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### **Towards Integrated Environmental Management: A Reconnaissance of State Statutes**

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**TOWARDS INTEGRATED  
ENVIRONMENTAL MANAGEMENT:  
A RECONNAISSANCE  
OF STATE STATUTES**

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## **Towards Integrated Environmental Management: A Reconnaissance of State Statutes**

by Stephen M. Born<sup>\*</sup>

Integrated environmental-natural resources planning and management (herein abbreviated IEM), under one name or another — for example, ecosystem management — is an idea whose time has clearly come. The concept now is widely extolled and holds great currency in academic, professional and political quarters. The approach is being adopted and tried at every scale of environmental resources management. It is the foundation for international and global environmental management initiatives aimed at more sustainable management such as the 1992 United Nations Conference on Environment and Development Agenda 21. Numerous nations and their political subdivisions have formally provided for integrated approaches to resource management, including a number of Western European countries, New Zealand, Australia, and Canada. In the United States, the U.S. Environmental Protection Agency has undertaken several initiatives related to IEM in recent years, and major U.S. resource bureaucracies including the Forest Service and Bureau of Land Management have recently launched "ecosystem management" approaches to carrying out their mandates. Individual states such as Washington, Wisconsin and Florida have adopted coordinated and ecosystemic resources management institutions — in the form of new organizational arrangements and legislation. The head of one progressive state natural resources superagency, for example, has championed integrated management "because a multi-disciplinary, integrated approach to environmental stewardship may represent the most important scientifically and philosophically based management principle yet developed. Indeed, it may be the master key to our continued effectiveness..." (Besadny 1991). In some of the most complex, threatened and vulnerable ecosystems in the United States — the Everglades, the Great Lakes, Chesapeake Bay, the Flathead Basin, the Greater Yellowstone region, among others — IEM is being adopted as the operative management strategy.

While the need for an integrated approach to environmental management has been increasingly emphasized in recent years, the approach is certainly not new. There are precursors and roots in many fields, including: comprehensive river basin management and development; multiple use-sustained yield forest and land resources management; comprehensive or regional planning and management; cross-media pollution abatement; integrated area development; organizational and management science; and ecosystem management.

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Although there is not yet a consensus definition of IEM — indeed, there is substantial terminological confusion and ambiguity — the following capture much of the idea:

coordinated control, direction, or influence of all human activities in a defined environmental system to achieve and balance the broadest possible range of short- and long-term objectives (Cairns 1991)

a process of formulating and implementing a course of action involving natural and human resources in an ecosystem, taking into account the social, political, economic, and institutional factors operating within the ecosystem in order to achieve specific societal objectives (modified after Dixon and Easter 1986)

a more comprehensive or inclusive approach that takes into account the scope and scale of environmental and human issues and their interconnections. A strategic and interactive process is used to identify the key elements or goals at which to direct attention. These critical elements or goals then become the focus of an inter-organizational or coordinated approach to reforming environmental decision-making (Born and Margerum 1993).

IEM is a response to much of traditional natural resources management, which has been largely reactive, for narrow purposes and disjointed. For example, much of water resources management has been limited-purpose, focused on only a portion of a watershed, with management projects implemented incrementally. Programs have typically addressed individual concerns such as fisheries, water allocation, and point source pollution abatement. The relationship of these activities to the larger set of water, land resource and ecologic issues, and related socioeconomic concerns has received inadequate consideration. The demand for a new paradigm has been driven by ineffectual or unsatisfactory, often undesired, management outcomes. With more intensive and conflicting demands on resources and the environment, a more holistic approach to management has become essential. Bartlett (1990) splendidly summarizes the classic dilemma associated with the theoretical ideal of comprehensive, integrated and ecologically responsible environmental management — "what must be done cannot be done."

There are many reasons that it has been difficult to accomplish IEM in practice, in spite of widespread support and enthusiasm for the concept. One of the obstacles has been the compartmentalized and programmatic structure of organizations, which stems largely from the incremental nature of the political process and the resultant narrowly-focused legislation that then governs agency activities.

The purpose of this note is to report the results of an exploratory reconnaissance of state natural resource, environmental and related statutes in which we searched for statutory bases and encouragement for IEM. Prior to reporting our\*\* findings, it seems appropriate to briefly summarize my conception of the key dimensions of IEM, a conceptual framework which has built upon the work of many others, but especially that of Bruce Mitchell (1983; 1986; 1987) and Reg Lang (1986).

