

R. Cary Tuckfield

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EDUCATION

- Ph.D. Ecology and Evolutionary Biology 1985. Indiana University, Bloomington, Indiana
- M.S. Statistics 1981. Oregon State University, Corvallis, Oregon
- M.S. Zoology/Statistics 1979. Brigham Young University, Provo, Utah
- B.S. Biology 1973. Kansas State University, Manhattan, Kansas

PROFESSIONAL EXPERIENCE

- 2009 – Present Chief Scientist and Evangelist – *PersonaVita Inc.* Leads the research initiatives in the fields of social networking science and internet ecosystem behavior. This responsibility also includes the development and continued improvement of an individual performance metric that fosters the concept of personal branding and validated personal experience.
- 2007 – Present Director – *ECOSTATys LLC*. Providing statistical consulting support to ecologists and environmental science professionals for research and development. Statistical analysis of infra red images and landscape surfaces.
- 2007 – 2009 Sr. Fellow Scientist – Accepted a position with the SRNL Nonproliferation Technology Section to develop a DOE program funding area. Work description includes: 1) nonlinear logistic regression methods evaluation for infrared aerial imagery and 2) assessment of the accelerating burdens of global energy demand and the corresponding geopolitical and ecosystem challenges of global climate change on projected impacts to US national security.
- 1997 – 2007 Manager (L3) - *Statistical Consulting Section*, Provided leadership for eight statisticians and assumed responsibility for \$1.2M annual budget for the section in support of the Savannah River Site (SRS) operating organizations. These included processes in Tritium Division, Defense Waste Processing Facility (DWPF), Salt Waste Processing Facility, Solid Waste, Soil and Groundwater Closure Program, Site Decommissioning and Decontamination, Materials Control and Accountability, Site Procurement, Human Resources, SRNL Weather Center, as well as in offsite programs such as Hanford RPP, Idaho National Laboratory (INL) Waste Processing, and Washington Chemical Demilitarization Co. In addition, I have a 15+ yr collaboration with scientists at the University of Georgia Savannah River Ecology Lab (SREL). Personal collaboration with microbial ecologists (see Publications below) included proposal development and submission experience to NIH, NSF, NOAA, the DOE Office of Science and the National Energy Technology Lab, in lead and collaborative rolls.
- 1992 – 1997 Group Leader (L4) - *Applied Statistics Group*, Savannah River Technology Center (SRTC), a division of the Westinghouse Savannah River Company (WSRC) –I managed resources and provided statistical support with four other statisticians to the DWPF Waste Qualification Program, its laboratory measurement systems, and its canister welding process design to define the window of operability. We also provided statistical support to the tritium pinch welding process and plutonium dissolution process improvement. I was the principal statistician in support of regulatory (RCRA and CERCLA) mandated post-closure care permit preparation for SRS waste sites; groundwater monitoring optimization, and SRS Environmental Monitoring Section data management and sample tracking applications development.
- 1989 – present Consulting Statistician - Provided statistical consulting support for SRNL biologists, ecologists and WSRC environmental scientists, which has involved experimental design, sampling plan development, data analysis, linear and nonlinear modeling, simulation, and geostatistical methods and technology development.

- 1985 – 1989 Consulting Statistician - Applied Statistics Section, Battelle Columbus Division, Columbus, Ohio. Provided statistical analysis support for the National Human Adipose Tissue Survey and asbestos removal in public schools program both funded the US EPA, the US DOE benchmark prioritization survey for complex-wide environmental remediation, and an Electric Power and Research Institute (EPRI) sponsored environmental impact research project on slagging and fouling of coal-fired boilers for power generation.
- 1983 – 1985 Computing Support Specialist - Bloomington Academic Computing Services, Indiana University - Provided computer programming services, statistical computing software support, and developed and taught classes to faculty and students on the Digital Control Language and the VMS operating system on VAX computers. Also provided Help Desk support for faculty and student users of Cyber 855 and Prime computers running NOS and PRIMOS (UNIX) operating systems, respectively.
- 1977 – 1983 University Consulting/Teaching assistantships in zoology, statistics, and biology at Brigham Young, Oregon State, and Indiana Universities.

