

Responsibilities of the Board of Directors for the Indiana Biological Survey

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**Indiana Biological Survey
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1.0 Introduction

1.1 Foundations for the Biological Survey

The Indiana Academy of Science has sanctioned the Indiana Biological Survey to continue study of a comprehensive understanding of the interrelationships of the species of plants, animals, and microorganisms in Indiana. This has been a primary focus for the United States in the biological sciences for over two centuries. A 1985 national conference focused on the establishment of a national biological survey was to 1) describe the scientific and technical basis for a survey, 2) determine the relationships of various scientific disciplines to a national survey, 3) establish linkages between a survey and diverse users, and 4) describe the scope and benefits of a national biological survey (Kim and Knutson, 1986).

The annual fall meeting of the Indiana Academy of Science held a special session to discuss the role of the Indiana Biology Survey in order to inform the membership of intentions and on-going efforts. This resulted in the completion of a document entitled, "The Mission, Scope, and a Five Year Vision for the Indiana Biological Survey" (Simon et al. 2000). This document is the primary basis for the re-establishment of the Indiana Biological Survey and in formulating new goals and objectives. This vision document is based on several resolutions and position papers that have been written by national organizations to describe their membership positions relating to biodiversity loss in North America (Myers 1996; Winter and Hughes 1997).

The basis of the Survey is grounded on ecological and evolutionary research, specimens, museum collections, and data bases. Ecological and evolutionary research are the basic study tools that are used to obtain data. Specimens are the basic unit of interest for study of the fauna and flora of an area. Collections are maintained largely to provide information for research and service purposes. Data bases are the end result for obtaining, storing, managing information about specimens and data is to be provided and used.

1.2 History of the Indiana Biological Survey

The Indiana Academy of Science was organized on 29 December 1885, at which time ten committees were established, one of them being the Biological Survey Committee (Munsee et al. 1977; Daily 1984). The original function of the committee was apparently to make collections of the plants and animals in order to determine and document the flora and fauna of the state. The original composition of the committee is not clear but it probably included L. M. Underwood, A.

W. Butler and J. M. Coulter. "Curators" were appointed to work with the Biological Survey Committee and included J. M. Coulter (Botany), David. Starr Jordan (Ichthyology), Amos W. Butler (Ornithology), O. P. Hay (Herpetology), E. R. Quick (Mammalogy), F. M. Webster (Entomology), J. C. Branner, O. P. Jenkins (Lower invertebrates), and F. Stein (Conchology). Their function was to make and preserve collections of the states fauna and flora. In 1893, A Biological Survey of Indiana was established, with L. M. Underwood, C. H. Eigenmann and V. F. Marsters as directors. There were many eminent biologists on and off the Biological Survey Committee through the years, including Charlie Deam, Marcus Ward Lyon, Jr. and W. S. Blatchley, in addition to those mentioned earlier. By 1927 the "Curators" were abolished. Some of their duties were transferred to the Biological Survey Sections.

Unfortunately, there has never been a central location for the collections, and many specimens gathered by the curators were either scattered or lost. By the 1930's eight standing committees remained, including three of the original ones, The Biological Survey Committee, the State Library Committee, and the Committee on The Relations of the Academy to the State. The main function of the committee at this time and up to fairly recently was to publish lists of works published or in progress on the flora and fauna of the state (Simon et al. 1992).

The Indiana Academy of Science has been developing goals and objectives for implementing the Indiana Biological Survey (Survey). The primary purposes of the Survey were developed through the Biological Survey Subcommittee and, most recently, the Biodiversity and Natural Areas Subcommittee where many of the academic, governmental, and private scientists are members. Meetings over the last six years have been held annually at Butler University, most recently at the State office of the Indiana Department of Environmental Management, and at Academy of Science Annual Meetings to develop procedures, goals and objectives, and a data base model for implementation (Hellenthal 1999).

2.0 Responsibilities

2.1 Representation of the Indiana Biological Survey

The original organization of the Survey consisted of chairs representing specialties within the areas of emphasis. These representatives were referred to as "Curators" because their primary function was to collect and curate specimens within their areas of emphasis. Since the curator roles within the Survey will be relinquished to the specialty Centers, Museums, and Herbariums, the Board of Directors will be referred to as "Chairs". The Director of the Survey will act as a President for the Board. These Chairs will be responsible for working with other members, within their area of specialty, in order to provide information to the Director and the Executive Committee of the Academy. The Chairs are led by the Director of the Survey. The Director is the President of the Board of Directors and provides leadership on issues and considerations.

The following chairs will be represented on the Board of Directors, based on historical representation of the "Curators":

1) Botany, 2) Ichthyology, 3) Ornithology, 4) Herpetology, 5) Mammalogy, 6) Entomology,

7) Lower invertebrates, and 8) Conchology.

