

Dr. Steve Weisberg

Executive Director

Administration

Southern California Coastal Water Research Project

Education

Ph.D., biology, University of Delaware, 1981

B.G.S., University of Michigan, 1974

Professional Experience

Executive Director, Southern California Coastal Water Research Project Authority. Costa Mesa, CA. 1996-present

Manager, Monitoring and Field Operations, Versar, Inc. Columbia, MD. 1987-1996

Scientist, Martin Marietta Environmental Systems. Baltimore, MD. 1981-1987

Visiting Assistant Professor, West Chester State University. West Chester, PA. 1980

Research Assistant, University of Delaware. Newark, DE. 1978-1981

Teaching Assistant, University of Delaware. Newark, DE. 1976-1977

Hydrologic Field Assistant, US Geological Survey. Doraville, GA. 1975

Tour Guide, University of Michigan Museum of Natural History. Ann Arbor, MI. 1973-1974

Honors and Awards

US Environmental Protection Agency Level II Scientific and Technological Achievement Award, 2013

US Department of the Interior Partners in Conservation Award, 2012 University of Delaware Distinguished Alumnus Award 2006

Tibor T. Polgar Award for Research Excellence 1990

Delaware Sea Grant Award for Outstanding Doctoral Research 1981

Best Student Paper Award - Atlantic Estuarine Research Society 1981

Dean's List, University of Michigan 1972, 1973

Sigma Xi

Professional Appointments

US EPA Board of Scientific Counselors Safe and Sustainable Water Resources Committee (2018-Present)

California Ocean Acidification Task Force (Chair 2018-Present)

California Ocean Protection Council Scientific Advisory Team (2008-Present; Co-Chair 2009)

California Ocean Protection Council's Acidification and Hypoxia Science Panel (2013-Present)

California Current Acidification Network Steering Committee (Chair, 2013-Present)

California Water Quality Monitoring Council (2008-Present)

California Sea Grant Advisory Board (2011-Present)

University of Southern California Sea Grant Advisory Board (1998-Present)

California Clean Beach Task Force (2001-Present)

Standard Methods Committee - Biological Examination, American Water Works Association (2012-Present)

Ocean Acidification International Reference User Group, Ocean Acidification International Coordination Centre (2013-Present)

National Association of Marine Laboratories Board of Directors (2014- Present)

Western Association of Marine Laboratories Board of Directors (2013-Present, President 2015-Present)

Chapman University School of Earth and Environmental Science Advisory Council (2013-2015)

California Ocean Science Trust Governing Board (2007-2014; Chair 2009-2011)

NOAA Science Advisory Board Ocean and Human Health Workgroup (Chair, 2009-2010)

US EPA Board of Scientific Counselors Water Quality Committee (2006-2009)

US EPA Science Advisory Board Report on the Environment Committee (2010)

Hollings Marine Laboratory Scientific Advisory Committee (Chair, 2011-2012)

California South Coast Marine Life Protection Act Science Advisory Team (2008-2009)

Alliance for Coastal Technologies Governing Board (Chair, 2010-2012)

Alliance for Coastal Technologies Stakeholders Council (2001-2009)

Ocean Research and Resources Advisory Panel (2003-2007; Vice-chair 2005-2007)

Ocean Research and Resources Advisory Panel - Ocean Observations Committee (2008-2010)

National Science and Technology Council Joint Subcommittee on Ocean Science and Technology (Ex-officio 2005-2007)

US Global Ocean Observing System Steering Committee (1998-2006;Vice-Chair 2003-2006)

Hollings Marine Laboratory Oceans and Human Health Scientific Advisory Committee (2004)

Center for Integrated Coastal Observation, Research and Education Advisory Council (2003-2006)

Southern California Wetlands Recovery Program Science Advisory Panel (1999-2005; Chair 1999-2003)

Southern California Coastal Ocean Observing System Governing Board (2005-Present)

Southern California Regional Monitoring Steering Committee (Co-chair 1993-1997; Chair 1997-Present)

