

Mussel Watch Program

Mussel Watch Program References (Incomplete)

GERG/NOAA NS&T PUBLICATIONS

- Wade, T.L., R Garcia-Romero and J.M. Brooks (1988) **Tributyltin Contamination of Bivalves from U.S. Coastal Estuaries.** *Environmental Science and Technology* 22: 1488-1493.
- Wade, T.L., E.L. Atlas, J.M. Brooks, M.C. Kennicutt II, R.G. Fox, J. Sericano, R Garcia-Romero and D. DeFreitas (1988) **NOAA Gulf of Mexico Status and Trends Program: Trace Organic Contaminant Distribution in Sediments and Oysters.** *Estuaries* 11, 171-179.
- Wade, T.L., R Garcia-Romero and J.M. Brooks (1988) Tributyltin analyses in association with **NOAA's National Status and Trends Mussel Watch Program.** *OCEANS '88 Conference Proceedings*, Baltimore, MD, 31 Oct. -2 Nov. 1988, pp 1198-1201.
- Wade, T.L., M.C. Kennicutt, II and J.M. Brooks (1989) **Gulf of Mexico Hydrocarbon Seep Communities: III: Aromatic Hydrocarbon Burdens of Organisms from Oil Seep Ecosystems.** *Marine Environmental Research*, 27, 19-30.
- Wade, T.L. and J.L. Sericano (1989) **Trends in Organic Contaminant Distributions in Oysters from the Gulf of Mexico.** *Proceedings, Oceans '89 Conference*, Seattle, WA, 585-589.
- Wade, T.L. and R Garcia-Romero (1989) **Status and Trends of Tributyltin Contamination of Oysters and Sediments from the Gulf of Mexico.** *Proceedings, Oceans '89 Conference*, Seattle, WA, 550-553.
- Wade, T.L. and C.S. Giam (1989) **Organic contaminants in the Gulf of Mexico.** In: *Proceedings, 22nd Water for Texas Conference*, Oct. '19-21, 1988, South Shore Harbour Resort and Conference Center, League City, TX (R Jensen and C. Dunagan, Eds.), pp. 25-30.
- Craig, A., E.N. Powell, R.R. Fay and J.M. Brooks (1989) **Distribution of Perkinsus marinus in Gulf coast oyster populations.** *Estuaries*, 12:82-91.
- Presley, R.J., R.J. Taylor and P.N. Boothe (1990) **Trace Metals in Gulf of Mexico Oysters.** *The Science of the Total Environment*, 97/98, pp. 551-553.
- Sericano, J.L., E.L. Atlas, T.L. Wade and J.M. Brooks (1990) **NOAA's Status and Trends Mussel Watch Program: Chlorinated Pesticides and PCB's in Oysters (Crassostrea virginica) and Sediments from the Gulf of Mexico, 1986-1987** *Marine Environmental Research* 29, 161-203.
- Wade, T.L., R Garcia-Romero, and J.M. Brooks (1990) **Butyltins in Sediments and Bivalves**

from U.S. Coastal Areas. *Chemosphere* 20, 647-662.

Brooks, J.M., M.C. Kennicutt II, T.L. Wade, A.D. Hart, G.J. Denoux and T.J. McDonald (1990) **Hydrocarbon Distributions Around a Shallow Water Multiwell Platform.** *Environmental Science and Technology* 24, 1079-1085.

Sericano, J.L., T.L. Wade, E.L. Atlas and J.M. Brooks (1990). **Historical Perspective on the Environmental Bioavailability of DDT and Its Derivatives to Gulf of Mexico Oysters.** *Environmental Science and Technology* 24, 1541-1548.

Wade, T.L., J.L. Sericano, B. Garcia-Romero, J.M. Brooks, and B.J. Presley (1990) **Gulf Coast NOAA National Status & Trends Mussel Watch: The First Four Years, MTS'90** *Conference Proceedings*, Washington, D.C., 26-28 -September 1990, p. 274-280.

Brooks, J.M., T.L. Wade, B.J. Presley, J.L. Sericano, T.J. McDonald, T.J. Jackson, D.L. Wilkinson and T.F. Davis (1991) **Toxic Contamination of Aquatic Organisms in Galveston Bay,** *Proceedings Galveston Bay Characterization Workshop*, February 21-23, 1991, pp. 65-67.

Wade, T.L. J.M. Brooks, J.L. Sericano, T.J. McDonald, B. Garcia-Romero, R.R. Fay, and D.L. Wilkinson (1991) **Trace Organic Contamination in Galveston Bay: Results from the NOAA National Status and Trends Mussel Watch Program,** *Proceedings Galveston Bay Characterization-Workshop*, February 21-23, 1991, pp. 68-70.

Presley, B.J., R.J. Taylor and P.N. Boothe (1991) **Trace Metals in Galveston Bay Oysters,** *Proceedings Galveston Bay Characterization Workshop*, February 21-23, 1991, pp. 71-73.

Sericano, J.L., T.L. Wade and J.M. Brooks (1991) **Transplanted Oysters as Sentinel Organisms in Monitoring Studies,** *Proceedings Galveston Bay Characterization Workshop*, February 21-23, 1991, pp. 74-75.

McDonald, S.J., J.M. Brooks, D. Wilkinson, T.L. Wade, and T.J. McDonald (1991) **The Effects of the Apex Barge Oil Spill on the Fish of Galveston Bay,** *Proceedings Galveston Bay Characterization Workshop*, February 21-23, 1991, pp. 85-86.

