

PERSPECTIVES ON WATERSHED AND PROTECTED AREAS MANAGEMENT

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Introduction

It is important to have a clear, shared vision to guide planning and management, to use a focused interpretation of an ecosystem approach, to allocate significant attention to improving communication among participants, and to give explicit and systematic attention to implementation from the outset of any management process. If those four aspects receive more attention, opportunities for drawing upon and combining the best aspects of watershed management, and protected areas management, would be substantially enhanced.

Definition, Interpretation and Significance of Watershed Management

In the spirit of improving communication, particularly at an international scale, we need to appreciate that many Europeans, Australians and New Zealanders are usually puzzled by our interpretation of “watershed” to mean the area drained by a river system. To them, “watershed” means the high point that differentiates the drainage areas of adjacent catchments or river basins. They are correct, and Americans and Canadians are incorrect when using it to mean a drainage area rather than the high point delineating two or more drainage areas.

Perhaps more importantly, we should not automatically accept that the “watershed” is the most logical ecosystem for water and protected area management. First, focus upon a watershed overlooks the fact that surface drainage areas and aquifer areas are not necessarily the same. If one of our objectives is to protect source areas, or groundwater quality, we need to recognize that managing with regard to surface watersheds may not be sufficient to address groundwater or source area protection issues. Second, given the need to manage other aspects of the biosphere, watersheds will not always be sufficient. For example, migratory birds and mammals do not recognize or confine their activities to watershed boundaries. Thus, we need to remember that there are many choices regarding what is an appropriate ecosystem. While the watershed has many advantages, it will not always be the most appropriate choice, especially when there is interest in managing protected areas.

Building Blocks for Watershed Management

Dan noted that core concepts associated with watershed and protected area management include stakeholders, partnerships, participatory approaches, information sharing and consensus building. Such ideas also are prominent in the *Report from the Advisory*

Committee on Watershed-based Source Protection Planning (2003). Such concepts assume a commitment to or a willingness for collaboration, cooperation and coordination. However, many would argue that human nature is more often characterized by competition and protection of interests than by collaboration and openness, and that many individuals are motivated more by self interest than by the common good. If this is even only partially accurate, much more time should be dedicated to creating management processes based on the presence of competition related to satisfying self interest, rather than on the willingness to share, be open, and cooperate. Significantly, we should be considering more explicitly how we can design institutions, both formal and informal, to take advantage of the likelihood of ongoing conflict, based on differing values and interests, to ensure that conflict can be a positive force to highlight where issues are not being addressed well.

Role of Leaders, Champions and Advocates

With reference to his own experience and reports by others, such as the evaluation of watershed management in Ontario completed in 1997, Dan identified factors or variables which contribute to effective management. Whether referring to watershed or natural area management, one variable not on his list that should be highlighted is the need for leaders, champions and advocates. Various studies have confirmed that this variable often is a key, and sometimes is the key variable in effective management.

Managing watersheds and protected areas, on their own or together, is often a challenge, with many impediments and obstacles to overcome. People can and do get discouraged. Without leaders or champions to keep pushing forward, it often is difficult to make progress. Furthermore, leaders can be created and nurtured, and so an important role for those in senior management positions is to identify potential leaders, and to provide an environment in which they can become strong leaders. Too often, it seems, in our educational institutions or resource agencies, it is assumed leaders are born rather than made, or that it is best to "learn by doing." One result is that often the same mistakes get repeated again and again, as different people follow each other and learn. We should be capable of creating more effective learning environments.

Interpretation of Ecosystem Approach

Dan properly cautioned that managers should strive to keep focused, and not try to take on too much if they are to be effective. I agree completely, and believe there is a fundamental matter requiring attention related to how an ecosystem approach is interpreted.

There are at least two interpretations (Mitchell, 1990). The most long standing, and common, interpretation, is as "comprehensive" or "holistic", in which, after having defined a system, analysts and managers strive to identify and understand all of the variables, mechanisms and processes. The outcome often has been planning studies that take too long to complete, resulting in reports that become historical documents with reduced value for managers who must deal with current problems. The other interpretation, which began to

be used in the 1980s and has been referred to as “integrated,” focuses on *selected* variables, mechanisms, and processes. The belief is that the time and effort required to try to understand all aspects will be very high, we will not be able to ever understand all aspects, and we should concentrate upon those variables having the most significance and amenable to being managed. Such an approach was endorsed at the *Dublin Summit* in January 1992, one of the preparatory meetings prior to the *Earth Summit* in Rio de Janeiro in June 1992 (Young, Dooge and Rodda, 1994), and was re-affirmed at the *World Summit on Sustainable Development* in Johannesburg in September 2002. The general view is that an “integrated” interpretation will result in more timely and focused analysis that reflects concern about the interrelationships associated with components of systems, but also will be more relevant to the needs of managers.

Unfortunately, we too often find analysts, planners and managers still using the comprehensive interpretation, as reflected by the following statement in the *Final Report of the Advisory Committee on Watershed-based Source Protection Planning* (2003: 2): “watershed management plans usually take a comprehensive ecosystem approach to water, dealing with all water-related natural features, terrestrial resources, fisheries, water linkages, and green space planning.” As long as this practice continues, we run the risk of discrediting the use of an ecosystem approach by studies that often take too long to complete and do not highlight the variables that managers can intervene with to shape the future.

Connecting and Implementing Watershed and Protected Area Management

Often, after a watershed or protected area management plan is completed, difficulties are encountered because there is no obvious implementation mechanism, since many different agencies and statutes could be involved. When this possibility exists, it is logical and desirable, from the outset, for planners and managers to consider how such plans can be linked or connected to land-use plans or environmental impact assessment processes, which often have a statutory basis. When that link can be made, there is a heightened likelihood of successful implementation.

In that regard, recommendation #7 of the *Report of the Advisory Committee on Watershed-based Source Protection Planning* (2003: iv and 8-11) provides a sensible basis to enhance the credibility of watershed plans [“A stand-alone piece of legislation for source water protection be developed that incorporates provisions related to source protection from other legislation so that this legislation will be as clear and comprehensive as possible.”].

However, I also agree with the views expressed at the Parks Research Forum of Ontario (PRFO) conference that government can not always be looked to, or counted on, for leadership related to environmental stewardship. As a result, we also should be always examining how partnerships with civil society groups can be developed to help implement watershed and protected area plans.

Multidisciplinary or Interdisciplinary Approaches?

During the PRFO conference workshop, it was recognized that if watershed and protected area management are to be connected, people from various disciplines and professions will be needed to share their knowledge and insight. However, at times, both multi- and inter-disciplinary approaches were advocated, without it being clear that the difference between the two approaches was recognized.

We should be aspiring to use inter-disciplinary rather than multi-disciplinary approaches. Multi-disciplinary approaches allow us to take advantage of the expertise of specialists from various disciplines, but do not require them to interact as they bring their disciplinary expertise to bear. Instead, each individual or disciplinary team conducts his/her or its specialist analysis, provides that to a coordinator or group, and the latter synthesizes the results. In contrast, an inter-disciplinary approach is designed to require all disciplinary specialists to interact from the beginning to the conclusion of the process. While more time consuming and sometimes uncomfortable for participants (as their disciplinary assumptions are more likely to be challenged), the inter-disciplinary approach provides a much richer product due to a process that stipulates interaction and synthesis throughout the entire process (Klein, 1990 and 1996; Salter and Hearn, 1996; Weingart and Stehr, 2000). Inter-disciplinary approaches raise more challenges and are difficult to manage, but, when done well, almost always provide a better product than a multi-disciplinary approach.

References

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