LEADERSHIP PREPARATION AND EXPERIENCE

- 2004 – 05 **Leadership Survey Team** – appointed by SRNL Director for express purpose of conducting a follow-up Leadership Assessment Survey (2004). Intent: to compare attitudes and perceptions of SRNL leadership culture between 1995 and 2004 respondents, managers and non-managers, and higher ranked and lower ranked employees.
- 1998 – 99 **Leadership Implementation** - appointed by and worked with the Vice President and Director of SRTC to develop leadership training for SRTC management and senior professionals to improve our understanding of leadership principles and decision making skills.
- 1996 – 98 **Leadership Advancement Team** – Developed and conducted survey of current literature and instructional materials on leadership, for the development of a series of leadership training modules aimed at SRTC managers, and senior professionals. Training modules were developed, taught, and reviewed by WSRC management
- 1995 **Team Leader** – Appointed Team Leader of the Quality Improvement Steering Team (QIST) by the SRTC Applied Science and Engineering Technology Department Manager; also organized and led the QIST on a company benchmarking exercise and excursion to the Saturn Company in Springhill, TN followed by presentation of findings to SRTC Director, Department Manager and personnel, and 8 other sections in SRTC.
- 1993 – 2000 **Team Leader** - Technology Development Team – Developed geostatistical and hydrogeological technology for cost effective sampling and administration of groundwater monitoring networks, responsible for presentations at national technology conferences, funding proposals and acquisition for research and development
- 1989 – 1991 **Facilitator** – Stephen R. Covey leadership training courses at SRS on *Seven Habits of Highly Effective People*, and *Principle Centered Leadership*, sponsored by the Covey Institute

COURSE DEVELOPMENT AND TEACHING EXPERIENCE

- 2005, 2006, 2008 Guest lecturer on “Statistical Thinking for Ecologists” during Spring Term offering for Ecology 3500 (Ecosystem Ecology) at the University of Georgia, Athens Campus.
- 2002 Taught previously developed short courses on Design of Experiments and Statistical Thinking for Process Improvement to SRS scientists and engineers.
- 2000 Team member with three other scientists/engineers in the development and instruction of a series of

three workshops on the tools of systems thinking and statistical thinking for more effective decision making among science and engineering leaders

- 1997 Preparation, supervision, and instruction of curriculum, and materials for a 2 1/2 day short course on "Statistical Process Control Methods for Continuous Improvement" to process engineers at the NutraSweet-Kelco Company's manufacturing plant in Augusta, GA.
- 1996 Supervised the creation of two 3-day short courses offered and administered by the Site Training Facility at the US Department of Energy (DOE) Savannah River Site. These courses are offered to the site population of scientists and engineers on the subjects of
- 1) "Design of Experiments for Process Improvement"
 - 2) "Continuous Improvement via Statistical Process Control"

AWARDS

- George Westinghouse Bronze Signature Awards (3) for technical excellence
- Grant-in-aid of research by the Chapman Memorial Fund, American Museum of Natural History
- Grant-in-aid of research by the Sigma Xi Foundation
- Grant-in-aid of research by Indiana University Graduate School for academic achievement
- Eigemann-Eiler research fellowship from the Indiana University Department of Biology
- Recipient of a tropical research fellowship awarded by the Department of Zoology, Brigham Young University in cooperation with the Smithsonian Tropical Research Institute.
- Internship Award from the Brigham Young University College of Biology and Agriculture to present MS thesis research at the 1979 Ecological Society of America meetings as a contestant for the Murray F. Buell Award.
- Eagle Scout

PROFESSIONAL AFFILIATIONS

Adjunct faculty member, Department of Statistics, University of South Carolina
Adjunct faculty member, Odum School of Ecology, University of Georgia
Adjunct faculty member, Biology, Brigham Young University

PROFESSIONAL SOCIETY MEMBERSHIPS

American Statistical Association, (Section on Statistics and the Environment)
Ecological Society of America, (Statistical Ecology Section)