Carolinas Coastal Ocean Observing and Predicting System Scientific Advisory Committee (Chair 2003-2005)

San Francisco Estuary Institute Ecological Effects Review Panel (2007-Present)

San Francisco Estuary Institute Regional Monitoring Program Review Panel (2003)

National Academy of Sciences Indicators of Waterborne Pathogens Panel (2002-2004)

Heinz Center State of the Nation's Ecosystems Coasts and Oceans Workgroup (1999-2002)

Center for Environmental Analysis External Advisory Board (2003-2005)

Adjunct Professor, California State University, Long Beach (1997-2000)

Adjunct Associate Professor, University of Maryland (1986-1995)

Ohio River Basin Commission Committee on Hydroelectric Licensing and Legislation (1983)

Interstate Commission for the Potomac River Basin Instream Flow Committee (1983-1986)

National Estuary Program Technical Advisory Committees:

Delaware Estuary Program (1993-1996)

New York/New Jersey Harbor Estuary Program (1994-1996)

Santa Monica Bay Restoration Program (1996-2002)

Journal Articles

Nezlin, N.P., C. Beegan, A. Feit, J.R. Gully, A. Latker, K. McLaughlin, M.J. Mengel, G.L. Robertson, A. Steele, S.B. Weisberg. 2020. Colored Dissolved Organic Matter (CDOM) as a tracer of effluent plumes in the coastal ocean. *Regional Studies in Marine Science*
DOI:10.1016/j.rsma.2020.101163.

Bednarsek, N., R.A. Feely, E.L. Howes, B.P.V. Hunt, F. Kessouri, P. Leon, R. Lischka, A.E. Maas, K. McLaughlin, N.P. Nezlin, M. Sutula, S.B. Weisberg. 2019. Systematic Review and Meta-Analysis Toward Synthesis of Thresholds of Ocean Acidification Impacts on Calcifying Pteropods and Interactions With Warming. *Frontiers in Marine Science* 6:227.

McLaughlin, K., N.P. Nezlin, S.B. Weisberg, A.G. Dickson, J.A.T. Booth, C.L. Cash, A. Feit, J.R. Gully, M.D.A. Howard, S. Johnson, A. Latker, M.J. Mengel, G.L. Robertson, A. Steele, L. Terriquez. 2018. Seasonal patterns in aragonite saturation state on the southern California continental shelf. *Continental Shelf Research* 167:77-86.

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.

Saarman, E.T., B. Owens, S.N. Murray, S.B. Weisberg, R.F. Ambrose, J.C. Field, K.J. Nielsen, M.H. Carr. 2018. An Ecological Framework for Informing Permitting Decisions on Scientific Activities in Protected Areas. *Ecological Applications* 13:e0199126.

Nezlin, N.P., K. McLaughlin, J.A.T. Booth, C.L. Cash, D.W. Diehl, K.A. Davis, A. Feit, R. Goericke, J.R. Gully, M.D.A. Howard, S. Johnson, A. Latker, M.J. Mengel, G.L. Robertson, A. Steele, L. Terriquez, L. Washburn, S.B. Weisberg. 2018. Spatial and Temporal Patterns of Chlorophyll Concentration in the Southern California Bight. *Journal of Geophysical Research: Oceans* 123:231-245.

Arnold, B.F., K.C. Schiff, A. Ercumen, J. Benjamin-Chung, J.A. Steele, J.F. Griffith, S.J. Steinberg, P.D. Smith, C.D. McGee, R. Wilson, C. Nelsen, S.B. Weisberg, J.M. Colford Jr. 2017. Acute Illness Among Surfers After Exposure to Seawater in Dry- and Wet-Weather Conditions. *American Journal of Epidemiology* 186:866-875.

Cao, Y., M.R. Raith, P.D. Smith, J.F. Griffith, S.B. Weisberg, A. Schriewer, A. Sheldon, C. Crompton, G.G. Amenu, J. Gregory, J. Guzman, K.D. Goodwin, L. Othman, M. Manasjan, S. Choi, S. Rapoport, S. Steele, T. Nguyen, X. Yu. 2017. Regional Assessment of Human Fecal Contamination in Southern California Coastal Drainages. *International Journal of Environmental Research and Public Health* 14:874.

