

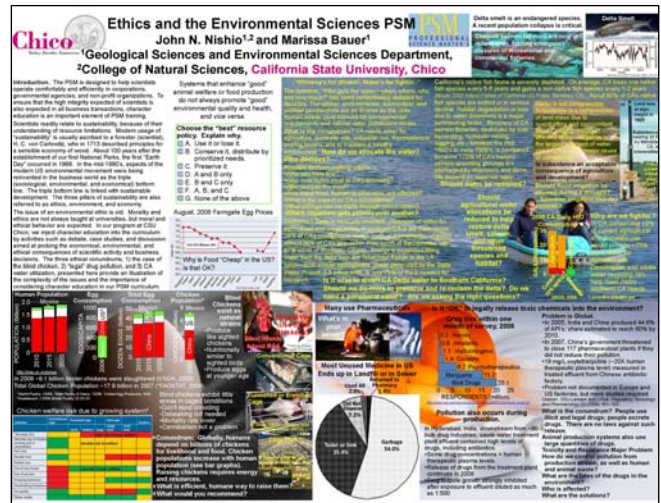
# Ethics and the Environmental Sciences PSM

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Society expects scientists to be ethical and possess high standards of research integrity. Recently, there has been a number of fraudulent research papers retracted from reputable journals. Fortunately, the stereotype of the objective, honest scientist persists, and overall, society holds scientists in high regard along with teachers and military personnel.

In contrast to scientists, other groups of professionals, such as business people and politicians, are not considered in such high regard by the public, and the stereotype of such folks reflects characteristics such as greed, dishonesty, and backstabbing. Fortunately, not all business folk operate in such a fashion, and truly sustainable businesses cannot operate with such values dominating decision making. While society expects integrity and honesty from everyone, it appears to be more forgiving and/or accepting of ethical and moral lapses related to politics and business than to science.

The professional science master's (PSM) degree is designed to help scientists operate comfortably and efficiently in the culture of corporations, governmental agencies, and non-profit organizations. Ensuring that the high integrity expected of scientists is also expected in all business transactions is an important element of PSM training.



Scientists can readily relate to sustainability. Modern usage of “sustainability” is usually ascribed to a forester (scientist), H. C. von Carlowitz, who in 1713 described principles for a sensible economy of wood. In the mid-1990’s, aspects of the modern US environmental movement were being reinvented in the business world as the triple (sociological, environmental, and economical; also stated as people, planet, and profits) bottom line. The triple bottom line is linked with sustainable development or sustainability. The three pillars of sustainability are also referred to as ethics, environment, and economy.

The issue of an environmental ethic is old. In “nature” there is no waste; everything is recycled. The era of an environmental ethic based on dominion was embraced not necessarily because of religion, but because of greed. Greed has led to

the unproductive present day debate about environmental protection versus economic stability and growth. In the mid-1800's the industrial revolution began, and an unknowing public also initiated a massive change in environmental quality.

Today, the melding of economic forces and environmental protection are epitomized by efforts to establish a cap and trade system for greenhouse gases (GHG). In the US the Clean Air and Clean Water Acts of the early 70's have had significant positive impact on environmental quality. No capping and no trading were involved. Today, people can pay someone to "offset" their dirty activities. "Dilution is the solution to pollution," is being replaced with "Feeling good about pollution is the solution to pollution." Is it ethical to profit from trading GHG's?

Morality and ethics are not always taught at universities, but moral and ethical behavior are expected. Character education may be best incorporated into the curriculum by activities such as debate, case studies, and discussion aimed at probing the economical, environmental, and ethical consequences of scientific activity and business decisions. Some ethical conundrums related to the environment will be presented.