PROFESSIONAL PRESENTATIONS

- 2008 "Globosystem Science: The next level of ecosystem research and public awareness." Annual Meeting of the Ecological Society of America, Millwaukee, WI (R.C. Tuckfield)
- 2007 "Spatial thinking in Genomic Ecology or, Why are codons correlated?" Annual Meeting of the Ecological Society of America, San Jose, CA (R. C. Tuckfield, J. V. McArthur, and C. Baker-Austin)
- "PVP2007-26751: Validation Of Computer Models For Nuclear Material Shipping Packages" 2007 Pressure Vessels & Piping Conference and The Eighth International Conference on Creep and Fatigue at Elevated Temperatures, San Antonio, TX (N. K. Gupta, R. C. Tuckfield, G. Shine, (SRNL) and J. T. Fong (NIST))
- "Statistical Information Coding and Genome Evolution in Bacterial DNA Sequences." 3rd SC INBRE Bioinformatics Research Symposium, Clemson University. (R. C. Tuckfield, J. V. McArthur, C. Baker-Austin)
- 2006 "Co-selection of metal and antibiotic resistance in pathogenic coastal bacteria" Annual Meetings of the International Society of Microbial Ecology (ISME), Vienna, Austria. (J. V. McArthur, R. Stepanauskas, A. Lindell, R. C. Tuckfield, and C. Baker-Austin)

- 2005 “Fish, germs, and steel (and other toxic metals): The multivariate evidence for environmental selection.” Evolution 2005 – Joint Annual Meetings of the American Society of Naturalists, Society for the Study of Evolution, and the Society of Systematic Biologists, University of Alaska, Fairbanks, AK. (R. C. Tuckfield and J. V. McArthur)
- “Smoking guns and heavy metal bullets: Indirect selection for antibiotic resistance” Evolution 2005 – Joint Annual Meetings of the American Society of Naturalists, Society for the Study of Evolution, and the Society of Systematic Biologists, University of Alaska, Fairbanks, AK. (J. V. McArthur and R. C. Tuckfield)
- “Multidisciplinary Approach to Achievement of Risk-Based End-States for Facility Decommissioning at the Savannah River Site” 50th Annual Meeting of the Health Physics Society, 10-14 July 2005 in Spokane, Washington. (P.L. Lee; G.T. Jannik; E.P. Shine; K.L. Dixon; J.L. Roach, Jr.; T.O. Oliver; R.C. Tuckfield; and V.R. Fricke)
- The “A ‘Weight of Evidence’ approach to RCRA groundwater monitoring at the Savannah River Site” NGWA 2005 Ground Water Summit, San Antonio, TX (R. C. Tuckfield, M. E. Denham, R. A. Baker, D. C. Noffsinger)
- 2004 Pre-proposal presentation to the National Institute of Environmental Health Sciences (NIEHS) on contaminant mixture research using the Japanese rice fish (Medaka) in response to a cooperative RFP from the EPA and National Institutes of Health (NIH) called the Superfund Basic Research Program Raleigh, NC (T. Hinton, R. C. Tuckfield)
- “Spatial correlation between antibiotic resistance and heavy metal concentration in contaminated streams” Ecological Society of America, Annual Meetings, Portland, OR (R. C. Tuckfield and J. V. McArthur)
- 2003 “Statistical thinking for Ecologists and Other ‘Dyed-in-the-wool’ Frequentists”. invited seminar, for adjunct faculty position with Department of Statistics, University of South Carolina, Columbia, SC
- “Statistical Thinking, Practical Uncertainty and Ecological Evidence”, invited seminar, Institute of Ecology, University of Georgia, Athens, GA Invited presentation for adjunct faculty position with UGA Institute of Ecology - March
- 2002 “Volumetric constraints as a cost of reproduction in the livebearing fish, *Gambusia affinis*.” Meeting of the International Congress of Ecology, Seoul Korea. (M.C. Belk, D.B. Gonzalez, and R.C. Tuckfield)
- ”Natural Remediation at the Savannah River Site” (with co-author Dr. Michael Heitkamp), and a second presentation entitled “Purge Water Reduction at the Savannah River Site Through PWMS”, Annual DOE Technology Information Exchange (TIE) Conference, Augusta, GA (R.C. Tuckfield)
- 2001 “Why it’s easier to get published than to KNOW: The Case for practical uncertainty”. Invited seminar at Savannah River Ecology Laboratory, Aiken, SC
- “A bioscreening method for heavy metals in streams.” 2001 International Containment and Remediation Technology Conference and Exhibition, Orlando, FL (R. C. Tuckfield and J. V. McArthur)
- “Evaluation of Natural Attenuation at C-Area Wetlands, Savannah River Site, Following EPAs Weighing Analysis System”, Annual DOE Technology Information Exchange (TIE) Conference, Albuquerque, NM. (R.C. Tuckfield)
- 2000 “Bacterial information length as a predictor of stream health”. Trophic Cascades session, Ecological Society of America, Annual Meetings. Snowbird, UT. (J. V. McArthur and R. C. Tuckfield)

