Scientific misconduct is usually defined within narrow constraints. Many professional societies consider it to include only data fabrication/falsification and plagiarism, taken from the National Science Foundation's definition (NSF 1996). Such a narrow scope does not adequately address compromised ethics within the scientific 'community,' where there is evidence of serious dysfunction (Marshall 1995, Ryan 1996). For example, Swazey et al. (1993) concluded, *"Scientific misconduct, as narrowly defined to include plagiarism and data falsification, takes place less frequently than other types of ethically wrong or questionable behavior by* [science] *faculty."*

In the environmental/health arena are scientists who commonly misrepresent their expertise to obtain grants (e.g., O'Neill 1994, Gelbspan 1995). In some cases, scientists – although ethically required to abstain from reviewing grant proposals or manuscripts by other scientists with whom they have personal or professional conflicts of interest – ignore that requirement and reject the work so that it is not funded or published, respectively (e.g., O'Neill 1994). In other cases, scientists have evaluated another scientist's grant proposal as 'poor' in quality because they covet the research, and then obtain the grant funding to do it by using the ideas/writing of the researcher whom they falsely condemned (e.g., Marshall 1995, Moran 1998). **In others, scientists inform potential funding sources (agencies, industries) that they will find what is in the best interest of the funder to find, if given the support (e.g., O'Neill 1994)**….None of these breaches in ethics easily fits the generally accepted, narrow definition of scientific misconduct (NSF 1996, part 1).

Science as a general discipline has little in the way of effective mechanisms to combat such serious ethical breaches, except for the "test of time" – years of publications for an historical verdict that may occur long after the scientists who told the truth, based on sound data rather than false claims, are deceased (e.g., Miller 2000). Ironically, a scientist who engages in the above unethical actions is usually not punished but, rather, rewarded (e.g. Gelbspan 1995) - often with grants and, thus, enhanced recognition and power, **with the scientist's increased control over the issue through design of the research and interpretation of the data**. **It is easy** for such scientists – deliberately, or through lack of expertise -- **to design studies that "fail" or find nothing, so that the work is used by those who sanctioned it to falsely negate the issue. The net outcome can be years required to correct the misinformation, with cost of careers and lives as well as destruction of public-trust natural resources for the lucrative benefit of few** (O'Neill 1994, Wilkinson 1998).

Ryan (1996) wrote, *"…the scientific community has been reluctant to discourage misconduct and sloppy research …Even the National Academy of Sciences has indicated that such standards are strictly voluntary. The current research environment seems to foster cynicism about simple virtues such as honesty and fairness, and it clearly fosters hostility toward anyone who makes claims about misconduct."* We view inquiries into the conduct of environmental /health scientists as action that should be taken on a broader scale to strengthen science ethics. Such practice could lift the issue beyond the reach of local controlling forces; and, if carefully and constructively conducted, it could also provide a means to more objectively evaluate the scientists and the data involved….Such evaluations, if more frequently practiced, could help to address the critical need identified by Ryan (1996) for additional mechanisms to *"stimulate…wide-ranging discussion of integrity and misconduct that has been lacking in the scientific community for so long."*

Gelbspan, R. 1995. The Heat Is On. Reading (Mass.): Perseus Books.

Marshall, E. 1995. Suit alleges misuse of peer review. Science 270:1912-1914.

Miller, G.T. Jr. 1995. Living in the Environment, 11th edition. New York: Brooks/Cole Publishing Company, p. 614.

National Science Foundation. 1996. Chapter VI, Misconduct in Science and Engineering. *In:* Code of Federal Regulations, Title 45, Volume 3, part 689, Sec.689.1(a) – (1), (2). Alexandria: National Science Foundation.

O'Neill, D. 1994. The Firecracker Boys. New York: St. Martin's Press.

Ryan, K. 1996. Scientific imagination and integrity. Science 273: 163.

Swazey, J., M. Anderson, and K.S. Lewis. 1993. Ethical problems in academic research. American Scientist 81:542-553.

Wilkinson, T. 1995. Science Under Siege: The Politicians' War on Nature and Truth. Boulder: Johnson Books.