In addition, further chairs will be filled by:

9) Fungi, 10) Algae, 11) Paleontology, and 12) Chairperson of the Biodiversity and Natural Areas Committee.

Additional Chairs on the Board of Directors can be added as molecular genetics and additional needs arise. In addition, members of the Executive Committee of the Academy fill several positions as non-voting members. Membership for the Board of Directors will be recruited from among the Biodiversity and Natural Areas Committee, member scientists of the Academy, and from experts outside of the Academy that will be encouraged to become members. Only members of the Indiana Academy of Science are eligible for membership as a Chair on the Indiana Biological Survey's Board of Directors.

2.2 Priorities of the Indiana Biological Survey Board of Directors

The Board of Directors will be responsible for making decisions on issues and research objectives, they will review and decide the paths that the Survey will take concerning granting and publication, decisions on logos, web page design, and other issues that represent the corporate identity of the Survey. In addition, they will represent the membership by the chair they occupy. Thus, they should be topic experts that understand the ramifications and considerations necessary for implementation of programs, research, and agendas for their area of expertise.

2.1 Term: The Board of Directors term can be for life; however, if a number of preeminent scientists occur in the State that can fulfill the role, then the position can be rotated. The rotation of the chairs can be for a period of three years. In addition, subchairs can be established when multiple preeminent scientists occur in the State, however, only a single vote can be cast on issues by the Chair of that specialty.

If a Chair on the Board of Directors has not fulfilled their role they can be replaced. The procedure for replacing a Chair involves any two of the following: 1) absence from three meetings in a row without excuse; 2) lack of participation or resignation; 3) vote by Committee. The Chair must notify the Director of the Survey in advance if they cannot attend a particular meeting. They can give the sub-Chair for that speciality the ability to represent them, but this must be in advance of the meeting and through notification to the Director.

2.2 Advisory Responsibilities: A Board of Directors can govern in several ways:

1) Command and Control: direct the focus of the organization controlling all aspects of

research and organization, 2) Advisory: advise and provide suggestions that are voted on by the Board, voted on by the membership or implemented by consensus, or 3) Total Quality Management: listen to suggestions and facilitate the dialogue between members.

The Survey will be governed as an Advisory role of the Chairs of the Board of Directors. As advisors, the Chairs will be able to provide information between the membership, the Director of the Survey, and the Executive Committee of the Academy. As ideas and concerns are raised to the Chairs, decisions will be based on information presented by an impartial dialogue of issues. Voting will decide the action made by motion of the Chairs and seconded by an additional member.

The command and control type of Board would not be an effective governing body for the Survey since little monetary support will be provided through the Academy. This type of government is effective when decisions on resources and expenditures are the primary interests of the group. The Survey will not utilize the Total Quality Management governing since decisions tend to be slow and more frequent meetings would be required for the Survey to be effectively managed.

2.2.1 *Meetings*: The Board of Directors shall meet twice each year. The meeting that will determine voting on issues will be conducted at the Annual Fall Meeting of the Academy. The other meeting is scheduled at other times of the year to facilitate discussion of issues, sharing of ideas, and presentation of additional programs, research, and sharing among the membership. At this second meeting, representatives of each of the membership organizations can be in attendance and others that want to describe the roles of their Center, Museums, Herbaria, Zoos, Botanical gardens, or Aquaria. In addition, other meetings can be arranged whereby special symposiums or presentations can be shared among the Board and members of the Survey.

2.2.2 *Voting*: Only members of the Survey are eligible for membership on the Board of Directors to fulfill the role of Chairs. A Chair and possibly a sub-Chair represent each specialty. The sub-Chair does not have any voting right and cannot vote on issues for that specialty. It is possible for the sub-chair to provide the vote for an absent Chair through a written ballot. An absent Chair can do significant damage to their specialty and to the Survey as a whole. It is imperative that the Chair for a specialty be intimately involved in the Board and represent their specialty to the best of their ability.

When multiple choices are available for a decision, votes can be cast in a variety of ways including multi-voting, consensus, but all decisions will be by majority. In event of a tie vote the Director of the Board will cast the tie breaking vote or may table the issue for further consideration if too controversial.

3.0 Implementation

3.1 Strategies for Management

Collections and research centers are the building blocks of our past and bridges to our future for studying biological diversity and integrity of Indiana's fauna and flora. Databases are insufficient alone for studying biodiversity without vouchered materials and opportunities for study and training. In addition, numerous taxonomic groups have been poorly studied or need major revisions. The role of the Survey will be to bring together those remaining collections whether they are private, public, or in personal collections. The Survey will provide an umbrella of support to enable these collections permanent curation stability by providing sponsorship for orphaned collections and act as repositories for State surveys. This need provides excellent opportunities for specialty Chairs to fill in the gaps. The specialty Chairs will be responsible for organizing "study groups", specialty chat rooms, and providing forums within the context of the Academies sections to discuss topics of interest. They are encouraged to be proactive and evaluate programs for their specialty.