Benjamin-Chung, J., B.F. Arnold, T.J. Wade, K.C. Schiff, J.F. Griffith, A.P. Dufour, S.B. Weisberg, J.M. Colford Jr. 2017. Coliphages and gastrointestinal illness in recreational waters: pooled analysis of six coastal beach cohorts. *Epidemiology* 28:644-652.

McLaughlin, K., N.P. Nezlin, S.B. Weisberg, A.G. Dickson, J.A. Booth, C.L. Cash, A. Feit, J.R. Gully, S. Johnson, A. Latker, M.J. Mengel, G.L. Robertson, A. Steele, L. Terriquez. 2017. An evaluation of potentiometric pH sensors in coastal monitoring applications. *Limnology and Oceanography: Methods* 15:679-689.

McLaughlin, K., A. Dickson, S.B. Weisberg, K. Coale, V. Elrod, C. Hunter, K.S. Johnson, S. Kram, R. Kudela, T. Martz, K. Negrey, U. Passow, F. Shaughnessy, J.E. Smith, D. Tadesse, L. Washburn, K.R. Weis. 2017. An evaluation of ISFET sensors for coastal pH monitoring applications. *Regional Studies in Marine Science* 12:11-18.

Cao, Y., M. Sivaganesan, C.A. Kelty, D. Wang, A. Boehm, J.F. Griffith, S.B. Weisberg, O.C. Shanks. 2017. A human fecal contamination score for ranking recreational sites using the HF183/BacR287 quantitative real-time PCR method. *Water Research* 128:148-156.

Bednarsek, N., T. Klinger, C.J. Harvey, S.B. Weisberg, R.M. McCabe, R.A. Feely, J. Newton, N. Tolimieri. 2017. New ocean, new needs: Application of pteropod shell dissolution as a biological indicator for marine resource management. *Ecological Indicators* 76:240-244.

DeFlorio-Barker, S., B.F. Arnold, E.A. Sams, A.P. Dufour, J.M. Colford Jr, S.B. Weisberg, K.C. Schiff, T.J. Wade. 2017. Child environmental exposures to water and sand at the beach: Findings from studies of over 68,000 subjects at 12 beaches. *Journal of Exposure Science and Environmental Epidemiology* DOI:10.1038/jes.2017.23.

Haugland, R.A., S. Sieftring, M. Varma, K.H. Oshima, M. Sivaganesan, Y. Cao, M.R. Raith, J.F. Griffith, S.B. Weisberg, R.T. Noble, A.D. Blackwood, J. Kinzelman, T. Anan'eva, R.N. Bushon, E.A. Stelzer, V.J. Harwood, K.V. Gordon, C. Sinigalliano. 2016. Multi-laboratory survey of qPCR enterococci analysis method performance in U.S. coastal and inland surface waters. *Journal of Microbiological Methods* 123:114-125.

Ferguson, D.M., G.N. Talavera, L.A.R. Hernandez, S.B. Weisberg, R.F. Ambrose, J.A. Jay. 2016. Virulence Genes among Enterococcus faecalis and Enterococcus faecium Isolated from Coastal Beaches and Human and Nonhuman Sources in Southern California and Puerto Rico. *Journal of Pathogens* 2016:1-7.

Ferguson, D.M., S.B. Weisberg, C. Hagedorn, K. De Leon, V. Mofidi, J. Wolfe, M. Zimmerman, J.A. Jay. 2016. Enterococcus growth on eelgrass (Zostera marina); implications for water quality. *FEMS Microbiology Ecology* 92:1-7.

Arnold, B.F., T.J. Wade, J. Benjamin-Chung, K.C. Schiff, J.F. Griffith, A.P. Dufour, S.B. Weisberg, J.M. Colford Jr. 2016. Acute Gastroenteritis and Recreational Water: Highest Burden Among Young US Children. *American Journal of Public Health* 9:1690-1697.