## What Is IEM? — The Conceptual Framework

The principal dimensions defining IEM are characterized as a) comprehensive, b) interconnective, c) strategic, and d) interactive/coordinative. **Comprehensive** is used here in the dictionary sense of "including much or all; of broad scope or extent; inclusive of many things". In the context of IEM, the term implies a greater degree of inclusivity. To be meaningful, we must specify what are the particular elements of our concern for being more inclusive, that is, for expanding and defining the scope and scale of our environmental management activities.

Factors to be considered in the effort to move towards comprehensiveness include:

- natural resource elements or ecosystem components
- substantive resource management functions or resource use sectors
- "stakeholders" or entities with authority to take action.

IEM must embrace all the critical biophysical, chemical and human parts of an ecological system; all the significant present and potential uses and objectives for the system; and all the entities — public and private — that affect or can be affected by management. Thus, in considering the array of ecosystem components that affect the quality, stability and diversity of aquatic ecosystems, some would consider the scope insufficiently broad, i.e., not comprehensive enough, if it failed to include factors related to stream channel morphology and energetics. Others would find the scope of an IEM endeavor inadequate if it failed to give proper regard to socio-economic aspects. Multi-objective planning and management, in the IEM context, means having all the relevant factors in view.

The dimension of **comprehensiveness** described here does not necessarily address interrelationships among ecosystem components, resource uses and sectors, and the community of involved interests. Rather, comprehensive relates to the degree of

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\*\* I am indebted to Steve Kelly, NRLC graduate research assistant, for his research efforts in searching for pertinent state statutes. [combine with \*? The author is also ... ?]

inclusivity. The interactions and linkages among the included parts are addressed with regard to the **interconnective** aspects of IEM.

As employed here, the **interconnective** dimension of IEM specifically addresses interrelationships – among physical, chemical and biological processes and components; among multiple, cross-cutting and often conflicting resource uses; among the many entities that collectively comprise the community of interest. Analytical tools including systems analysis, geographic information systems and data bases directly address consideration of interrelationships. In practice, interaction among, and coordination of, diverse interests and entities (discussed subsequently) constitutes a means for recognizing and addressing interconnections, thereby moving towards an integrative approach.

A **strategic** dimension is the third ingredient of the IEM conceptualization. The complexity and difficulty of trying to sustain a pure comprehensive and interconnective approach to IEM – especially at the operational level – indicates the need to pragmatically scale down the effort. The number of variables and interrelationships subjected to further analysis and action must be reduced. IEM planners, managers and affected interests must find ways to identify and focus on key aspects of the IEM problem – to selectively target the critical issues and tasks essential to success.

Fortunately, there are many models that demonstrate how the essential broader perspective can be reconciled with the requisite narrower focus for environmental action and decision-making. As noted wryly by Mitchell (1987), "...it should be possible to obtain the benefits of a comprehensive outlook without becoming so entangled with a complex web of interrelationships that the management exercise literally disappears into a 'black hole', never to re-emerge". The strategic dimension of IEM aims to make integrated environmental planning and management flexible, anticipatory, action-oriented, and responsive to the political decision arena.

An **interactive/coordination** component is the final dimension of the conceptual model of IEM and suggests **how** IEM must be undertaken rather than **what** our conception of IEM entails. Lang (1986) contends that an IEM approach must be interactive because information is dispersed, there is substantial interdependence among agencies and the various stakeholders (i.e., a shared decision environment), and there is always some degree of conflict among interests and values of participants. The degree of comprehensiveness defines the arena for interaction and coordination. Interaction among affected entities helps define the interrelationships of concern for IEM and is a realistic proxy for the ideal of integration. Indeed, one observer conceives IEM as primarily a "social concept that favors joint decision making among groups that have decision-making power and groups that are impacted by decisions..." (Walther 1987). He further notes that IEM is approached in practice by improving communication and applying the concept of cooperative decision-making. Thus, the interactive/coordination

aspect of IEM represents an ongoing search for and exchange of information; and a quest for consensus on acceptable solutions among a broad array of interests.

These four dimensions of IEM suggest the framework for an integrated approach to environmental management. The interested reader is referred to the bibliography for further elaboration of the concept.

However, I do want to briefly address one fundamental aspect of IEM — its purpose. In spite of the current fervor about IEM, it should not be presented as an end in itself. IEM is a planning and management approach to better achieve one or more ends, including: sustainability or ecologically sustainable management; proactive and anticipatory (vs. reactive) environmental decision-making and management; a more effective and equitable balancing of the interests of environmental resource users and other affected parties; social and economic change.