Wade, T. L., J. M. Brooks, M. C. Kennicutt II, T. J. McDonald, G. J. Denoux and T. J. Jackson (1991) **Oysters as Biomonitors of Oil in the Ocean.** *Proceedings 23rd Annual Offshore Technology Conference* (6529) (Houston, TX, May 6-9, 1991), p. 275-280.

Brooks, J.M., M.A. Champ, T.L. Wade, and S.J. McDonald (1991) **GEARS: Response Strategy for Oil and Hazardous Spills.** *Sea Technology*, April 1991, p. 25-32.

Sericano, J.L., T. L. Wade and J.M. Brooks (1991) **Chlorinated hydrocarbons in Gulf of Mexico oysters: Overview of the first four years of the NOAA's National Status and Trends**

- Mussel Watch Program** (1986-1989) In: *Water Pollution: Modeling, Measuring and Prediction*. Wrobel, L.C. and Brebbia, C.A. (Eds.) Computational Mechanics Publications, Southampton, and Elsevier Applied Science, London. pp. 665-681.
- Wade, T.L., R Garcia-Romero, and I.M. Brooks (1991) **Bioavailability of butyltins**. In: *Organic Geochemistry -Advances and applications in the natural environment*. Manning, D.A.C (Ed.). Manchester University Press, Manchester. pp. 571-573.
- Wilson, E.A., E.N. Powell, M.A. Craig, T.L. Wade and I.M. Brooks (1991) **The distribution of Perkinsus marinus in Gulf coast oysters: Its relationship with temperature, reproduction' and pollutant body burden**. *Int. Reuve der Gesantan Hydrobiologie*. 75, 533-550.
- Sericano, I.L., A.M. EI-Husseini, and T.L. Wade (1991) **Isolation of planar polychlorinated biphenyls by carbon column chromatography**. *Chemosphere*. 23(7),915-924.
- Wade, T.L., R Garcia-Romero, and I.M. Brooks (1991) **Oysters as Biomonitors of Butyltins in the Gulf of Mexico**. *Marine Environmental Research* 32:233-241.
- Wade, T.L., E.N. Powell, T.I. Jackson and I.M. Brooks (1992) **Processes Controlling Temporal Trends in Gulf of Mexico Oyster Health and Contaminant Concentrations**. *Proceedings MTS '92, Marine Technology Society*, Oct. 19-21, 1992, Washington, D.C. 223-229.
- Tripp, RW., I.W. Farrington, E.D. Goldberg, and I.L. Sericano (1992) **International Mussel Watch: the initial implementation phase**. *Marine Pollution Bulletin*, 24,371-373.
- Powell, W.N., i:D:' Gauthier, E.A. Wilson, A. Nelson, 'R.R. Fay, and I.M. Brooks (1990) **Oyster disease and climate change. Are yearly changes in Perkinsus marinus parasitism in oysters (Crassostrea virginica) controlled by climatic cycles in the Gulf of Mexico?** PSZNI: *Mar. Ecol.* (In Press).
- Sericano, I.L., T.L. Wade, and I.M. Brooks (1993) **The Usefulness of Transplanted Oysters in Biomonitoring Studies**. *Proceedings of The Coastal Society Twelfth International Conference*, Oct. 21-24, 1990, San Antonio, TX (In Press).
- Wade, T.L., I.L. Sericano, I.M. Brooks, and RI. Presley (1993) **Overview of the First Four Years of the NOAA National Status and Trends Mussel Watch Program**. *Proceedings of The Coastal Society Twelfth International Conference*, Oct. 21-24, 1990 (San Antonio, TX) (In Press).
- Sericano, I.L., T.L. Wade, B. Garcia-Romero, and I.M. Brooks (1991) **Environmental Accumulation and Depuration of Tributyltin by the American Oyster, Crassostrea virginica**. *Marine Biology* (Submitted).
- Sericano, I.L., T.L. Wade, E.N. Powell and I.M. Brooks (1991) **Concurrent Chemical and Histological Analyses: Are They Compatible?** _ *Chemistry and Ecology* (Submitted).

Wilson, E.A., E.N. Powell, T.L. Wade, R.I. Taylor, R.I. Presley, and I.M. Brooks (1991) **Spatial and Temporal Distributions of Contaminant Body Burden and Disease in Gulf of Mexico Oyster Populations: The Role of Local and Large-Scale Climatic Controls.** *Helgol. Meeresunters.* (in press).

Sericano, J.L., T.L. Wade, J.M. Brooks, E.L. Atlas, R.R. Fay and D.L. Wilkinson. . **National Status and Trends Mussel Watch Program: Chlordane-related compounds in Gulf of Mexico oysters: 1986-1990.** *Environmental Pollution* (in press).

Sericano, J.L., T.L. Wade, A.M. El-Husseini and J.M. Brooks. **Environmental significance of the uptake and depuration of planar PCB congeners by the American oyster (*Crassostrea virginica*).** *Marine Pollution Bulletin* (in press).

Garcia-Romero, B., T.L. Wade, G.G. Salata and J.M. Brooks. **Butyltin Concentrations in Oysters from the Gulf of Mexico during 1989-1991.** *Environmental Pollution* (in press).

Jackson, T.J., T.L. Wade, T.J. McDonald, D.L. Wilkinson and J.M. Brooks. **Polynuclear Aromatic Hydrocarbon Contaminants in Oysters from the Gulf of Mexico (1986-1990).** *Environmental Pollution* (in press).

