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PROFESSIONALISM AND ETHICS: SOME ISSUES OF INCREASING CONCERN FOR FISHERY BIOLOGISTS

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What's the Problem?

The problem is that fishery biologists are becoming increasingly involved in matters of professionalism and ethics, and all too often do not have the proper experience or the formal training to make the "right" choice. A number of factors have contributed to creating this situation, including, for example, competition for dwindling research funds, expansion of the biological consulting industry, pressure for biologists to become more involved in policy decisions, and a general lack of close scrutiny of professional behavior in the fishery sciences. The reader can doubtless add many more situations to this list. Growing concern for standards of ethical and scientific conduct has prompted the adoption of codes of ethics by organizations such as the American Fisheries Society, The Wildlife Society, and the Society of American Foresters. But while these codes of ethics are revised from time to time, they are by necessity general in nature and not always helpful in resolving problems that fall into the "gray area" of professional conduct where the distinction between what is proper and improper may be blurred. Adherence to the codes by society members is, for the most part, voluntary. Whether we like it or not, fishery biology is one of the least regulated technical professions. The following table compares various aspects of regulation among different professional groups:

Standards that Professionals Have Imposed on Themselves (from Monroe 1983)

		Professional Group*					
	Standard	PHYS	CPAs	ATTY	ENGN	FB/WB	FORSTR
1.	A graduate degree is *required* to practice in the field	YES	NO	YES	NO	NO	NO
2.	An apprenticeship is *required* to practice in the field	YES	YES	NO	NO	NO	NO
3.	Certification is based on *examination*	YES	YES	YES	YES	NO	YES/NO
4.	Professional Society *reviews* and *certifies* college programs in field	YES	YES	YES	NO	NO	YES/NO
5.	A *license* is required to enter field	YES	YES	YES	YES	NO	NO
6.	There is a professional *conduct review board*	YES	YES	YES	YES	NO	NO
7.	Continuing education is *required* to maintain professional status	YES	NO	NO	NO	NO	NO
8.	There is a rigid, specific, *code of ethics*	YES	YES	YES	YES	YES/NO	YES/NO

*Professional Groups: PHYS, physicians; CPAs, Certified Public Accounts; ATTY, attorneys; ENGN, engineers; WB, wildlife biologists; FB, fisheries biologists; FORSTR, foresters

Lack of regulation places an enormous responsibility upon the individual to uphold high standards of conduct in his or her professional career. There is general agreement that fishery biologists do behave in a professional and ethical manner, yet there are recurrent problems that have been the subject of considerable recent debate. In order to address some of these issues a panel discussion was held at the 1986 Western Division AFS meeting in Portland, Oregon. Panelists included scientists from academic, public agency, consulting, and private industry backgrounds. As expected, there was a diversity of opinion among panel members over the topics. However, the panelists concurred that certain issues deserved further discussion and debate among fishery professionals. The purpose of this paper is to highlight those problems and summarize some of the ideas raised by the panel members.

The Problem of Education

Where does the responsibility for training young fishery workers to be conscientious professionals lie? Can ethical conduct really be taught in schools? Do we need continuing education to maintain high standards of professional behavior after graduation? These are questions that are likely to provoke disagreement and for which there are no easy answers. Almost without exception, the panelists agreed that fishery graduates are often ill prepared to deal with real-world situations requiring ethical judgments, or are generally unaware of who to turn to for professional advice. Some suggestions were:

1. Universities need to take more time to educate graduate students in the philosophy of science.

2. Many problems stem from lack of application of the scientific method. Students should be taught to be more rigorous in designing their studies, so that their results will not be biased by preconceived conclusions and absence of controlled hypothesis testing.

3. Continued education or training of some sort after graduation is important in order to give career fishery workers an opportunity to discuss, clarify, and reinforce their professional standards.

4. Scientific integrity can be enhanced by broadening one's background in other disciplines in order to gain a better perspective of resource management problems.

5. There should be a more widely available source of information and guidance pertaining to ethical matters for practicing fishery biologists.

Further information on the topic of education and training can be found in Fletcher (1977), Lackey (1979), Royce (1984a, 1984b), Thomas (1985), and in an excellent booklet on professionalism and ethics for beginning scientists published by Sigma Xi (1986).