### **The State Statutory Base for IEM**

Several broad categories of state statutes were surveyed in the search for statutory language that would enable or encourage IEM. We reviewed a variety of general state planning statutes, including enactments dealing with land-use planning, growth management and coastal zone management. We also examined planning statutes or statutes authorizing management programs in numerous functional resource management areas, e.g., forest resources, soil conservation, wild and scenic river protection, and water use. Special or critical area management legislation was also reviewed, including both generic types (e.g., wetlands) and laws tailored for specific geographic regions (e.g., the Flathead River Basin).

State agency reorganization legislation, especially for establishing environmental superagencies, and state environmental quality acts (little NEPAs) were also surveyed, largely in search of broad intent language that might be used to license IEM. This preambulatory or intent language is often the most explicit legislative recognition of the scope and scale of environmental problems, and of the need for inter-organizational coordination and public and interest group interaction. It also tends to contain laudable language about the need for anticipatory and preventive management, often couched with awareness of the concepts of sustainable management and development.

Based on our survey, there is a substantial statutory foundation in a mosaic of statutes that legitimates, in varying degrees, an IEM approach to addressing environmental and natural resource issues and problems. Of course, agencies wishing to pursue this approach may need broad legal interpretations of their governing statutes in order to "license" an IEM undertaking. A sampling of indicative or exemplary language legitimating an IEM approach, in whole or in part, follows.



General state policy, growth management and planning, and state environmental policy statements typically reflect a broad inclusive scope of concern; recognition of interrelationships among resource components and uses; specific identification of the need for (and provisions for) coordination; and/or a longer-range "futures" orientation. Representative examples are presented from Connecticut, Florida, Iowa, and Montana.

Connecticut:

The general assembly finds that the growing population and expanding economy of the state have had a profound impact on the life-sustaining natural environment. The air, water, land and other natural resources, taken for granted since the settlement of the state, are now recognized as finite and precious. It is now understood that human activity must be guided by and in harmony with the system of relationships among the elements of nature. Therefore the general assembly hereby declares that the policy of the state of Connecticut is to conserve, improve and protect its natural resources and environment and to control air, land and water pollution in order to enhance the health, safety and welfare of the people of the state. It shall further be the policy of the state to improve and coordinate the environmental plans, functions, powers and programs of the state, in cooperation with the federal government, regions, local governments, other public and private organizations and concerned individuals, and to manage the basic resources of air, land and water to the end that the state may fulfill its responsibility as trustee of the environment for the present and future generations (emphasis added).<sup>1</sup>

Florida:

- (1) The Legislature finds and declares that:
- (a) Growth and development issues transcend the boundaries and responsibilities of individual units of government, and often no single unit of government can plan or implement policies to deal with these issues without affecting other units of government.
  - (b) It is necessary to establish an integrated planning system and to ensure coordinated administration of government policies, especially those policies dealing with land use, water resources, and transportation system development.<sup>2</sup>

Iowa:

It is the policy of the state of Iowa to protect its natural resource heritage of air, soils, waters, and wildlife for the benefit of present and future citizens with the establishment of a resource enhancement program. The program shall be a long-term integrated effort to wisely use and protect Iowa's natural resources ...<sup>3</sup>

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<sup>1</sup> CONN. GEN. STAT. § 22a-1 (1979).

<sup>2</sup> FLA. STAT. Ch. 106.002 (1972).

<sup>3</sup> IOWA CODE § 455A.16 (1989).

## Montana:

- (1) The legislature, recognizing the profound impact of man's activity on the interrelations of all components of the natural environment, particularly the profound influences of population growth, high-density urbanization, industrial expansion, resource exploitation, and new and expanding technological advances, and recognizing further the critical importance of restoring and maintaining environmental quality to the overall welfare and development of man, declares that it is the continuing policy of the state of Montana, in cooperation with the federal government and local governments and other concerned public and private organizations, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can coexist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Montanans.
- (2) ... it is the continuing responsibility of the state of Montana to use all practicable means consistent with other essential considerations of state policy to improve and coordinate state plans, functions, programs, and resources to the end that the state may:
  - (a) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations; (emphasis added)<sup>4</sup>

Legislation pertaining to narrower resource sectors and uses may contain language identifying the broader context, relationships with other functions or resources, the need for coordination, and provisions for integrated or coordinated plans. Good examples from public lands, water, forest, and related conservation statutes and pervade statutes for functional resource management programs.