The Survey will accomplish their mission by not limiting membership to select institutions or large agency sponsorship. Small museums and personal collections will not be prohibited from becoming members with larger institutions. The Survey will enable the small museums and personal collectors the opportunity to donate their materials to the Survey in the event that they are either incapable of curating their material or they no longer desire to retain the materials. The Survey will provide a rich network of in-kind support that will be advantageous to small- and medium-sized collections. This will include, but not be limited to, database support, publication opportunities, and curation advice.

A membership logo will be developed that will be displayed among the membership institutions. This will be one of the first decisions to be made by the Board of Directors. The Survey will also encourage specialized facilities to develop on a regional scale to facilitate training, education, and provide regional opportunities for the public and private sector to learn more about the fauna and flora of Indiana. The primary management goal of the Survey, as it pertains to biological collections, is to retain these valuable collections in the hands of the professional specialists that are best able to work with them. Collections will not be moved unless orphaned or professional staff are unavailable to curate and use them for research.

The benefits of this model include uniting all of the public and private collections in the state quickly becoming a large resource within the Midwest. Providing opportunities for the membership by establishing an umbrella organization that will be identifiable to the State and Federal Agencies needing the services of biological specialists.

The Survey will utilize the existing framework of the Indiana Academy of Science to establish its purpose and fulfill its mission. The Academy will provide valuable 501©(3) certification for the Survey that will assist the membership by not incurring the expenses of additional management overhead. The future development of the Survey will require the establishment of membership dues that will assist in the recovery of specialized publication costs for such activities as the *Occasional Papers* series.

The overall management of the Survey will be by the members for the members. The Director will be an appointed position that will be permanent and at the beginning non-salaried. A Board of Directors once established will be based on members of the Biodiversity and Natural Areas Committee of the Indiana Academy of Science. These members have been those professional biologists interested in furthering the ideas behind the Indiana Biological Survey and have been instrumental in furthering the mission within the Academy. The Board of Directors will be responsible for review of products, providing leadership and decision making focus for the Survey, produce a newsletter, review and contribute to the development of a web site, and provide effective communication to the Indiana Academy of Science executive committee.

Each member institution (i.e., museums, research centers, etc.), government agency, zoo, botanical garden, aquarium, and academic institution will provide a representative to local management boards that will report to the Survey Board of Directors. These two committees, which will include a) research centers and collections and b) member institutions, will provide the necessary dialogue between the Academy and the biologists of the State for facilitating educational outreach, training of students, and specialized programs for the public sector. The purpose of these programs will be to provide the citizens of Indiana with an appreciation for the rich legacy of the natural history in our State. The Survey will facilitate information exchange between State agencies (e.g., Indiana Department of Environmental Management, Indiana Department of Natural Resources), private agencies (e.g., The Nature Conservancy, Sierra Club, Save the Dunes Council), and academic institutions and public and private zoos and collections through the use of its data management model. In addition, the Survey will not duplicate existing efforts and will pursue media promotion that will publicize the new direction of the Survey and provide opportunities for outreach to the public. These will include the development of taxonomic workshops for training of students and professional biologists, hosting national symposiums or meetings on important biodiversity issues, and facilitating coordination between biologists interested in similar areas of research.

3.2 Phased Implementation

The development of the Survey has not been developed with the concern for raising monies since the membership will be the coordinating force behind the management of the roles and responsibilities and mission. The Biodiversity and Natural Areas Committee has begun the implementation of the five year mission (Simon et al. 2000) by requesting a budget for the Survey from the Academy. In addition, we recognize that additional outside funding will be necessary to fully implement the Biological Survey. It will be incumbent upon the Board of Directors to be strong leaders that are respected by the membership and trusted to lead the Survey through controversial issues.

3.0 Conclusions

The Indiana Academy of Science is the leader in the State of Indiana on biological diversity issues through the Biological Survey and the Biodiversity and Natural Areas Committee. The

mission of the Survey is to study the fauna and flora of Indiana and to preserve the State's natural history for future generations.

The Board of Directors of the Indiana Biological Survey will further research on the fauna and flora of Indiana by providing leadership and representation of their specific specialty. In addition, they will facilitate outreach, training, and specialized programs for the student and public citizens of Indiana. The Board will be an advisory board that will be represented by a series of Chairs and sub-chairs that are able to cast a single vote per chair. The Board of Directors will meet twice per year, during the Fall Annual Meeting and another convenient time during the year. The Annual Fall Meeting will be when voting will be accomplished. In the event of a tie vote, the Director of the Survey will cast the deciding vote or has the option to return the issue for further consideration.

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