Hofmann, E.E., J.M. Klinck, E.N. Powell, S. Boyles, M. Ellis. **Modeling oyster populations II. Adult size and reproductive effort.** (in preparation).

Hofmann, E.E., E.N. Powell, J.M. Klinck, E.A. Wilson. **Modeling oyster populations III. Critical feeding periods, growth and reproduction.** (in preparation).

Ellis, M.S., K.-S. Choi, T.L. Wade, E.N. Powell, T.J. Jackson and D.H. Lewis. **Sources of local variation in polynuclear aromatic hydrocarbon and pesticide body burden in oysters (*Crassostrea virginica*) from Galveston Bay, Texas.** *Estuaries* (submitted).

Published Papers and Reports

Brooks, J.M., M.A. Champ, T.L. Wade, and S.J. McDonald. 1991. GEARS: Response strategy for oil and hazardous spills. *Sea Tech.* 32(4): pp. 25-32.

Brooks, J.M., T.L. Wade, B.J. Presley, J.L. Sericano, T.J. McDonald, T.J. Jackson, D.L. Wilkinson, and T.F. Davis. 1991. Toxic contamination of aquatic organisms in Galveston Bay. In: *Proceedings, Galveston Bay Characterization Workshop*, Feb. 21-23, 1991. pp.65-67.

Cantillo, A.Y. 1991. Reference materials for marine science. *Sea Tech.* 32(5): 45-47.

Capuzzo, J.M. 1991. Responses of molluscs to chemical contaminants in coastal environments. In: *Proceedings, Northeast Shelf Ecosystem: Stress, Mitigation, and sustainability.* University of R.I. August 12 -15, 1991.

- Capuzzo, J.M. 1991. The bioaccumulation and biological effects of lipophilic organic contaminants in oysters. In: *The Eastern Oyster, Crassostrea virginica*. Maryland Sea Grant Publication. Eble, A, V.S. Kennedy, R.I.E. Newell, and V. Kennedy (eds.). Maryland Sea Grant Publication.
- Casillas, E., DA Misitano, L.L. Johnson, L.D. Rhodes, T.K. Collier, J.E. Stein, B.B. McCain, and U. Varanasi. 1991. Inducibility of spawning and reproductive success of female English sole (*Parophrys vetulus*) from urban and nonurban areas of Puget Sound, WA *Mar. Environ. Res.* 31: 99-122.
- Collier, T.K., S.D. Connor, B-T.L. Eberhart, B.F. Anulacion, A. Goks0yr, and U. Varanasi. 1991. Using Cytochrome P450 to monitor the aquatic environment: Initial results from regional and national surveys. *Mar. Environ. Res.* (in press).
- Collier, T.K., J.E. Stein, H.R. Sanborn, T.Hom, M.S. Myers, and U. Varanasi. 1991. A field study of the relationship between bioindicators of maternal contaminant exposure and egg and larval viability of English sole (*Parophrys vetulus*). *Mar. Environ. Res.* (in press).
- Collier, T.K., J.E. Stein, H.R. Sanborn, T. Hom, M.S. Myers, and U. Varanasi. 1991. Field studies of reproductive success in English sole (*Parophrys vetulus*): Correlations with bioindicators of maternal contaminant exposure. *Sci. Tot. Environ.* (in press).
- Creelius, E., R Hillman, and R. Sims. 1990. Trace element levels in shellfish; overview of 1989 Mussel Watch field season. (abstr.). SETAC90: *Global Environmental Issues: Challenges for the 90's. 11th annual meeting of the Society of Environmental Toxicology and Chemistry*, Nov. 11-15, 1990. p.18.
- Gottholm, B.W. and J. Price. 1991. An Overview of chemical contaminants throughout the coastal and estuarine United States. (abstr.). In: *Proceedings Coastal Zone '91*: 3,596. New York: American Society of Civil Engineers.
- Gronlund, W.D., S-L. Chan, B.B. McCain, R.C. Clark, Jr., M.S. Myers, P.D. Plesha, J.E. Stein, D.W. Brown, J.T. Landahl, M.M. Krahn, W.L. Reichert. and U. Varanasi. 1991. Multidisciplinary assessment of pollution at three sites in Long Island Sound. *Estuaries* 14(3): 299-305.
- Hillman, R.E., and R Menton. 1990. Relationship to organic contaminants in neoplasia in *Mytilus edulis* at U.S. East And West Coast sites. (abstr.). SETAC 90: *Global Environmental Issues: Challenges for the 90s. 11th annual meeting of the Society of Environmental Toxicology and Chemistry*, Nov. 11-15, 1990. p.118.
- Hillman, R E. 1991. *Steinhausta mytolovum* (Microsporidia) in *Mytilus* species in California: a new geographic record. *J. Invert. Path.* 57(1): 144-145.
- Johnson, L.L., E. Casillas, T.K. Collier, J.E. Stein, and U. Varanasi. 1991. Contaminant effects on