## Florida:

### **Florida Preservation 2000 Act (public lands)**

- (c) Acquisition of public lands should be based on a comprehensive assessment of Florida's natural resources and planned so as to protect the integrity of ecological systems and to provide multiple benefits, including preservation of fish and wildlife habitat, recreation space, and water recharge areas. Governmental agencies responsible for public land acquisition should work together to purchase lands jointly and to coordinate individual purchases within ecological systems.<sup>5</sup>

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<sup>4</sup> MONT. CODE ANN. § 75-1-103 (1971).

<sup>5</sup> FLA. STAT. Ch. 259.101 (1990).

## **State water use plan**

- (1) The department shall proceed as rapidly as possible to study existing water resources in the state; means and methods of conserving and augmenting such waters; existing and contemplated needs and uses of water for protection and procreation of fish and wildlife, irrigation, mining, power development, and domestic, municipal, and industrial uses; and all other related subjects, including drainage, reclamation, flood plain or flood-hazard area zoning, and selection of reservoir sites. The department shall cooperate with the Executive Office of the Governor, or its successor agency, progressively to formulate, as a functional element of a comprehensive state plan, an integrated, coordinated plan for the use and development of the waters of the state, based on the above studies. This plan, with such amendments, supplements, and additions as may be necessary from time to time, shall be known as the state water use plan.<sup>6</sup>

### Idaho:

#### **Forestry**

That, forests constitute one of Idaho's most indispensable natural resources; water resources are among the most important; forest cover is a vital factor in regulating and conserving stream flow and water supply; forests are effective in conserving soil, preventing its erosion and consequent silting of stream channels and reservoirs; forests afford protection and suitable habitat for wildlife, including fish and game; much of our forest land without damage to the forest furnish forage for domestic livestock; forests add attractiveness and scenic beauty to mountainous areas and furnish grounds for recreation; each of these services furnished by the forest is important. A forest under sustained yield management for timber production, automatically provides a sustained yield of the other important services, supplying continuously wood, water grazing, recreation, soil control, climatic influence and wildlife refuge. ...

It is, therefore, the intent of sections 38-301 — 38-312 to conserve and make available the multiple use of all forest lands, whether in state or private ownership; to prevent the destruction of young growth and ground cover by the practice of destructive methods in harvesting the forest crop; to prevent destruction of the range by overgrazing; to conserve the refuge and habitat of wildlife; to preserve and develop the recreational values furnished by the forest; to create and define "cooperative sustained yield districts"; to protect the forest area from fire and thereby perpetuate the state's renewable natural resources.<sup>7</sup>

### Montana:

#### **Multiple-use management.**

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<sup>6</sup> FLA. STAT. Ch. 373.036 (1979).

<sup>7</sup> IDAHO CODE § 38-301 (1937).

- (1) The board shall manage state lands under the multiple-use management concept defined as the management of all the various resources of the state lands so that: ... (b) harmonious and coordinated management of the various resources, each with the other, will result without impairment of the productivity of the land, with consideration being given to the relative values of the various resources.<sup>8</sup>

## Oregon:

### **Land Use Planning**

The Legislative Assembly finds that:

- (1) Uncoordinated use of lands within this state threaten the orderly development, the environment of this state and the health, safety, order, convenience, prosperity and welfare of the people of this state.
- (2) To promote coordinated administration of land uses consistent with comprehensive plans adopted throughout the state, it is necessary to establish a process for the review of state agency, city, county and special district land conservation and development plans for compliance with goals.<sup>9</sup>

Language pertinent to IEM is also found in statutes delineating the limits and powers of a particular state agency. This is particularly true of the preamble and introductory sections of organic statutes establishing environmental "superagencies" with consolidated resources protection and management responsibilities.

## Washington:

In recognition of the responsibility of state government to carry out the policies set forth in RCW 43.21A.010, it is the purpose of this chapter to establish a single state agency with the authority to manage and develop our air and water resources in an orderly, efficient, and effective manner and to carry out a coordinated program of pollution control involving these and related land resources. To this end a department of ecology is created by this chapter to undertake, in an integrated manner, the various water regulation, management, planning and development programs now authorized to be performed by the department of water resources and the water pollution control commission, the air regulation and management program now performed by the state air pollution control board, the solid waste regulation and management program authorized to be performed by state government as provided by chapter 70.95 RCW, and such other environmental, management protection and development programs as may be authorized by the legislature (emphasis added).<sup>10</sup>

## New York:

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<sup>8</sup> MONT. CODE. ANN. § 71-1-203 (1992).

