

## MEMORANDUM OF UNDERSTANDING

BETWEEN

NATURAL RESOURCES CONSERVATION SERVICE

AND

U. S. GEOLOGICAL SURVEY

FOR PARTNERSHIPS TO SUPPORT BIOLOGICAL AND HYDROLOGICAL RESEARCH  
AND TECHNOLOGY DEVELOPMENT AND TRANSFER

## I. PURPOSE

This Memorandum of Understanding (MOU) is entered into between the Department of Agriculture, Natural Resources Conservation Service (NRCS) and the Department of the Interior, U.S. Geological Survey (USGS), hereafter referred to as the Agencies. This MOU defines areas of cooperation between the Agencies to conduct research and develop information and technology to increase the effectiveness of agricultural practices on the conservation of physical and biological components of ecological systems. The research findings developed into transferable tools and technology would enable improvements to water bodies (wetlands, streams, rivers, lakes, groundwater, estuaries, and marine systems). These improvements and efforts to prevent degradation would contribute to reductions in hypoxia, microbial infestations, and other pollutants. More specifically, this MOU will develop and evaluate methods which will assist NRCS and partnering organizations in their efforts to determine the effectiveness of Best Management Practices (BMP's) at three different landscape scales -- field, watershed, and river basins. It will utilize the Agencies capabilities in environmental monitoring and research, and technology development and information transfer.

This MOU establishes the organizational structure and mechanism for cooperation between the Agencies; it is not intended to preclude the independent execution of contracts or other agreements.

## II. BACKGROUND

Hypoxia and microbial infestations are thought to be related to nutrient enrichment, and silica, and carbon loading within streams and rivers of the United States. Of the major sources of nutrient enrichment, non-point source runoff is believed to be where the greatest improvements can be made. Reducing this source of pollutants will also beneficially impact groundwater. The primary goal of the NRCS is to assist the agricultural community to significantly improve natural resource management through its ongoing programs and partnerships. USGS has capabilities to conduct research on nutrient inflows and loading at the three landscape scales, determine the effectiveness of biotic communities and resource management systems on reducing nutrient sediment and chemical loads, and monitor outflows.

The Agencies have jointly identified specific areas of mutual research interest and several opportunities for collaboration. Each believes that the establishment of a more formal relationship will enhance their abilities to continue and expand these activities. This collaboration among qualified and recognized scientists, researchers, and practitioners will attract academic and other agency researchers, and provide for the training of young scientists. Through these Agency affiliations, each will develop a broader network of partnering scientists who will assist in identifying, developing, and implementing additional projects of mutual benefit. Moreover, the Agencies foresee increasing their effectiveness in dealing with complex and challenging problems, such as nutrient enrichment and hypoxia, and the implementation of the Clean Water Action Plan. The synergism created by combining their science and resource management capabilities will accelerate efforts to improve the quality of the Nation's waters.

Therefore, this MOU will lead to a better understanding of the effectiveness of BMP's in reducing nutrient enrichment and non-point source pollution. It will facilitate developing better methods of reducing nutrient loading and hypoxia through application of remote sensing, global positioning technology, information sciences, and biological and hydrological monitoring and applications research.

### III. SCOPE

Under this MOU, the Agencies will cooperate on mutually agreeable projects. These projects will focus on NRCS's experience in providing assistance to local decision makers in implementing conservation practices in small and large landscape areas to provide onsite benefits, reduce downstream impacts, and improve overall ecosystem health. Application of NRCS and USGS data, information, models, and technology will help formulate more scientifically based projects, leading to better natural resources policy recommendations. The primary organizations that will facilitate, coordinate, and implement this MOU within the Agencies are NRCS's Science and Technology Consortium, and the National Wetlands Research Center (NWRC) and Upper Mississippi Science Center of the Biological Resources Division of the USGS.

The MOU represents a research and technology link between the Agencies which will improve monitoring and research application to natural resource issues. Monitoring and research themes are identified herein, but the scope of the interdisciplinary activities undertaken jointly under this MOU is not limited to these areas of immediate interest. In addition to monitoring, research and development activities, the Agencies intend to assist one another in achieving their respective missions related to education and outreach, science and programmatic reviews, and staff development and training.

Initially, activities and research will concentrate in the following areas:

- Identification of project areas;
- Gaining local support;
- Formulation of conservation treatment systems to be researched or monitored;
- Formulation of collaborative research and monitoring projects;
- Development of research and monitoring protocols and technology;
- Conversion of Research Findings in field-applicable tools and technology; and
- Projects to demonstrate methods, tools, technologies, and information transfer

More specifically, collaborative research and monitoring activities envisioned by the Agencies may include a broad array of themes and topics such as:

- A. Monitoring nutrient/sediment/chemical input and loads through USGS water gauging stations, NAWQA program, chemical/sediment analyses, and joint study areas or topic;
- B. Determine the effectiveness of agricultural and Best Management Practices, and new practices, and methods to reduce nutrient and other pollutant flows into surface and ground water systems;
- C. Conduct analyses and demonstration projects using geographic information systems, remote sensing, predictive models, data base development, and information management; and
- D. Apply information sciences, including World Wide Web technologies, data mining and fusion, library research, special reports and brochures, graphics, and data networking and telecommunications.