- reproductive success in selected benthic fish species. *Mar. Environ. Res.* (in press).
- Krahn, M.M, G.M. Yitalo, J. Joss, and S-L. Chan. 1991. Rapid semiquantitative screening of sediments for aromatic compounds using sonic extraction and HPLC/fluorescence analysis. *Mar. Environ. Res.* 31: 1-22.
- Krone, CA, S-LChan, and U. Varanasi. 1991. Butyltins in sediments and benthic fish tissues from the East, Gulf, and Pacific Coasts of the United States. In: *Proceedings Oceans '91*, Vol. 2: 1054-1059. New York: IEEE.
- Lauenstein, G.G. and N.J. Valette-Silver. 1991. Evolution of the National Status and Trends Program from 1984 to 1991. *Sea Tech.* 32(8): 47-52.
- McDonald, S.J., J.M. Brooks, D. Wilkinson, T.L. Wade, and T.J. McDonald. 1991. The effects of the APEX barge oil spill on the fish of Galveston Bay. In: *Proceedings, Galveston Bay Characterization Workshop*, Feb. 21-23, 1991. pp.85-86.
- Mearns, AJ. 1991. Contaminant trends in U.S. coastal fish and shellfish: Historical patterns, assessment methods and lessons (abst.). *Australian Marine Sciences Assoc. Inc. Bioaccumulation Workshop*, Feb. 20-22, 1991.
- Myers, M.S., J.T. Landahl, M.M. Krahn, and B.B. McCain. 1991. Relationships between hepatic neoplasms and related lesions and exposure to toxic chemicals in marine fish from the U.S. West Coast. *Environ. Health Perspect.* 9: 7-15.
- O'Connor, T.P. 1990. Concentrations of organic contaminants in mollusks and sediments at NOAA National Status and Trends sites in the coastal and estuarine United States. *Environ. Health Perspect.* 9: 69-73.
- O'Connor, T.P. and C.N. Ehler. 1991. Results from NOAA National Status and Trends Program on distributions and effects of chemical contamination in the coastal and estuarine United States. *Environ. Monit. and Assess.* 17: 33-49.
- Peven, C.S., L.M. Altshul, B. Koczwara and J. Clayton. 1990. Polychlorinated biphenyl, chlorinated pesticide, and butyltin levels in shellfish; overview of 1989 Mussel Watch field season. (abstr.). *SETAC 90: Gloval Environmental Issues: Challenges for the 90s. 11th annual meeting of the Society of Environme Toxicology and Chemistry*, Nov. 11-15, 1990. p. 118.
- Powell, W.N., J.D. Gauthier, E.A. Wilson, A. Nelson, R.R. Gay, and J.M. Brooks. 1990. Oyster disease and climate change. Are yearly changes in *Perkinsus marinus* parasitism in oysters (*Crassostrea virginica*) controlled by climatic cycles in the Gulf of Mexico? *Mar. Ecol.* (in press.).
- Presley, B.J., R.J. Taylor and P.N. Boothe. 1991. Trace metal in Galveston Bay oysters. In: *Proceedings, Galveston Bay Characterization Workshop*, Feb. 21-23, 1991. pp.71-73.
- Reish, D.J., P.S. Oshida, A.J. Mearns, and T.C. Ginn. 1991. Effects on salt water organisms. *J. Water*

Pollut. cont. Fed. Research, 63(4): 667-709.

- Robertson, A and D.A. Wolfe. The biological consequences of toxic contaminants in Long Island Sound: An overview. (abstr.) SETAC '90: Global Environmental Issues: Challenges for the 90s. *11th annual meeting of the Society of Environmental Toxicology and chemistry*, Nov. 11-15, 1990. p.35.
- Robertson, A., A.Y. Cantillo, and F. Aikman. 1991. NOAA's monitoring of ocean dumping at the 106-mile dumpsite. In: *Proceedings, Coastal Zone '91* Vol. 3: 1820-1829. New York: American Society of Civil Engineers.
- Robertson, A, B.W. Gottholm, D.D. Turgeon, and D.A. Wolfe. 1991. A comparative study of contaminant levels in Long Island Sound. *Estuaries* 14(3): 290-298.
- Robertson, A, E.R. Long, and D.A. Wolfe. 1991. The magnitude and extent of biological effects related to toxic contaminants in San Francisco Bay (abstr.). *11th Biennial International Estuarine Research Federation Conference*, Nov. 10-14, 1991, San Francisco, CA.
- Sanborn, H. and D.A. Misitano. 1991. Hormonally induced spawning of English sole (*Parophrys vetulus* Girard). *J. Appl. Ichthyology* 7: 15-25.
- Sericano, J.L., A.M. EI-Husseini, and T.L. Wade. 1991. Isolation of planar polychlorinated biphenyls by carbon column chromatography. *Chemosphere*. 23(7): 915-924.
- Sericano, J.L., T.L. Wade, and J.M. Brooks. 1991. Chlorinated hydrocarbons in Gulf of Mexico oysters: Overview of the first four years of the NOAA National Status and Trends Mussel Watch Program (1986-1989). In: *Water Pollution: Modeling, Measuring and Prediction*. Wrobel, L.C. and C.A. Brebbia (eds.). Southampton, New York: Computational Mechanics Publications, and London: Elsevier Applied Science. pp.665-681.
- Sericano, J.L., T.L. Wade, and J.M. Brooks. 1991. Transplanted oysters as sentinel organisms in monitoring studies. In: *Proceedings, Galveston Bay Characterization Workshop*, Feb. 21-23, 1991. pp.74-75.
- Sericano, J.L., T.L. Wade, J.M. Brooks, E.L. Atlas, R.R. Fay, and D.L. Wilkinson. National Status and Trends Mussel Watch Program: Chlordane-related compounds in Gulf of Mexico oysters: 1986-1990. *Environmental Pollution* (submitted).
- Sericano, J.L., T.L. Wade, A.M. EI-Husseini, and J.M. Brooks. Environmental significance of the uptake and depuration of planar PCB congeners by the American oyster (*Crassostrea virginica*). *Marine Pollution Bulletin* (submitted).
- Sericano, J.L., T.L. Wade, E.N. Powell, and J.M Brooks. 1991. Concurrent chemical and histological analyses: Are they compatible? *Chemistry and Ecology* (submitted).

