

## Translating Environmental Science into Policy into Action

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### Introduction

A purpose of this session is to examine ways in which ecology and the various disciplines comprising human ecology can be integrated to deal effectively with environmental problems raised by human impacts on the environment. This assumes that in addition to developing scientific knowledge, there is a need to use that knowledge to develop environmental policies to achieve concrete action on the ground.

### Question

Many ecologists are skilled at identifying environmental problems and defining solutions, but not at achieving concrete action to implement those insights. The question, then, is how to help ecologists and their colleagues to translate environmental science into policy and action.

### Background

Most ecologists' education and training do not prepare them to be effective in the policy arena, much less in ways to achieve concrete action – to get something done. One obstacle is in their basic training. The training of ecologists and other scientists emphasizes that there is no black or white, and they seek to define the shades of grey. Further, there is rarely a fixed time constraint on their endeavors. In contrast, a policy maker must make essentially black or white decisions and make them within a specified time frame. All too often, a higher priority is given to making a decision on time than to making the best decision. Thus the basic training of policy makers is almost 180 degrees away from that of scientists. Failure to recognize this fundamental disconnect is a major obstacle to bridging the gap between science and policy making.

A further major obstacle is that ecologists find disincentives in the form of the academic attitude that somehow the application of science is inferior to so-called “pure science.” This ivory tower holdover has been largely discredited in the context of environmental issues, and the discipline of conservation biology exists explicitly to foster applications of science, but the attitude remains a potent obstacle, especially for younger ecologists

seeking academic acceptance and tenure. The culture of “publish or perish” and “stick to pure science” is alive and well.

However, even when ecologists ignore or overcome these obstacles, there are few resources available to provide guidance for achieving action. For example, most textbooks that describe the policy process present an academic picture that bears little relationship to the messy real world process.

## **Method**

One successful approach to providing such guidance has been developed in the Department of Environmental Science and Policy (ESP) at George Mason University, Fairfax, Virginia. This is in the form of a course for graduate students entitled “Translating Environmental Science and Policy into Action.” The course was developed specifically to identify and analyze the basic principles, skills and strategies involved in turning scientific knowledge and information into policies and then into action.

The Department has emphasized the integration of environmental science and policy. A large percentage of their graduate students already work at, or intend to work at the intersection of science and policy, for example, in state or federal resource or environmental agencies, the Smithsonian Institution, the World Bank group, or Non-governmental organizations. The various relevant curricula of the Department are oriented to this objective. But what was found lacking was education on how to achieve action in the real world. Consequently, the department asked a professor who had a long track record of achieving such action, to develop and teach a course based on his own career, to show from actual examples how environmental science and policy can be translated into real action.

The course uses a series of actual case histories drawn from personal experience. The approach is to give a case history, then have the class analyze it, and derive from it the principles, strategies and skills that work.

The core of the course is roughly 30 case histories of successful, and a few unsuccessful efforts to translate environmental science and policy into concrete action. The cases are drawn from personal experience with the Executive and Legislative Branches of the U.S. Government, foreign governments both in the industrialized and developing world, the World Bank and regional development banks, United Nations Specialized Agencies, other international organizations, non-governmental organizations, and other relevant situations.

The case histories are quite varied to provide a wide range of situations and types of action, and consequently to provide the broadest range of potential lessons learned. They include working with U.S. Presidents to achieve environmental policies and legislation; with Indian Prime Minister Nehru successfully to establish a national park, and conversely, failing to achieve a similar result with the Chief Minister of an Indian State; stopping an environmentally and economically destructive development project in Nepal; developing successful projects to conserve endangered species in several countries; efforts to improve management of U.S. public lands involving issues such as predator control, off road vehicles, clear cutting and management of non- game wildlife; establishment of parks and reserves in Africa and Asia; developing U.S. environmental legislation (e.g., Endangered Species Act, Marine Mammal Protection Act, Ocean Dumping) and shepherding them through the Executive Branch and Legislative Branch to passage; and even successfully dealing with an aggressive motorcycle gang in rural Virginia.

For each case the professor:

- Describes the background to provide the class a perspective on the case, discussing the setting, the people, organizations or institutions involved, and the science and or policy that is involved;
- States the objective, i.e. what is the action or policy that was wanted, from whom or what;
- Describes the procedure followed, just what steps were taken in the attempt to achieve the objective, and
- Gives the result, describing the action, if any, that was obtained.

After the professor presents each case history it is followed by active class discussion to analyze the case and identify what lessons can be learned, and what specific principles, skills and strategies were responsible for or contributed to the results. The students then assemble the principles, skills and strategies into a “tool kit” they can use to achieve action.

There are over 30 items in the “tool kit”, and they include such things as:

- Do your homework; be prepared; know the background; know how the decision maker operates, thinks; determine what is needed;
- Anticipate and prepare for potential objections;
- Make your recommendations a win- win situation for the decision- maker, or as close to a win- win as possible. Show how it benefits the decision maker;
- If there will be winners and losers, provide a way for the losers to save face;
- Leave your ego at the door, let the decision maker take the credit;

- Present your recommendations in a form, language and time frame the decision maker can use;
- Establish rapport;
- Prepare your presentation targeted specifically to the person you want to convince, and target it to his/her perspective, understanding, interests and situation;
- Respect the decision makers' point of view or abilities;
- Look for – and make use of – “trigger events” which catch peoples' attention and can build political or public support for your objective;
- Know the rules; know how the system works and use it to your advantage;

The students also prepare and present a case study of an effort to translate science or policy into action. They are to explore in detail the factors that led to success or failure in moving from science to policy and action, and lay out the specific lessons learned.

## **Results/Conclusions**

While there are some basic principles that hold true in many situations, no single formula for achieving action can be applied in every case. Careful analysis and flexibility are always required. Each situation is somewhat different and to succeed one has to be able to assess what are the specific needs of the situation and then select from the array of principles, skills and strategies to fit them to those specific needs.

This course has been given periodically since spring of 2000, and the feedback from graduate students has been uniformly extremely positive. Even several years after taking the course, former students have emphasized that use of the “tool kit” has made a major improvement in their ability to accomplish things; many have said that they wished they had known of the lessons of this course much earlier in their careers; some have even said it has helped with non- professional aspects of their lives.

The bottom line is that this approach to learning – which uses personal real world experiences, and requires the students to think and carefully analyze and to develop a “tool kit” of principles, skills and strategies – has proven an effective way to guide students to translate environmental science into policy and action.