<sup>9</sup> OR. REV. STAT. § 197.005 (1981).

<sup>10</sup> WASH. REV. CODE § 43.21A.020 (1970).

## **General functions, powers and duties of the department and the commissioner**

1. ... the commissioner shall have power to:
  - a. Coordinate and develop policies, planning and programs related to the environment of the state and regions thereof;
  - b. Promote and coordinate management of water, land, fish, wildlife and air resources to assure their protection, enhancement, provision, allocation, and balanced utilization consistent with the environmental policy of the state and take into account the cumulative impact upon all of such resources in making any determination in connection with any license, order, permit, certification or other similar action or promulgating any rule or regulation, standard or criterion;<sup>11</sup>

Broad, organic acts dealing with comprehensive environmental impact assessment and related concerns ("little NEPAs") may also contain highly relevant IEM language. California's Environmental Quality Act is a fine example:

### California:

The legislature finds and declares as follows:

- (a) The maintenance of a quality environment for the people of this state now and in the future is a matter of statewide concern. ...
- (c) There is a need to understand the relationship between the maintenance of high-quality ecological systems and the general welfare of the people of the state, including their enjoyment of the natural resources of the state. ...
- (f) The interrelationship of policies and practices in the management of natural resources and waste disposal requires systematic and concerted efforts by public and private interests to enhance environmental quality and to control environmental pollution.
- (g) It is the intent of the Legislature that all agencies of the state government which regulate activities of private individuals, corporations, and public agencies which are found to affect the quality of the environment, shall regulate such activities so that major consideration is given to preventing environmental damage, while providing a decent home and satisfying living environment for every Californian.<sup>12</sup>

Some excellent statutory language also appears in legislation for the management of valued geographic-specific areas and generic critical areas such as coastal zones. While a particular resource sector or use is often emphasized (e.g., forest management or water use), these statutes tend to include provisions for a broad scope management effort and coordination of affected entities.

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<sup>11</sup> N.Y. ENVTL. CONSERV. LAW § 3-0301 (McKinney 1972).

<sup>12</sup> CAL. PUB. RES. CODE § 21000 (West 1979).

### Haines Forest, Alaska:

- (a) ... The primary purpose for the establishment of the Haines State Forest Resource Management Area are the utilization, perpetuation, conservation, and production of the land and water including but not limited to the use of renewable and nonrenewable resources through multiple-use management and the continuation of other beneficial uses including traditional uses and other recreational activities.<sup>13</sup>
- (a) ... The division of forestry shall consult with the division of parks, the Department of Fish and Game, including each local fish and game advisory committee with jurisdiction in the area, and the Alaska Chilkat Bald Eagle Preserve Advisory Council to promote effective, efficient, and coordinated administration of the Haines State Forest Resource Management Area.<sup>14</sup>

### Monterey Peninsula, California

The Legislature hereby finds that water problems in the Monterey Peninsula area require integrated management. ... The Legislature further finds and declares that within the Monterey Peninsula area, there is need for conserving and augmenting the supplies of water by integrated management of ground and surface water supplies, for control and conservation of storm and wastewater, and for promotion of the reuse and reclamation of water. In this region of primarily scenic, cultural, and recreational resources, which are particularly sensitive to the threat of environmental degradation, such need cannot be effectively met on a piecemeal basis.<sup>15</sup>

### Flathead Basin Commission, Montana:

#### **Purpose.**

The purpose of the Flathead basin commission is to protect the existing high quality of the Flathead Lake aquatic environment; the waters that flow into, out of, or are tributary to the lake; and the natural resources and environment of the Flathead basin.<sup>16</sup>

#### **Duties of the commission.**

- (1) to monitor the existing condition of natural resources in the basin and coordinate development of an annual monitoring plan. This plan must

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<sup>13</sup> ALASKA STAT. § 41.15.300 (1982).

<sup>14</sup> Alaska Stat. § 45.15.310 (1982).

<sup>15</sup> CAL. WATER CODE APP. § 118-2 (West Supp. 1993).