- Sericano, J.L., T.L. Wade, B. Garcia-Romero, and J.M Brooks. 1991. Environmental accumulation and depuration of tributyltin by the American oyster, *Crassostrea virginica*. *Marine Biology* (submitted).
- Stein, J.E., T. Hom, H.R. Sanborn, and U. Varanasi. 1991. Effects of exposure to a contaminated-sediment extract on the metabolism and disposition of 17 β -Estradiol in English sole (*Parophrys vetulus*). *Compo Biochem. Physiol.* 99C: 231-240.
- Steinhauer, W.G., C.S. Peven, L.M. Altshu, D.T. Dahlen, and J.A. Seavey. 1990. Polynuclear aromatic hydrocarbon levels in shellfish, overview of the 1989 Mussel Watch field season (abstr.). *SETAC 90: Global Environmental Issues: Challenges for the 90s. 11th annual meeting of the Society of Environmental Toxicology and Chemistry*, Nov. 11. 11-15, 1990. p.35.
- Turgeon, D.O. 1990. National Status & Trends Program: Estuarine and coastal contamination in sediments and fish (abstr.). In: *Proceedings of the 120th Annual Meeting of the American Fisheries Society*. pp. 57.
- Turgeon, D.O., S.B. Bricker, and T.P. O'Connor. National Status and Trends Program: Chemical and biological monitoring of U.S. coastal waters. In: *Ecological Indicators* Vol. 1. McKenzie, D.H., D.E. Hyatt, and V.J. McDonald (eds.). Essex, England: Elsevier Applied Science. (in press).
- Turgeon, D.O. and G.G. Lauenstein. 1990. National Status and Trends Program: Contaminants in blue mussels from northeastern U.S. coastal waters (abstr.). In: *Program and Abstracts of the American Malacological Union, 56th Annual Meeting*. p. 62.
- Turgeon, D.O. and G.G. Lauenstein. 1991. Contaminants in mussel tissues from U.S. coastal waters. In: *Proceedings, Coastal Zone '91* 3: 1842-1858. New York: American Society of American Civil Engineers.
- Turgeon, D.O. and T.P. O'Connor. 1991. Long Island Sound: Distribution, trends, and effects of chemical contamination. *Estuaries* 14(3): 279-289.
- Uhler, A.D., G.S. Durell, and A.M. Spellacy. 1991. Extraction procedure for the measurement of butyltin compounds in biological tissue using toluene, tropolone, and HBr. *Bull. Environ. Contamin. Toxicol.* 47: 217-221.
- Valette-Silver, N.J. and T.P. O'Connor. 1991. New directions for NOAA's NS&T Program's reconstruction of sediment contamination using dated cores (abstr.). In: *Proceedings, Coastal Zone 91*: 19. New York: American Society of Civil Engineers.
- Valette-Silver, N.J. and T.P. O'Connor. 1991. Monitoring the health of U.S. estuaries and coastal waters: The NOAA NS&T Program (abstr.). In: *Proceedings of the General Assembly of the International Union of Geodesy and Geophysics*, Aug. 11-24, 1991, Vienna, Austria.

- Valette-Silver, N.J. and T.P. O'Connor. 1991. New products for NOAA's NS&T Program: Historical reconstruction of sediment contamination using dated cores. In: *Proceedings, Coastal Zone 91*: 1830-1839. New York: American Society of Civil Engineers.
- Varanasi, U., J.E Stein, W.L. Reichert, K.L. Tilbury, and S-L Chan. 1991. Chlorinated and aromatic hydrocarbons in bottom sediments, fish, and marine mammals in U.S. coastal waters: Laboratory and field studies of metabolism and accumulation. In: *Persistent Pollutants in the Marine Environment*, Colin Walker (ed.). Reading, England: University of Reading. (in press).
- Varanasi, U., J.E Stein, L.L. Johnson, T.K. Collier, E Casillas, and M.S. Myers. 1991. Evaluation of bioindicators of contaminant exposure and effects in coastal ecosystems. In: *Proceedings of International Symposium on Ecological Indicators. Essex, England. Elsevier Applied Science*. (in press).
- Wade, T.L., J.M. Brooks, M.C. Kennicutt II, T.J. McDonald, G.J. Denoux and T.J. Jackson. 1991. Oysters as biomonitors of oil in the ocean. In: *Proceedings of the 23rd Annual Offshore Technology Conference*: 275- 280. May 6-9, 1991, Houston, TX.
- Wade, T.L., J.M. Brooks, J.L. Sericano, T.J. McDonald, B. Garcia-Romero, R.R. Fay, and D.L. Wilkinson. 1991. Trace organic contamination in Galveston Bay: Results from the NOAA National Status and Trends Mussel Watch Program. In: *Proceedings, Galveston Bay Characterization Workshop*, Feb. 21 -23, 1991. pp.68-70.
- Wade, T.L., B. Garcia-Romero, and J.M Brooks. 1991. Bioavailability of butyltins. In: *Organic Geochemistry-Advances and applications in the natural environment*. Manning, D.A.C. (ed.). Manchester, England: Manchester University Press. pp. 571-573.
- Wade, T.L., B. Garcia-Romero, and J.M. Brooks. 1991. Oysters as biomonitors of butyltins in the Gulf of Mexico. *Mar. Environ. Res.* (in press).
- Wade, T.L., J.L. Sericano, J.M. Brooks, and B.J. Presley. 1991. Overview of the first four years of the NOAA National Status and Trends Mussel Watch Program. In: *Proceedings of the Coastal Society Twelfth International Conference*, Oct. 21-24, 1990, San Antonio, TX.
- Wilson, EA., EN. Powell, MA Craig, T.L. Wade, and J.M. Brooks. 1990. The distributions of *Perkinsus marinus* in Gulf Coast oysters: Its relationship with temperature, reproduction, and pollutant body burdens (init. rev.). *Int. Revue der Gesamten Hydrobiologie*. 75: 533-550.
- Wolfe, DA 1991. (guest ed.), Environmental quality of Long Island Sound. *Estuaries* (special dedicated issue) 14(3): 225-343.
- Wolfe, DA 1991. Bioeffects indicators: Which ones measure up for monitoring and assessment of marine environmental quality? (abstr.). In: *Science in the Nation's Estuaries National Estuary Program Science '91 Symposium*. Feb. 25-27, 1991, Sarasota, FL. p.82.
- Wolfe, DA 1991. Choosing indicators of potential bioeffects from toxic contaminants for