The Problem of Loyalty

Over the past decade growing numbers of fishery biologists have found employment with organizations whose primary objective may not be the conservation and management of fish populations. Examples include the Forest Service, Soil Conservation Service, Corps of Engineers, private industry, and environmental consulting firms. These scientists may occasionally find themselves in situations where they are asked to defend a policy, practice, or proposal that they feel conflicts with the goal of protecting fish populations. At the very least, most environmental biologists have felt pressured at one time or another to take a stand on a controversial issue. Conflicts between allegiance to one's employer, loyalty to the fishery resource, and external pressure to publicly advocate a position (however just) without knowing all the facts can contribute to confusion when deciding on the proper course of action.

How can we identify conflicts of interest? When does responsibility to the common good supersede allegiance to an employer or client? When is "blowing the whistle" on an employer or client justified? Is it right for fishery workers who have been trained as scientists to be asked to participate in policy decisions that involve competing political interests? How confidential is "proprietary information" when it appears to be at odds with the welfare of fish and wildlife populations? At the heart of these questions is the issue of loyalty -- an issue that touches virtually all arenas of professional employment: academia, federal and state agencies, consultants, and industries. Concerning this problem the panelists raised the following points:

1. Too often, the distinction between the staff requirement of supplying technical information and the line requirement of prescribing management actions is lost. Fishery biologists are often not equipped to make the policy decisions inherent in most line organizations.

2. It is unethical for employers to ask staff members to go beyond their technical competence in making policy recommendations.

3. Interest groups should not pressure fishery workers to take stands on matters that are poorly understood.

4. Being a maverick within an organization can confer some integrity, but care must be taken to avoid committing political suicide.

5. There needs to be a clear statement of AFS policy on the protection of "whistle blowers" from unfair retaliation by employers or clients.

6. There is often no one to turn to within organizations for unbiased advice on potential conflicts of interest.

For additional discussions of the loyalty question the reader is referred to papers by Hanson (1976) on proprietary information, Banzhaf et al. (1985) on conflicts of interest and whistle blowing, and Kennedy (1986) on career development and loyalty within different professional subcultures.

The Problem of Honesty

In very many cases, tough decisions involving professional and ethical judgment come down to telling and acting the truth. This theme runs through most of the canons of codes of ethics. For example, in the detailed code of ethics of The Ecological Society of America, 18 of the 23 canons directly or indirectly proscribe dishonest behavior. Violations can range from using illegally copied computer software, to falsely advertising professional services, to injuring another scientist's reputation by untrue or biased statements, to disseminating erroneous or exaggerated claims concerning the effects of certain actions on the environment. Points raised by the panelists included:

1. Integrity is bolstered by acting on one's own convictions, even though being honest may result in unpopular interpretations and recommendations.

2. Fishery biologists too often do not clearly distinguish between personal opinion and verified scientific observation, resulting in the repetition of unproven "facts".

3. Outside peer review of scientific studies should be more widely practiced in many organizations.

4. Lack of sufficient financial support from funding agencies, employers, and clients may make it impossible to arrive at definitive conclusions, in turn making it very difficult to formulate objective management recommendations.

5. Honesty cannot be taught in school. It must come from individual commitment.

For additional reading on the subject of truthfulness the reader is referred to a stimulating and controversial book by Broad and Wade (1982). A good summary statement on the importance of truthfulness is also found in the handbook Honor in Science (Sigma Xi, 1986, p. 39):

> "...there remain two fundamental reasons why scientists should be concerned with the ethics of their research. The first reason is that without the basic principle of truthfulness -- the assumption that we can rely on other people's words -- the whole scientific research enterprise is liable to grind to a halt. Truthfulness may or may not be the cement that holds together society as a whole, but certainly it is essential in science. Secondly, whereas truthfulness in a wider context can be maintained and enforced by the institutions of the society we live in, scientific research is a specialized activity, each scientist working largely on individual experiments and analysis on the fringes of knowledge. Truthfulness -- honesty -- therefore has to depend primarily on individual scientists themselves."

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