Griffith, J.F., S.B. Weisberg, B.F. Arnold, Y. Cao, K.C. Schiff, J.M. Colford Jr. 2016. Epidemiologic evaluation of multiple alternate microbial water quality monitoring indicators at three California beaches. *Water Research* 94:371-381.

Weisberg, S.B., N. Bednarsek, R.A. Feely, F. Chan, A.B. Boehm, M. Sutula, J.L. Ruesink, B. Hales, J.L. Largier, J.A. Newton. 2016. Water quality criteria for an acidifying ocean: Challenges and opportunities for improvement. *Ocean and Coastal Management* 126:31-41.

Scott, G.I., D.E. Porter, R.S. Norman, C.H. Scott, M.I. Uyaguari-Diaz, K.A. Maruya, S.B. Weisberg, M.H. Fulton, E.F. Wirth, J. Moore, P.L. Pennington, D. Schlenk, G.P. Cobb, N.D. Denslow. 2016. Antibiotics as CECs: An Overview of the Hazards Posed by Antibiotics and Antibiotic Resistance. *Frontiers in Marine Science* 3:1-15.

Nezlin, N.P., J.A.T. Booth, C. Beegan, C.L. Cash, J.R. Gully, A. Latker, M.J. Mengel, G.L. Robertson, A. Steele, S.B. Weisberg. 2016. Assessment of wastewater impact on dissolved oxygen around southern California's submerged ocean outfalls. *Regional Studies in Marine Science* 7:177-184.

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.

McLaughlin, K., S.B. Weisberg, A.G. Dickson, G.E. Hofmann, J.A. Newton, D. Aseltine-Neilson, A. Barton, S. Cudd, R.A. Feely, I.W. Jefferds, E.B. Jewett, T. King, C.J. Langdon, S. McAfee, D. Pleschner-Steele, B. Steele. 2015. Core principles of the California Current Acidification Network: Linking chemistry, physics, and ecological effects. *Oceanography* 28:160-169.

Barton, A., G.G. Waldbusser, R.A. Feely, S.B. Weisberg, J.A. Newton, B. Hales, S. Cudd, B. Eudeline, C.J. Langdon, I. Jefferds, T. King, A. Suhrbier, K. McLaughlin. 2015. Impacts of coastal acidification on the Pacific Northwest shellfish industry and adaptation strategies implemented in response. *Oceanography* 28:146-159.

Murray, S.N., S.B. Weisberg, P.T. Raimondi, R.F. Ambrose, C.A. Bell, C.A. Blanchette, J.L. Burnaford, M.N. Dethier, J.M. Engle, M.S. Foster, C.M. Miner, K.J. Nielsen, J.S. Pearse, D.V. Richards, J.R. Smith. 2015. Evaluating ecological states of rocky intertidal communities: A Best Professional Judgment exercise. *Ecological Indicators* 60:802-814.

Maruya, K.A., N.G. Dodder, A.C. Mehinto, N.D. Denslow, D. Schlenk, S.A. Snyder, S.B. Weisberg. 2015. A Tiered, Integrated Biological and Chemical Monitoring Framework for Contaminants of Emerging Concern in Aquatic Ecosystems. *Integrated Environmental Assessment and Management* 12:540-547.

Cooley, S.R., E.B. Jewett, J. Reichert, L. Robbins, G. Shrestha, D. Wieczorek, S.B. Weisberg. 2015. Getting ocean acidification on decision makers' to-do lists: Dissecting the process through case studies. *Oceanography* 28:198-211.

Boehm, A.B., M.Z. Jacobson, M.J. O'Donnell, M. Sutula, W.W. Wakefield, S.B. Weisberg, E. Whiteman. 2015. Ocean acidification science needs for natural resource managers of the North American west coast. *Oceanography* 28:170-181.

Maruya, K.A., N.G. Dodder, R.A. Schaffner, S.B. Weisberg, D. Gregorio, S. Klosterhaus, D.A. Alvarez, E.T. Furlong, K.L. Kimbrough, G.G. Lauenstein, J.D. Christensen. 2014. Refocusing mussel watch on contaminants of emerging concern (CECs): The California pilot study (2009-10). *Marine Pollution Bulletin* 81:334-339.