<sup>16</sup> MONT. CODE ANN. § 75-7-302 (1983).

involve a cooperative strategy among all land and water management agencies within the Flathead basin and identify proposed and needed monitoring which emphasizes but is not limited to the aquatic resources of the Flathead basin.

- (2) to encourage close cooperation and coordination between federal, state, provincial, tribal, and local resource managers for establishment of compatible resource development standards, comprehensive monitoring, and data collection and interpretation;
- (3) to encourage and work for international cooperation and coordination between the state of Montana and Province of British Columbia ...<sup>17</sup>

### North Carolina:

#### **Coastal Management**

- (a) Findings — It is hereby determined and declared as a matter of legislative finding that among North Carolina's most valuable resources are its coastal lands and waters. ... Unless these pressures are controlled by coordinate management ...<sup>18</sup>

Some statutes specifically provide for one of the requisites of sound IEM – an integrated management plan.

### Oklawaha River Valley ecosystem, Florida:

- (2) ... The management plan shall be consistent with the ultimate aim of developing an overall integrated management plan for continued preservation of the entire Oklawaha River Valley ecosystem.<sup>19</sup>

Others focus on "integrated management", but within the narrowest of contexts, as well illustrated by Colorado's Undesirable Plant Management Act.

### Colorado:

- (9) "Integrated management" means the planning and implementation of a coordinated program utilizing a variety of methods for management of undesirable plants, which methods may include but are not limited to education, preventive measures, good stewardship, and control methods.<sup>20</sup>

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<sup>17</sup> MONT. CODE ANN. § 75-7-304 (1983).

<sup>18</sup> N.C. GEN STAT. § 113A-102 (1974).

<sup>19</sup> FLA. STAT. ch. 253.7829 (1990).

<sup>20</sup> COLO. REV. STAT. § 35-5.5-103 (1990).

Some statutes provide explicit instruction and guidance regarding how the critical coordination function should be carried out. Good illustrations include specific provisions for a coordinator in Montana's Rangeland Resources Act and detailed structured processes for coordinating water quantity with water quality management in Idaho.

### Montana:

The state coordinator shall:

- (1) Serve as an advisor, counselor, and coordinator for and between persons and agencies involved in range management;
- (2) strive to create understanding and compatibility between the many users of rangeland, including sportsmen, recreationists, ranchers, and others;
- (3) promote and coordinate the adoption and implementation of sound range management plans to minimize conflicts between governmental agencies and private landowners; ...
- (5) coordinate range management research to help prevent duplication and overlap of effort in this area.<sup>21</sup>

### Idaho:

... [T]he director of the department of water resources shall have the following powers and duties:

- (5) To cooperate with and coordinate activities with the administrator of the division of environmental protection of the department of health and welfare as such activities relate to the functions of either or both departments concerning water quality. Such cooperation and coordination shall specifically require that:
  - (a) The director meet at least quarterly with the administrator and his staff to discuss water quality programs. A copy of the minutes of such meeting shall be transmitted to the governor.
  - (b) The director transmit to the administrator, reports and information prepared by him, pertaining to water quality programs, and proposed rules and regulations pertaining to water quality programs.
  - (c) The director shall make available to the administrator and the administrator shall make available to the director all notices of hearings relating to the promulgation of rules and regulations relating to water quality, waste discharge permits, and stream channel alteration, as such directly affect water quality, and notices of any other hearings and meetings which relate to water quality.<sup>22</sup>

## Conclusions

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<sup>21</sup> MONT. CODE ANN. § 76-14-105 (1977).

<sup>22</sup> IDAHO CODE § 42-1805 (1986).



IEM is emerging as the model for planning for our environment and solving natural resources problems in an ecologically responsible way. Because this approach is charting new ground, learning **how** to implement IEM is a major challenge. We are in a comparatively youthful stage, a period of substantial testing, and the practice of IEM will evolve as we learn by doing.

Because IEM can be construed as a threat to entrenched narrow interests, i.e., to the traditional ways of "doing business" and to parochial professional and disciplinary perspectives, IEM will be vulnerable to attack. This is especially true given the need for experimentation and learning associated with making IEM practicable. Accordingly, a secure and defensible statutory base is essential to foster our "doing what we must do". Based on this preliminary review, the statutory groundwork exists (or can be interpreted to exist!) if the political and administrative will exists. New laws dealing with the planning and management of complex ecosystems, and the resolution of tough multi-component environmental resource problems, must build on this base by providing clearer and stronger legitimating language and guidance for integrated environmental management.

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