application in marine environmental monitoring programs (abstr.) In: *Program and Abstracts of the First International Ocean Pollution Symposium*, April/28 -May 3, 1991, Mayaguez, Puerto Rico. pp.58-59.

Wolfe, DA, A.R. Monahan, P.E. Stacey, D.R.G. Farrow, and A. Robertson. 1991. Environmental quality of Long Island Sound: Assessment and management issues. *Estuaries* 14: 224-236.

Young, RA A.J. Mearns, and R.W. Gossett. 1991. Bioaccumulation of p,p'-DDE and PCB 1254 by a flatfish bioindicator from highly contaminated marine sediments of Southern California. In: *Organic Substances and Sediments in Water: 3*: 159-169. R. Baker (ed.). Chelsea, MI: Lewis Publishers.

Technical Memoranda

Aikman III, F. and M.B. Empie. 1991. *106-Mile Dumpsite Physical Oceanography Project: Hydrographic data report of the Delaware /I 90-08 cruise*. NOAA Tech. Memo. NOS OMA 61. Rockville, MD. 166 pp.

Cantillo, AV. 1991. *Mussel Watch worldwide literature survey- 1991*. NOAA Tech. Memo. NOS ORCA 63. Rockville, MD. 143 pp.

Hanson, P. J. and D. W. Evans. 1991. *Metal contaminant assessment for the Southeast Atlantic and Gulf of Mexico Coasts: Results of the National Benthic Surveillance Project over the first four years, 1984-87*. NOAA Tech. Memo, NMFS-SEFC-284, Beaufort, NC. 22 pp. + appendices.

Long, E.A., D. MacDonald, and C. Cairncross. 1991. *Status and trends in toxicants and the potential for their biological effects in Tampa Bay, FL*. NOAA Tech. Memo NOS OMA 58. Seattle, WA 77 pp.

MacDonald, D.A. 1991. *Status and trends in concentrations of selected contaminants in Boston Harbor sediments and biota*. NOAA Tech. Memo. NOS OMA 56. Seattle, WA 220 pp.

Mearns, AJ., M.B. Matta, G. Shigenaka, D. MacDonald, M. Buchman, H. Harris, J. Golas, and G. Lauenstein. 1991. *Contaminant trends in the Southern California Bight: Inventory And assessment*. NOAA Tech. Memo. NOS OMA 62. Seattle, WA 387 pp + appendices.

National Oceanic and Atmospheric Administration. 1991. *Second summary of data on chemical concentrations in sediments from the National Status and Trends Program*. NOAA Tech. Memo. NOS OMA 59. Rockville, MD. 29 pp. + appendices.