Booth, J.A.T., C.B. Woodson, M. Sutula, F. Micheli, S.B. Weisberg, S.J. Bograd, A. Steele, J. Schoen, L.B. Crowder. 2014. Patterns and potential drivers of declining oxygen content along the Southern California coast. *Limnology and Oceanography* 59:1127-1138.

Yau, V.M., K.C. Schiff, B.F. Arnold, J.F. Griffith, J.S. Gruber, C.C. Wright, T.J. Wade, S. Burns, J.M. Hayes, C. McGee, M. Gold, Y. Cao, A.B. Boehm, S.B. Weisberg, J.M. Colford Jr. 2014. Effect of submarine groundwater discharge on bacterial indicators and swimmer health at Avalon Beach, CA, USA. *Water Research* 59:23-36.

Riedel, T.E., A.G. Zimmer-Faust, V. Thulsiraj, T. Madi, K.T. Hanley, D.L. Ebentier, M. Byappanahalli, B. Layton, M.R. Raith, A.B. Boehm, J.F. Griffith, P.A. Holden, O.C. Shanks, S.B. Weisberg, J.A. Jay. 2014. Detection limits and cost comparisons of human-and gull-associated conventional and quantitative PCR assays in artificial and environmental waters. *Journal of Environmental Management* 136:112-120.

Maruya, K.A., N.G. Dodder, S.B. Weisberg, D. Gregorio, J.S. Bishop, S. Klosterhaus, D.A. Alvarez, E.T. Furlong, S. Bricker, K.L. Kimbrough, G.G. Lauenstein. 2014. The mussel watch California pilot study on contaminants of emerging concern (CECs): Synthesis and next steps. *Marine Pollution Bulletin* 81:355-363.

Bourlat, S.J., A. Borja, J. Gilbert, M.I. Taylor, N. Davies, S.B. Weisberg, J.F. Griffith, T. Lettieri, D. Field, J. Benzie, F.O. Glockner, N. Rodriguez-Ezpeleta, D.P. Faith, T.P. Bean, M. Obst. 2013. Genomics in marine monitoring: New opportunities for assessing marine health status. *Marine Pollution Bulletin* 74:19-31.

Ferguson, D.M., J.F. Griffith, C.D. McGee, S.B. Weisberg, C. Hagedorn. 2013. Comparison of Enterococcus species diversity in marine water and wastewater using enterolert and EPA method 1600. *Journal of Environmental and Public Health* 2013:11-16.

Ervin, J.S., T.L. Russell, B.A. Layton, K.M. Yamahara, D. Wang, L.M. Sassoubre, Y. Cao, C.A. Kelty, M. Sivaganesan, A.B. Boehm, P.A. Holden, S.B. Weisberg, O.C. Shanks. 2013. Characterization of fecal concentrations in human and other animal sources by physical, culture-based, and quantitative real-time PCR methods. *Water Research* 47:6873-6882.

Boehm, A.B., L.C. Van De Werfhorst, J.F. Griffith, P.A. Holden, J.A. Jay, O.C. Shanks, D. Wanga, S.B. Weisberg. 2013. Performance of forty-one microbial source tracking methods: A twenty-seven lab evaluation study. *Water Research* 47:6812-6828.

Thompson, B., J.A. Ranasinghe, S. Lowe, A. Melwani, S.B. Weisberg. 2013. Benthic macrofaunal assemblages of the San Francisco Estuary and Delta, USA. *Environmental Monitoring and Assessment* 185:2281-2295.

Stewart, J.R., A.B. Boehm, E.A. Dubinsky, T.-T. Fong, K.D. Goodwin, J.F. Griffith, R.T. Noble, O.C. Shanks, K. Vijayavel, S.B. Weisberg. 2013. Recommendations following a multi-laboratory comparison of microbial source tracking methods. *Water Research* 47:6829-6838.