- “Statistical thinking and ecological release: More on the weight of evidence”. Modeling Populations and Statistical Ecology session, Ecological Society of America, Annual Meetings. Snowbird, UT. (R. C. Tuckfield and M. C. Belk)
- “Bacteria, metals, and human health: the effect of landscape management on the distribution and dissemination of aquatic bacterial traits”, Microbial Ecology Session, North American Benthological Society, Annual Meetings, Keystone Resort, CO. (J. V. McArthur and R. C. Tuckfield)
- “Roadblocks to LTM Technology Deployment in the DOE Complex” in session organized and chaired by Dr. Tuckfield and Ms. Dorothy Bishop (LLNL), in Workshop on Overcoming Barriers To Long-Term Monitoring (LTM) Technology Deployment, Annual DOE Technology Information Exchange (TIE) Conference, Oakland, CA. (R.C. Tuckfield)
- 1999 “A field assessment of information length: Sleuthing for evidence with geostatistics” Applied Ecology session, *Ecological Society of America*, Annual Meetings. Spokane, WA. (R. C. Tuckfield and J. V. McArthur)
- “A field Assessment of information length: The indirect effect of governmental pollution on antibiotic resistance. Applied Ecology session, Ecological Society of America, Annual Meetings. Spokane, WA (J. V. McArthur and R. C. Tuckfield)
- “Long-term monitoring (LTM) cost reduction using geohydrological and geostatistical thinking”, invited presentation to conference on LTM sponsored by US EPA Technology Innovation Office, St. Louis, MO (M. Ridley and R. C. Tuckfield)
- 1998 "Reducing Long-term Monitoring Costs with Geostatistics Under Dynamic Conditions", *Battelle Conference on Bioremediation Chlorinated and Recalcitrant Compounds*, Monterey, CA. (R. C. Tuckfield)
- "Nelder's Conundrum and the unscientific notion of asymptotic certainty: Towards Bayesian ecology", Statistical Ecology session, *Ecological Society of America*, Annual Meetings. Baltimore, MD. (R. C. Tuckfield)
- "A Geostatistical Method for Long-term Groundwater Monitoring Cost Reduction", Fall Meeting of the *Interstate Technology and Regulatory Cooperation (ITRC) Working Group*, sponsored by the US Dept. of Energy, San Diego, CA. (R. C. Tuckfield and E.P. Shine)
- 1997 “Using Geostatistics and Geochemistry to Reduce Groundwater Monitoring Costs”, *Battelle Bioremediation Conference*, New Orleans, LA. (R. C. Tuckfield)
- "Statistical Significance in Ecology: A guide to the perplexed", invited seminar at Department of Zoology, North Carolina State University, Raleigh, NC. (R.C. Tuckfield)
- “Weighing the evidence in ecological research: A reasonably statistical perspective, Theoretical Population Ecology session, *Ecological Society of America*, Annual Meetings. Albuquerque, NM. (R. C. Tuckfield)
- 1996 “Practical Significance vs Statistical Significance: A guide to the perplexed”, Applied Ecology session, *Ecological Society of America*, Annual Meetings. Providence, RI (R. C. Tuckfield)
- 1995 Invited discussant for session on Regulatory Statistics for Environmental Contamination for the *Joint Meeting of the International Biometric Society, Eastern North American Region (ENAR)*. Birmingham, AL
- “A Technically Defensible Selection Method for Cost Effective Groundwater Sampling Frequencies”, Methodology II session, *3rd Bi-annual Conference on Statistics in Public Resources, Utilities, and in Care of the Environment (SPRUCE III)*. Merida, Yucatan, Mexico (R. C. Tuckfield)