PUBLICATIONS RELATED TO NS&T SPECIMEN BANKING ACTIVITIES

1. Lauenstein, G. G., Schantz, M. M., Wise, S. A., and Zeisler, R., Specimen Banking in the National Status and Trends Program: Development of Protocols and First Year Results, Oceans '86 Conference Record, IEEE, New York, NY, 1986, 586-589.
2. Zeisler, R., and Stone, S.F., Analysis of Marine Bivalves and Sediments, *Trans. Am. Nucl. Soc.*, 53, 201 (1986).
3. Lauenstein, G. G., Wise, S. A., Zeisler, R., Koster, B. J., Schantz, M. M., and Golembiewska, S. L., National Status and Trends Program for Marine Environmental Quality Specimen Bank Project: Field Manual, NOAA Technical Memorandum NOS OMA 37, Rockville, MD, Dec. 1987, 38 pp.
4. Stone, S.F., Zeisler, R., and Koster, B.J., Neutron Activation Analysis of Major, Minor, and Trace Elements in Marine Sediments, *Trans. Am. Nucl. Soc.*, 56, 228-229 (1988).
5. Wise, S. A., Koster, B. J., and Zeisler, R., Status of Specimen Banking Activities at the National Bureau of Standards, in *Progress in Environmental Specimen Banking*, NBS Spec. Publ. 740 U. S. Government Printing Office, Washington, DC, 1988, 10-18.
6. Schantz, M. M., Chesler, S. N., Koster, B. J., and Wise, S. A., Analytical Methods for the Determination of Organic Contaminants in Marine Sediments and Tissues, in *Progress in Environmental Specimen Banking*, NBS Spec. Publ. 740 U. S. Government Printing Office, Washington, DC, 1988, 40-52.
7. Stone, S. F., Becker, D. A., Koster, B. A., Pella, P. A., Slater, G., Tillekeratne, M. P. M., and Zeisler, R., Inorganic Analytical Methods and Results for Marine Bivalves and Sediments, in *Progress in Environmental Specimen Banking*, S. A. Wise, R. Zeisler, and G. M. Goldstein, Eds., NBS Spec. Publ. 740, U. S. Government Printing Office, Washington, DC, 1988, 62-73.
8. Stone, S. F., Zeisler, R., and Koster, B. J., Neutron Activation Analysis of Major, Minor, and Trace Elements in Marine Sediments, *Trans. Am. Nucl. Soc.*, 56, 228-229 (1988).
9. Zeisler, R., Stone, S. F., and Sanders, R. W., Sequential Determination of Biological and Pollutant Elements in Marine Bivalves, *Anal. Chem.*, 60, 2760-2765 (1988).
10. Wise, S. A., Koster, B. J., Parris, R. M., Schantz, M. M., Stone, S. F., and Zeisler, R., Experiences in Environmental Specimen Banking, *Int. J. Environ. Anal. Chem.*, 37, 91-106 (1989).
11. Schantz, M. M., Benner, B. A., Jr., Chesler, S. N., Koster, B. J., Hehn, K. E., Stone, S. F., Kelly, W. R., Zeisler, R., and Wise, S. A., Preparation and Analysis of a Marine Sediment Reference Material for the Determination of Trace Organic Constituents, *Fresenius J. Anal. Chem.*, 338, 501-514 (1990).
12. Stone, S. F., Koster, B. J., and Zeisler, R., Instrumental Neutron Activation Analysis of

Standard Reference Material 1941, Organics in Marine Sediment: Element Content and Homogeneity, *Biol. Trace Element Res.*, 27, 579-587 (1990).

13. Wise, S. A., Benner, B. A., Jr., Christensen, R. G., Koster, B. J., Kurz, J., Schantz, M. M., and Zeisler, R., Preparation and Analysis of a Frozen Mussel Tissue Reference Material for the Determination of Trace Organic Constituents, *Environ. Sci. Tech.*, 25, 1695-1704 (1991).
14. Zeisler, R., Koster, B. J., and Wise, S. A., Specimen Banking at the National Institute of Standards and Technology, In: *Analytical Approaches as Related to Specimen Banking*, M. Rossbach, P. Ostapczuk, and J. D. Schlodt, Eds., Springer Verlag, Stuttgart, Germany, in press.
15. Wise, S. A., Koster, B. J., Langland, J. L., and Zeisler, R., Current Activities within the National Biomonitoring Specimen Bank, *Sci. Total Environ.*, in press.

PRESENTATIONS RELATED TO NS&T SPECIMEN BANKING PROJECT

1. S. A. Wise, "Current Status of Environmental Specimen Banking at NBS", Tenth U.S.-German Seminar of State and Planning on Environmental Specimen Banking, Gloucester Point, VA, Oct. 6, 1986.
2. M. M. Schantz, "Analytical Methods for the Determination of Organic Contaminants in Marine Sediments and Tissues," Tenth U.S.-German Seminar of State and Planning on Environmental Specimen Banking, Gloucester Point, VA, Oct. 6, 1986.
3. R. Zeisler, "Analysis of Marine Bivalves and Sediments," American Nuclear Society Annual Meeting, Washington, DC, Nov.20, 1986.
4. M. M. Schantz, "Determination of PAH, PCBs, and Chlorinated Pesticides in Marine Tissue and Sediment Samples," Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Atlantic City, NJ, March 9, 1987.
5. R. Zeisler, "Specimen Banking and Multielement Analysis in Monitoring the Marine Environment," 70th Canadian Chemical Conference, Quebec, Canada, June 2, 1987.
6. M. M. Schantz, "Determination of Polycyclic Aromatic Hydrocarbons in Marine Tissue and Sediment Samples," Eleventh International Symposium on Polynuclear Aromatic Hydrocarbons, Washington, DC, September 23, 1987.
7. S. A. Wise, "The U. S. National Biomonitoring Specimen Bank --Summary of Recent Activities", Eleventh U. S.-German Seminar of State and Planning for Environmental Specimen Banking, Bayreuth, Bavaria, Federal Republic of Germany, May 1-3, 1988.
8. S. A. Wise, "Organic Analysis of Marine Specimens from the National Oceanic and Atmospheric Administration's National Status and Trends Program", Eleventh U. S.-German

Seminar of State and Planning for Environmental Specimen Banking, Bayreuth, Bavaria, Federal Republic of Germany, May 1-3, 1988.