Raith, M.R., D.L. Ebentier, Y. Cao, J.F. Griffith, S.B. Weisberg. 2013. Factors affecting the relationship between quantitative polymerase chain reaction (qPCR) and culture-based enumeration of Enterococcus in environmental waters. *Journal of Applied Microbiology* 116:737-746.

Cao, Y., C. Hagedorn, O.C. Shanks, D. Wang, J. Ervin, J.F. Griffith, B.A. Layton, C.D. McGee, T.E. Riedel, S.B. Weisberg. 2013. Towards establishing a human fecal contamination index in microbial source tracking. *International Journal of Chemical and Environmental Engineering Systems* 4:46-58.

Cao, Y., M. Sivaganesan, J. Kinzelman, A.D. Blackwood, R.T. Noble, R.A. Haugland, J.F. Griffith, S.B. Weisberg. 2013. Effect of platform, reference material, and quantification model on enumeration of Enterococcus by quantitative PCR methods. *Water Research* 47:233-241.

Arnold, B.F., K.C. Schiff, J.F. Griffith, J.S. Gruber, V. Yau, C.C. Wright, T.J. Wade, S. Burns, J.M. Hayes, C. McGee, M. Gold, Y. Cao, S.B. Weisberg, J.M. Colford Jr. 2013. Swimmer illness associated with marine water exposure and water quality indicators: Impact of widely used assumptions. *Epidemiology* 24:845-853.

Shanks, O.C., M. Sivaganesan, L. Peed, C.A. Kelty, A.D. Blackwood, M.R. Greene, R.T. Noble, R.N. Bushon, E.A. Stelzer, J. Kinzelman, T. Anan'eva, C. Sinigalliano, D. Wanless, J.F. Griffith, Y. Cao, S.B. Weisberg, V.J. Harwood, C. Staley, K.H. Oshima, M. Varma, R.A. Haugland. 2012. Interlaboratory comparison of real-time PCR protocols for quantification of general fecal indicator bacteria. *Environmental Science and Technology* 46:945-953.

Colford Jr, J.M., K.C. Schiff, J.F. Griffith, V. Yau, B.F. Arnold, C.C. Wright, J.S. Gruber, T.J. Wade, S. Burns, J. Hayes, C. McGee, M. Gold, Y. Cao, R.T. Noble, R. Haugland, S.B. Weisberg. 2012. Using rapid indicators for Enterococcus to assess the risk of illness after exposure to urban runoff contaminated marine water. *Water Research* 46:2176-2186.

Ranasinghe, J.A., K.I. Welch, P.N. Slattery, D.E. Montagne, D.D. Huff, H. Lee II, J.L. Hyland, B. Thompson, S.B. Weisberg, J.M. Oakden, D.B. Cadien, R.G. Velarde. 2012. Habitat-related benthic macrofaunal assemblages of bays and estuaries of the western United States. *Integrated Environmental Assessment and Management* 8:638-648.

Thompson, B., S.B. Weisberg, A. Melwani, S. Lowe, J.A. Ranasinghe, D.B. Cadien, D.M. Dauer, R.J. Diaz, W. Fields, M. Kellogg, D.E. Montagne, P.R. Ode, D.J. Reish, P.N. Slattery. 2012. Low levels of agreement among experts using best professional judgment to assess benthic condition in the San Francisco Estuary and Delta. *Ecological Indicators* 12:167-173.

Hammerstrom, K.K., J.A. Ranasinghe, S.B. Weisberg, J.S. Oliver, W.R. Fairey, P.N. Slattery, J.M. Oakden. 2012. Effect of sample area and sieve size on benthic macrofaunal community condition

assessments in California enclosed bays and estuaries. *Integrated Environmental Assessment and Management* 8:649-658.

Teixeira, H., S.B. Weisberg, A. Borja, J.A. Ranasinghe, D.B. Cadien, R.G. Velarde, L.L. Lovell, D. Pasko, C.A. Phillips, D.E. Montagne, K.J. Ritter, F. Salas, J.C. Marques. 2012. Calibration and validation of the AZTI's Marine Biotic Index (AMBI) for Southern California marine bays. *Ecological Indicators* 12:84-95.