- 1994 “Estimating an Appropriate Sampling Frequency for Monitoring Groundwater Well Contamination”, Environmental Restoration Statistics and Measurements session, *35th Annual Meeting of the Institute of Nuclear Materials Management*, (paper published in conference proceedings). Naples, FL (R. C. Tuckfield)
- Session organizer and Chair for the session on Environmental Restoration Statistics and Measurements session, *35th Annual Meeting of the Institute of Nuclear Materials Management* held July 17-20th, Naples, FL (R. C. Tuckfield)
- “Quantifying Ecological Risk: Boon or ‘Boondoggle’”, Statistical Ecology session, *VI International Congress of Ecology (INTECOL)*, Manchester, UK. (R. C. Tuckfield)
- “Some Statistical Methods for Estimating and Defending a Temporal Sampling Frequency in Ecological Monitoring”, Applied Ecology and Remote Sensing session, *Ecological Society of America, Annual Meetings*. Knoxville, TN (R. C. Tuckfield)
- 1993 "The Looming 'Boondoggle' of Ecological Risk Assessment", Statistical Ecology session, *Ecological Society of America, Annual Meetings*. Madison, WI (R. C. Tuckfield)
- “Some Statistical Methods for Evaluating Subcontract Laboratory Performance”, *39th Annual Conference on Bioassay, Analytical and Environmental Radiochemistry*. Colorado Springs, CO, (R. C. Tuckfield)
- 1992 "To Block or Not to Block: A comparison of Analysis of Covariance (ANCOVA) and Randomized Block Designs", Statistical Ecology session, *Ecological Society of America, Annual Meetings*. Honolulu, Hawaii, (R. C. Tuckfield)
- “A Quality Assessment Program as a Tool for Improving Analytical Laboratory Performance”, *38th Annual Conference on Bioassay, Analytical and Environmental Radiochemistry*. Santa Fe, NM, (R. C. Tuckfield)
- 1991 "Desert Bird Song Similarities: Character Displacement or Environmental Acoustics?", Competition and Animal Community Ecology session, *Ecological Society of America, Annual Meetings*. San Antonio, TX., (R. C. Tuckfield)
- Co-organized with Los Alamos National Laboratory, a national DOE Statistics Workshop held Feb. 21-22 on Advances in Environmental Statistics in Santa Fe, NM, (K. Campbell, and R. C. Tuckfield)
- 1990 "An Applied Avoidance Response to 'Pseudo-replication'", Statistical Ecology session, *Ecological Society of America, Annual Meetings*. Snow Bird, UT, (R. C. Tuckfield)

PUBLICATIONS

- Belk, M. C. and Tuckfield, R. C. 2009. Recruitment and the Allee effect among June sucker fish in Utah Lake. Ecology (in preparation).
- Belk, M. C., Gonzalez, D., Tuckfield, R. C. 2009. Managing costs of reproduction: age-based differences in reproductive allocation and escape performance in a livebearing fish. *Oikos* (in revision).
- Baker-Austin, C, McArthur, J V., Lindell, A., Wright, M. S., Tuckfield, R. C., Gooch, J., Warner, L., Oliver, J. and Stepanauskas, R. 2009. Multi-site analysis reveals widespread antibiotic resistance in the marine pathogen *Vibrio vulnificus*. Microb Ecol. 57(1):151-9.
- Tuckfield, R. C. and McArthur, J. V. 2008. Spatial analysis of antibiotic resistance in metal contaminated streams. Microbial Ecol. 55:595-607.

