

Regulating Water Quality in Ports, Harbors, Marinas and Other Waterbodies

Drs. Lee and Jones-Lee have developed several papers and reports on investigating and managing water quality issues in ports, harbors and marinas. These include:

Lee, G. F. and Jones-Lee, A., "Regulating Water Quality Impacts of Port and Harbor Stormwater Runoff," Proc. International Symposium on Prevention of Pollution from Ships, Shipyards, Drydocks, Ports, and Harbors, New Orleans, LA, November (2003). Available on CD ROM from www.ATRP.com.

<http://www.members.aol.com/duklee2307/PHStormwater-papfinal.pdf>

Lee, G. F. and Jones-Lee, A., "Regulating Water Quality Impacts of Water Column and Sediment Contamination in Port and Harbor Stormwater Runoff," PowerPoint slides presented at Intern. Conference on Prevention of Pollution from Ships, Shipyards, Drydocks and Harbors, New Orleans, LA, November (2003).

<http://www.gfredlee.com/NewOrleansStormwaterDerivedSed.pdf>

Lee, G. F. and Jones-Lee, A., "Assessing the Degree of Appropriate Treatment of Shipyard and Drydock Wastewater Discharges and Stormwater Runoff," Proc. Oceans '99 MTS/IEEE Conference proceeding session, "Treatment of Regulated Discharges from Shipyards and Drydocks," Seattle, WA, paper 9B1 published on CD ROM, September (1999). http://www.gfredlee.com/shipyard_drydock.pdf.

Jones, R. A., and Lee, G. F., "Toxicity- of U.S. Waterway Sediments with Particular Reference to the New York Harbor Area," *Chemical and Biological Characterization of Sludges, Sediments, Dredge Spoils, and Drilling Muds*, ASTM STP 976, J. J. Lichtenberg, F. A. Winter, C. I. Weber, and L. Fradkin, Eds., American Society for Testing and Materials, Philadelphia, 1988, pp. 403-417.

<http://www.members.aol.com/GFLEnviroQual/NYHarborSedimentToxicity.pdf>

Lee, G. F. and Jones-Lee, A., "Appropriate Use of Numeric Chemical Water Quality Criteria," *Health and Ecological Risk Assessment*, 1:5-11 (1995). Letter to the Editor, Supplemental Discussion, 2:233-234 (1996). <http://www.gfredlee.com/chemcri.htm>

Jones-Lee, A., and Lee, G. F., "Modeling Water Quality Impacts of Stormwater Runoff – Why Hydrologic Models Aren't Sufficient," CENews.com Feature Article, January 29 (2008). <http://www.cenews.com/article.asp?id=2631>

<http://www.members.aol.com/GFLEnviroQual/CENewsStmWaterModeling.pdf>

They have also discussed issues related to evaluating the water quality impacts of copper in waterbodies in:

Lee, G. F. and Jones-Lee, A., "Appropriate Goals for TMDL Development: Regulating Copper in Urban Stormwater Runoff," Report of G. Fred Lee & Associates, El Macero, CA, May (2000). http://www.gfredlee.com/tmdl_copper.pdf

Lee, G.F., and Jones-Lee, A., "Regulating Copper in Urban Stormwater Runoff," *Timely Topics, NorCal SETAC News* 11:(2) 10-11, June (2000).
http://www.gfredlee.com/reg_copper_0600.pdf

Lee, G. F. and Jones, R. A., "Overview Aquatic Life Risk Assessment Copper-Contaminated Sediments at National City Marine Terminal," Submitted to San Diego Unified Port District, San Diego, CA, 8pp, July (1991).

Lee, G. F. and Jones, R. A., "Overview Aquatic Life Risk Assessment Copper-Contaminated Sediments at National City Marine Terminal," Submitted to San Diego Unified Port District, San Diego, CA, 8pp, July (1991).

Lee, G. F. and Jones-Lee, A., "Regulatory Issues Governing Establishment of Remediation Level for Copper in San Diego Bay Sediment," Division Environmental Chemistry, American Chemical Society meeting, extended abstract, Washington, DC, pp. 104-105, March (1994).

Stormwater Runoff Water Quality Newsletters NL 3-4, 6-10, 7-5, 7-6/7, 10-7 contain information on investigating and regulating copper in waterbodies. Past issues of the Newsletter are available at, <http://www.gfredlee.com/newsindex.htm>.

NL 10-7 includes a discussion of "Site-Specific Copper Water Quality Objectives for San Francisco Bay." Studies of the type that have been conducted in New York Harbor and San Francisco Bay have demonstrated that the application of US EPA worst-case-based water quality criteria to marine waters tends to greatly overestimate water quality impacts of copper and thus to overregulate copper from various sources. Current "exceedances" of copper water quality criteria in San Diego Bay and other waterbodies may well not signal water quality impact, but rather could readily be "administrative exceedances" that result from the mechanical application of worst-case-based water quality criteria rather than the proper site-specific consideration of the aqueous aquatic chemistry of copper.

Questions regarding any of these papers or newsletters may be directed to Dr. G. Fred Lee at gfredlee@aol.com.