#### IV. AUTHORITY AND MECHANISMS FOR COOPERATION

The authority of the Agencies to enter into this MOU are the Economy Act of 1932, as amended (31 U.S.C. 1535); the Soil Conservation Domestic Allotment Act (16 U.S.C. 590 a-f), Public Law 74-46; and the USGS Organic Act (43 U.S.C. 36c). To the extent future grants and/or cooperative agreements are issued by NRCS and USGS to any vendor or university, they will be issued pursuant to the Federal Grant and Cooperative Agreement Act of 1977, as amended (31 U.S.C. 6305), OMB Circular A-102 (Grants and Cooperative Agreements with State and Local Governments), and adhere to Federal Acquisition Regulation (FAR) 6.002 and other applicable Federal laws and regulations.

#### V. IMPLEMENTATION AND RESPONSIBILITIES

The Agencies agree to establish a Steering Committee for Cooperative Monitoring, Research, and Technological Applications.

- A. The Steering Committee will consist of at least six members. The Chair of the Steering Committee will rotate between the Agencies annually and will be selected from committee members. From the NRCS, steering committee members will include two representatives

from the Science and Technology Consortium, and at least one NRCS State Conservationist. From the USGS, steering committee members will include at least one representative from the USGS-NWRC, one representative from the USGS-UMSC, and at least one representative from the USGS Water Resources Division.

NRCS will assign an onsite cooperating scientist at the USGS-NWRC in Lafayette, Louisiana, at the USGS-UMSC in Onalaska, Wisconsin, and at other Centers as the need arises. Likewise USGS may assign scientists to work cooperatively at NRCS Centers and Institutes. These Centers will provide office space and related support functions, including office automation support for the employees from the respective cooperating Agencies.

- B. The Steering Committee will meet at least twice a year.
- C. The Steering Committee will establish project working groups, as appropriate, to plan monitoring, research and development activities, and to propose joint proposals.
- D. The Agencies will share facilities, equipment, and other resources as mutually agreeable. They will work together to assure adequacy of facilities and equipment.
- E. Publications may be prepared by either party or the Agencies jointly.

#### VI. FINANCIAL ARRANGEMENTS

- A. This MOU defines in general terms the basis on which signatory agencies will cooperate, and as such, does not constitute a financial obligation to serve as a basis for expenditures. Expenditures of funds, human resources, equipment, supplies, facilities, training, public information, and expertise will be provided by each signatory agency to the extent that their participation is required and resources are available.
- B. This MOU is neither a fiscal nor funds obligation document. Any endeavor involving reimbursement or contribution of funds between the parties of this MOU will be handled in accordance with applicable laws, regulations, and procedures. Such endeavors will be documented in separate agreements, with specific projects between the parties spelled out. The separate agreements will reference this MOU.
- C. This MOU in no way restricts the Federal Agencies from participating in similar activities or arrangements with other public or private agencies, organizations, or individuals.
- D. Nothing in this MOU will obligate the Federal Agencies to expend appropriations or to enter into any contracts or other obligations.

#### VII. PERIOD OF AGREEMENT

This MOU will become effective as of the date of approval and will continue in effect for a period of five years, at which time it will be extended, if appropriate. This MOU may be renegotiated, amended, or modified by a written amendment through an exchange of correspondence between authorized officials of signatory parties. This MOU may be terminated by either signatory party

with written notification to the other party at least 90 calendar days in advance of the effective date of termination.

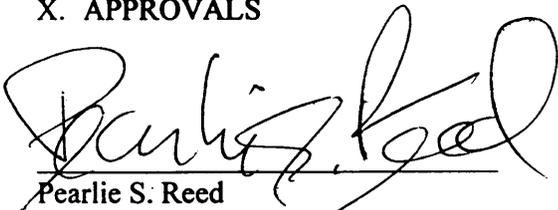
VIII. PROVISIONS

As a condition of this MOU, all signatory parties assure and certify that this MOU and any agreements written pursuant to it will comply with the nondiscrimination provisions contained in Title VI and VII of the Civil Rights Act of 1964, as amended; the Civil Rights Restoration Act of 1987 (Public Law 100-259); and other nondiscriminatory statutes; namely, Section 504 of the Rehabilitation Act of 1973, Title IX of the Education amendments of 1972, and the Age Discrimination Act of 1975. They will also be in accordance with regulations of the Secretary of Agriculture (7CFR 15, Subpart A.B.), which provide that no person in the United States shall, on the grounds of race, national origin, age, sex religion, marital status, or disability be excluded from participating in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity receiving Federal financial assistance from the Department of Agriculture, or any agency thereof. Regulations of the Secretary of the Interior (43CFR 17) provide that no person in the United States shall, on the grounds of race, color, national origin, age, or disability be excluded from participating in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity receiving Federal financial assistance from the Department of the Interior, or any agency thereof, and this MOU and any agreements will be in accordance with such regulations.

IX. POINTS OF CONTACT

Richard Van Klaveren, Director, Conservation Engineering Division, and Dennis B. Fenn, Chief, Biological Resources Division, USGS, will be the programmatic points of contact, respectively.

X. APPROVALS



Pearlie S. Reed  
Chief, Natural Resources Conservation Service  
U.S. Department of Agriculture

June 24, 1998  
Date



Thomas J. Casadevall  
Acting Director, U.S. Geological Survey  
Department of the Interior

June 18, 1998  
Date