- Baker-Austin, C., McArthur, J. V., Tuckfield, R. C., Najarro, M., Lindell, A. H., Gooch, J., and Stepanauskas, R. 2008. Antibiotic resistance in the shellfish pathogen *Vibrio parahaemolyticus* isolated from coastal water and sediments of Georgia and South Carolina, USA. J. Food Protection. 71:2552-2558.
- Stepanauskas, R., T. C. Glenn, Jagoe, C. H., Tuckfield, R. C., Lindell, A. H., King, C. J., McArthur, J. V. 2006. Co-selection for microbial resistance to metals and antibiotics in freshwater microcosms. Environ. Microbiol. 8:1510-1514(5)
- Habit, E., Belk, M. C., Tuckfield, R. C., and Parra, O. 2006. Response of the fish community to human-induced changes in the Biobio River in Chile. Freshwater Biology 51:1-11.
- Stepanauskas, R., T. C. Glenn, Jagoe, C. H., Tuckfield, R. C., Lindell, A. H., McArthur, J. V. 2005. Elevated Microbial tolerance to metals and antibiotics in metal-contaminated industrial environments. Environ. Sci. Technol. 39:3671-3678.
- Tuckfield, R. C. 2005. "Chapter 12. Statistical Thinking for Students of Ecology". in *Fundamentals of Ecology*, 5th Ed. E. P. Odum and G. Barrett. Thompson Learning Press.
- Tuckfield, R. C. 2004. "Purveying Ecological Science". in *The Nature of Scientific Evidence*, M. Taper and S. Lele, eds., University of Chicago Press.
- McNab, W. W. Jr., Rice, D. W., and Tuckfield, R. C. 2000. Evaluating chlorinated hydrocarbon plume behavior using historical case population analyses. Bioremed. J. 4:311-335.
- McArthur, J. V. and Tuckfield, R. C. 2000. Spatial Patterns in Antibiotic Resistance among Stream Bacteria: Effects of Industrial Pollution. Appl. Environ. Microbiol. 66:3722-3726.
- McArthur, J. V., and Tuckfield, R. C. 1997. Information length: Spatial and temporal parameters among stream bacterial assemblages.. J. N. Am. Benthol. Soc. 16:347-357.
- Tuckfield, R. C. 1997. Review of "Risk vs Risk: Tradeoffs in Protecting Health and the Environment" by J. Graham and J. B. Wiener, 1995, Harvard University Press. Ecoscience 4:120-121.
- Johnson, V. M., Tuckfield, R. C., Ridley, M. R. and Anderson, R. A. 1995. Reducing the sampling frequency of ground water monitoring wells. Environ. Sci. Tech. 30:355-358.
- Paller, M. H., Tuckfield, R. C., Starkel, W. M. 1995. Statistical methods for detecting ichthyoplankton density patterns that influence entrainment mortality. J. Freshwater Ecol. 10:231-240.
- Harris, S. P. and Tuckfield, R. C. 1994. "A combined Shewhart-CUSUM procedure with application to groundwater monitoring." in Proceedings of the 21st Annual National Energy and Environmental Quality Division Conference, sponsored by the American Society for Quality Control.
- Murphy, C.E., Jr. and Tuckfield, R. C. 1994. Transuranic element uptake and cycling in a forest over an old burial ground. The Science of the Total Environment 157:115-124.
- Tuckfield, R. C. 1994. "Estimating an appropriate sampling frequency for monitoring ground water well contamination", in 35th Annual Meeting Proceedings of the Institute of Nuclear Materials Management, 23:80-85.
- Khalil, M.M. and Tuckfield, R.C. 1992. A quality assessment program for monitoring laboratory performance. Amer. Environ. Lab. April issue.
- Hillman R.E., P.D. Boehm, S.Y. Freitas, J. Trefry, E. Crecelius, J. Payne, R.C. Tuckfield, C.S. Peven, W. Steinhauer, N.M. Young, L.M. Altushul, G. Farmer, D. McNabb, A. Lissner, R. Sims, J. Clayton, T. Fogg, R. Shokes. 1989. Collection of bivalves and surficial sediments from coastal U.S. Atlantic and

Pacific locations and analysis for organic chemicals and trace elements. Phase 2 Final Report. Prepared for the Department of Commerce, NOAA. Contract No. 50-DGNC-50263.

Tuckfield, R.C., Tsay, Y., Margeson, D.P., Ogden, J., Chesson, J., and Bauer, K. 1988. Evaluation of Asbestos Abatement Techniques Phase 3: Removal. EPA 560/5-88-008. Final Report to US EPA.

