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# Commentary on Gordon Baskerville's [Perspective](#)

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Although I have been an animal ecologist and not so much a manager, I sympathize with the comments by Dr. Baskerville and agree with most of the grief he raises. At the same time, I can see no easy solution.

The very basic problem he raises, i.e., inadequate reflection before action, lies, in fact, in our (ecologists') inability to create proper predictions based on the present state of knowledge. In spite of our efforts, we are not yet at the stage of discovering how systems are structured and how they function. Without such knowledge, it is impossible to provide satisfactory predictions. However, this should not mean that ecology is used in resource and environmental management much as a drunk uses a lamp post.

In addition to being a faculty member of Biological Sciences, I have also been involved in the Graduate Program of Environmental Sciences. This Graduate Program encompasses a broad area, from the natural sciences to social sciences. When I first joined the program (in the late 1970s), faculty members often discussed how we could contribute to the then much-argued Kogai problems (public pollution, etc.). I still remember that, when I asked how natural scientists like me could contribute to society, a new faculty member (who had been chief of the Division of Environmental Protection of the Ministry of Environment) said that we natural scientists should present only firm data and our best predictions based on them, nothing more or less than that. It is a truism. Unfortunately, we were (and still are) not at the stage to provide "best predictions," because of our lack of appropriate knowledge.

Does all this mean that we ecologists are completely useless for resource and environmental management, as Dr. Baskerville implies? I think there are some roles we can play, be it minor at present, but these will increase in the future.

Recently, I have been serving as a member of the prefectural committee on the environment, which consists of politicians, businessmen, representatives of conservation groups, and scientists like me. We deal with prefectural laws on environment, development planning, and environmental assessment. In Japan, any large-scale projects require prior environmental assessment. However, assessment often begins after the project is already pretty well planned and budgeted. This means that, in many cases, the assessment tends to be in favor of the project. Also, public disclosure of many reports, such as the environmental assessments on the projects, has been quite limited. Finally, the government is now ready to propose a new environmental assessment law to the Diet. According to this newly proposed law, assessment begins at a very early stage, prior to the formal planning of the project. Also, this new law covers construction of electricity-generating plants, which had been excluded from the old law because of strong opposition by the MITI (Ministry of International Trade and Industry). Also, the new law requires *a posteriori* assessment, i.e., environmental assessment after the project has been completed. After the law is passed in the Diet, each prefecture makes their own regulations, based on the government law as a model. Although it is still to be seen whether the prefectural laws will be more stringent than the government law, this seems to be real progress in Japan. Early involvement by the public and the *a posteriori* assessment are especially welcome. Now the situation is at least coming closer to that in other developed countries.

Recently, I was involved in the assessment of one particular project, which dealt with the development of a large transportation center along a freeway amid rice fields. An environmental assessment done by a commercial environmental consultant firm reported that many organisms in the area were also present in the surrounding area. However, there has been, at present, no guarantee that the surrounding area will be kept as it is in the future. The present law only requires the assessment of the area to be developed, not the surroundings. The committee can say nothing about the surrounding area; they are just keeping their fingers crossed, hoping no further

development will occur in the future. Yet it is quite clear that any major development plan requires land use planning of the surrounding area, too. It is the task of the committee to make the local government include such clauses in the new regulations.

The *a posteriori* assessment required in the newly proposed law will help to ascertain whether our present ecological knowledge is really reliable for environmental assessment. As Dr. Baskerville pointed out, we have many so-called general ecological laws, but we are unsure whether these laws can really apply to particular, local situations. *A posteriori* assessment will reveal the shortcomings of our present ecological knowledge and will show the future direction for a better understanding of nature, which is fundamental to proper environmental assessment and management. However, for this purpose, it might be necessary to train the so-called environmental assessment specialists, who should have more local (in the sense used by Dr. Baskerville) knowledge than ordinary ecologists possess. This may require a different education from the present curriculum we employ in biological and environmental education.

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## RESPONSES TO THIS ARTICLE

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