sutula, M., D.J. Gillett, A. Jones. 2016. Status of Eutrophication in San Elijo Lagoon and its Relevance for Restoration. Technical Report 938. Southern California Coastal Water Research Project. Costa Mesa, CA.

Schiff, K.C., D.J. Gillett, A. Rehn, M. Paul. 2015. Causal Assessment Evaluation and Guidance for California. Technical Report 750. Southern California Coastal Water Research Project. Costa Mesa, CA.

Schiff, K.C., D.J. Gillett, A. Rehn, M. Paul. 2015. Causal Assessment Evaluation and Guidance for California (Appendix A). Technical Report 750.A. Southern California Coastal Water Research Project Authority. Costa Mesa, CA.

Schiff, K.C., D.J. Gillett, A. Rehn, M. Paul. 2015. Causal Assessment Evaluation and Guidance for California (Appendix B). Technical Report 750.B. Southern California Coastal Water Research Project Authority. Costa Mesa, CA.

Schiff, K.C., D.J. Gillett, A. Rehn, M. Paul. 2015. Causal Assessment Evaluation and Guidance for California (Appendix C). Technical Report 750.C. Southern California Coastal Water Research Project Authority. Costa Mesa, CA.

Schiff, K.C., D.J. Gillett, A. Rehn, M. Paul. 2015. Causal Assessment Evaluation and Guidance for California (Appendix D). Technical Report 750.D. Southern California Coastal Water Research Project Authority. Costa Mesa, 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.

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.

Annual Report Articles

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.

Gillett, D.J., D.J. Pondella II, K.C. Schiff, J. Freiwald, J.E. Casselle, C. Shuman, S.B. Weisberg. 2010. Comparing volunteer and professionally collected monitoring data from subtidal rocky reefs in southern California.