9. S. A. Wise, "Experiences in Environmental Specimen Banking", Eighteenth International Symposium on Environmental Analytical Chemistry, Barcelona, Spain, September 5-8, 1988.
10. S. A. Wise, "Program Design -Specimen Archiving," National Research Council, Board on Environmental Studies and Toxicology, Committee on National Monitoring of Human Tissues, Washington, DC, January 24-25, 1989.
11. S. A. Wise, "Alternative Monitoring Programs -Environmental Specimen Banking Program, " National Research Council, Board on Environmental Studies and Toxicology, Committee on National Monitoring of Human Tissues, Washington, DC, January 24-25, 1989.
12. R. Zeisler, R., "Biomonitoring of Marine Specimens for the National Status and Trends Program, II Intern. Conf. Nuclear Analytical Methods in the Life Sciences, Gaithersburg, MD, April 18, 1989.
13. R. Zeisler, "Concepts and Value of Specimen Banking," Canadian Specimen Banking Seminar and Twelfth U.S. -German Seminar of State and Planning on Environmental Specimen Banking, Ottawa, Canada, September 25-28, 1989.
14. S. A. Wise, "Current Status of the U.S. National Biomonitoring Specimen Bank," Canadian Specimen Banking Seminar and Twelfth U.S. -German Seminar of State and Planning on Environmental Specimen Banking, Ottawa, Canada, September 25-28, 1989.
15. M. M. Schantz, "Sediments, Fish Tissue, and Bivalve Mollusks as Pollutant Indicators: A Comparison of Analytical Results." Canadian Specimen Banking Seminar and Twelfth U.S.-German Seminar of State and Planning on Environmental Specimen Banking, Ottawa, Canada, September 25-28, 1989.
16. M. M. Schantz, "Preparation and Certification of Marine Sediment and Mussel Tissue Standard Reference Materials for the Determination of Organic Contaminants," Canadian Specimen Banking Seminar and Twelfth U.S.-German Seminar of State and Planning on Environmental Specimen Banking, Ottawa, Canada, September 26, 1989.
17. M. M. Schantz, "Certification of Marine Sediment and Mussel Tissue Standard Reference Materials," Twelfth International Symposium on Polynuclear Aromatic Hydrocarbons, Washington, DC, September 21, 1989.
18. S. A. Wise, "Preparation and Certification of Marine Sediment and Mussel Tissue Standard Reference Materials for Organic Environmental Analyses," Fourth International Symposium on Biological and Environmental Reference Materials, Orlando, FL, February 5-8, 1990.
19. M. M. Schantz, "Analysis of Marine Tissue and Sediment Samples for the Determination of PCBs and Chlorinated Pesticides. American Chemical Society Fall Meeting, Washington, DC,

August 27-29, 1990.

20. S. A. Wise, "Specimen Banking--A Complement to Traditional Environmental Monitoring", First International Symposium on Biological and Environmental Specimen Banking, Vienna, Austria, September 23-25, 1991.
21. S. A. Wise, "Current Activities within the National Biomonitoring Specimen Bank", First International Symposium on Biological and Environmental Specimen Banking, Vienna, Austria, September 23-25, 1991.
22. S. A. Wise, "Standard Reference Materials for the Determination of PAHs in Environmental Samples --Current Activities", 13th International Symposium on Polynuclear Aromatic Hydrocarbons, Bordeaux, France, October 1-4, 1991.

Contract Reports

Battelle Ocean Sciences. 1991. *Battelle Ocean Science's work/quality assurance project plan for NOAA Status and Trends Mussel Watch Project year 6*. Contract No. 50-DGNC-0-00048. Battelle Ocean Sciences, Duxbury, MA. 127 pp. + appendices.

Battelle Ocean Sciences. 1991. *Year 5 final report on National Status and Trends Mussel Watch Project: Col-lection of bivalves and surficial sediments from coastal U.S. Atlantic and Pacific locations and analyses for organic chemicals and trace elements*. Contract No. 50-DGNC-0-00048. Battelle Ocean Science, Duxbury, MA 128 pp. + appendices.

Wilkinson, D.L., J.M. Brooks, and R.R. Fay. 1991. *NOAA National Status and Trends Mussel Watch Program: Field sampling and logistics, year 6*. TAMU GERG Tech. Rep. 91-046. College Station, TX: Texas A&M University Geophysics and Environmental Research Group. 209 pp. + appendices.

Geochemical and Environmental Research Group

833 Graham Road .

College Station, Texas 77845

TEXAS A&M UNIVERSITY

Telephone: (409) 690-0095 FAX: (409) 690-0059 8 February 1993 TELEx: 910-380-8722

MEMORANDUM

TO: Gunnar Lauenstein National Oceanic and Atrn

.

FROM: James M. Brooks, Ph.D. Project Manager, Gulf of Mexic ~ "Mussel Watch Project"

SUBJECT: JANUARY 1993 REPORT FOR SSEL WATCH PROJECT

Gunnar,

the Gulf of Mexico proper field sampling is complete. I have attached a list of the 65 Year VIII samples that are currently in the laboratory. We will analyze all these samples even though only 61 sites are budgeted. R.J. Wilson will leave next week to collect the three sites in Puerto Rico. Dan Wilkinson is working on the Year VIII field manual which should be completed in early March. Attached are three reprints for your files as follows:

Environmental Significance of the Uptake and Depuration of Planar PCB congeners by the American Oyster (*Crassostrea virginica*). *Marine Pollution Bulletin*. Sericano et al

Oyster Disease and Climate Change. Are Yearly Changes in *Perkinsus marinus* Parasitism in Oysters (*Crassostrea virginica*) Controlled by Climatic Cycles in the Gulf of Mexico? *Marine Ecology*. Powell et al.

Spatial and Temporal Distributions of Contaminant Body Burden and Disease in Gulf of Mexico Oyster Populations: The Role of Local and Large-Scale Climatic Controls. *Holgolander Meeresunter-suchungen*. Wilson et al.

Trace Organic Contamination in Galveston Bay Oysters: Results from NOAA National Status and Trends Mussel Watch Program. *Proceedings of the Second State of Bay Symposium*. Wade et al.

Sorry that I do not have 10 copies of Eric Powell's papers.

Sincerely,

JMB