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.

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.

Converse, R.R., J.F. Griffith, R.T. Noble, R.A. Haugland, K.C. Schiff, S.B. Weisberg. 2012. Correlation between quantitative polymerase chain reaction and culture-based methods for measuring *Enterococcus* over various temporal scales and three California marine beaches. *Applied and Environmental Microbiology* 78:1237-1242.

Bay, S.M., S.B. Weisberg. 2012. Framework for interpreting sediment quality triad data. *Integrated Environmental Assessment and Management* 8:589-596.

Cao, Y., J.F. Griffith, S. Dorevitch, S.B. Weisberg. 2012. Effectiveness of qPCR permutations, internal controls and dilution as means for minimizing the impact of inhibition while measuring *Enterococcus* in environmental waters. *Journal of Applied Microbiology* 113:66-75.

Griffith, J.F., S.B. Weisberg. 2011. Challenges in implementing new technology for beach water quality monitoring: Lessons from a California demonstration project. *Marine Technology Society Journal* 45:65-73.

Cao, Y., C.D. McGee, J.F. Griffith, S.B. Weisberg. 2011. Method repeatability for measuring *Enterococcus* in southern California beach sands. *Letters in Applied Microbiology* 53:656-659.

Teixeira, H., A. Borja, S.B. Weisberg, J.A. Ranasinghe, D.B. Cadien, D.M. Dauer, J.-C. Dauvin, S. Degraer, R.J. Diaz, A. Gremare, I. Karakassis, R.J. Llanso, L.L. Lovell, J.C. Marques, D.E. Montagne, A. Occhipinti-Ambrogi, R. Rosenberg, R. Sarda, L.C. Schaffner, R.G. Velarde. 2010. Assessing coastal benthic macrofauna community condition using best professional judgement - Developing consensus across North America and Europe. *Marine Pollution Bulletin* 60:589-600.

Noble, R.T., A.D. Blackwood, J.F. Griffith, C.D. McGee, S.B. Weisberg. 2010. Comparison of rapid quantitative PCR-based and conventional culture-based methods for enumeration of *Enterococcus*

spp. and Escherichia coli in recreational waters. *Applied and Environmental Microbiology* 76:7437-7443.

Boehm, A.B., N.J. Ashbolt, J.M. Colford, J.r. , L.E. Dunbar, L.E. Fleming, M.A. Gold, J.A. Hansel, P.R. Hunter, A.M. Ichida, C.D. McGee, J.A. Soller, S.B. Weisberg. 2009. A sea change ahead for recreational water quality criteria. *Journal of Water and Health* 7:9-20.

Boehm, A.B., J.F. Griffith, C.D. McGee, T.A. Edge, H.M. Solo-Gabriele, R. Whitman, Y. Cao, M. Getrich, J.A. Jay, D. Ferguson, K.D. Goodwin, C.M. Lee, M. Madison, S.B. Weisberg. 2009. Fecal indicator bacteria enumeration in beach sand: A comparison study of FIB extraction methods in medium to coarse sands. *Journal of Applied Microbiology* 107:1740-1750.

Ranasinghe, J.A., S.B. Weisberg, R.W. Smith, D.E. Montagne, B. Thompson, J.M. Oakden, D.D. Huff, D.B. Cadien, R.G. Velarde, K.J. Ritter. 2009. Calibration and evaluation of five indicators of benthic community condition in two California bay and estuary habitats. *Marine Pollution Bulletin* 59:5-13.

Borja, A., A. Ranasinghe, S.B. Weisberg. 2009. Assessing ecological integrity in marine waters, using multiple indices and ecosystem components: Challenges for the future. *Marine Pollution Bulletin* 59:1-4.

Hagedorn, C., S.B. Weisberg. 2009. Chemical-based fecal source tracking methods: current status and guidelines for evaluation. *Reviews in Environmental Science and Biotechnology* 8:275-287.

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