Joiner, R.L., Hayes, T.L., Tuckfield, R.C., and Reeves, M.L. 1988. Task 85-17: Validation of an Analytical System for the Determination of SOMAN (GD) in Environmental Air and Proof of Decontamination Samples. Contract no. DAMD17-83-C-3129. Final Report to US Army Medical Research and Development Command, Institute of Chemical Defense.

Joiner, R.L., Hayes, T.L., Tuckfield, R.C., and Reeves, M.L. 1988. Task 85-17: Validation of an Analytical System for the Determination of MUSTARD (HD) in Environmental Air and Proof of Decontamination Samples. Contract no. DAMD17-83-C-3129. Final Report to US Army Medical Research and Development Command, Institute of Chemical Defense.

Joiner, R.L., Hayes, T.L., Tuckfield, R.C., and Reeves, M.L. 1988. Task 85-17: Validation of an Analytical System for the Determination of VX in Environmental Air and Proof of Decontamination Samples. Contract no. DAMD17-83-C-3129. Final Report to US Army Medical Research and Development Command, Institute of Chemical Defense.

Boehm, P.D., S.Y. Freitas, J. Trefry, E. Crecelius, R.E. Hillman, J. Payne, H. J. Costa, R.C. Tuckfield, C.S. Peven, J.S. Brown, W. Steinhauer, N.M. Young, L.M. Altushul, G. Farmer, D. McNabb, A. Lissner, R. Sims, J. Clayton, T. Fogg, R. Shokes. 1988. Collection of bivalves and surficial sediments from coastal U.S. Atlantic and Pacific locations and analysis for organic chemicals and trace elements. Phase 3 Final Report. Prepared for the Department of Commerce, NOAA. Contract No. 50-DGNC-50263.

Barrett, R.E., Tuckfield, R.C., and Thomas, R.E. 1987. Slagging and Fouling in Pulverized-Coal-Fired Utility Boilers. Volume 1: A Survey and analysis of Utility Data. EPRI CS-5523, Vol. 1, Research Project 1891-1.

Boehm, P.D., S.Y. Freitas, J. Trefry, E. Crecelius, R.E. Hillman, J. Payne, H. J. Costa, R.C. Tuckfield, C.S. Peven, J.S. Brown, W. Steinhauer, N.M. Young, L.M. Altushul, G. Farmer, D. McNabb, A. Lissner, R. Sims, J. Clayton, T. Fogg, R. Shokes. 1987. Collection of bivalves and surficial sediments from coastal U.S. Atlantic and Pacific locations and analysis for organic chemicals and trace elements. Phase 2 Final Report. Prepared for the Department of Commerce, NOAA. Contract No. 50-DGNC-50263.

Boehm, P., Steinhauer, M., Crecelius, E., Neff, J., and Tuckfield, R.C. 1987. Beaufort Sea Monitoring Program: Analysis of Trace Metals and Hydrocarbons from Outer Continental Shelf (OCS) Activities. Final Report MMS 87-0072 to Minerals Management Service, US Dept. of Interior.

Tuckfield, R.C. 1985. Ecological influences on the geographic patterns of song variation in two desert sparrows. Ph. D. dissertation, Department of Biology, Indiana University.

Tuckfield, R.C. 1984. Optimal territory size in some tropical dragonflies. (ms. submitted to Animal Ecology).

Tuckfield, R.C., Jorgensen, C.D., and Schaalje, B.J. 1984. Optimal territory size in two desert sparrows. (ms. submitted to American Naturalist).

Pederson, J. and Tuckfield, R.C. 1983. A comparative study of coyote food habits on two Utah deer herds. Great Basin Nat. 43:432-437.

Tuckfield, R.C. 1979. Optimal territory size: A model and test. M.S. Thesis, Department of Zoology, Brigham Young University.

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Tuckfield, R.C. 1977. Feeder stratification and variation in niche parameters. Encyclia: Proceedings of the Utah Academy of Science.

Rowher, S., Fretwell, S.D., and Tuckfield, R.C. 1977. Distress screams as a measure of kinship in birds. Amer. Midl. Nat. 96:418-430.