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External Task Force Review of the United States Geological Survey Federal-State Cooperative Water Program, August 1999

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External Task Force Review of the U.S. Geological Survey Federal-State Cooperative Water Program, August 1999

Compiled by Stephen F. Blanchard

Circular 1192

U.S. DEPARTMENT OF THE INTERIOR

BRUCE BABBITT, *Secretary*

U.S. GEOLOGICAL SURVEY

Charles G. Groat, *Director*

Reston, Virginia 1999

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EXECUTIVE SUMMARY

The Advisory Committee on Water Information (ACWI) established a Task Force to review the U.S. Geological Survey (USGS) Federal-State Cooperative Water Program at their August 1998 meeting in Denver, Colorado. The Task Force review is the first external review of the Cooperative Water Program in its more than 100-year history. The purpose of the Task Force is to gather information, assess the effectiveness of the program, and recommended improvements. The ACWI focused the review on the mission of the program, prioritization and funding of work, conduct of work, and products.

The Cooperative Water Program, which was created in 1895, combines the resources of the Federal government with other governmental units to collect and analyze water-resources data. Most of the water-resources data collected in the United States are acquired under the auspices of the Cooperative Water Program.

The Task Force held meetings in USGS offices, met with USGS staff, and held panel discussions with representatives of agencies participating in the Cooperative Water Program, users of the products resulting from the Cooperative Water Program and private-sector consultants. The Task Force reviewed policy statements, financial data, and project-description information relating to the Cooperative Water Program. It also conducted numerical and verbal surveys of agencies participating in the Cooperative Water Program.

The Cooperative Water Program is critical to improving the management of the Nation's water resources. It is important to the Nation in that it acknowledges the keen shared-interest of Federal, State, Tribal, and other government agencies in appraising the Nation's water resources and seeking solutions to water-related problems. In today's climate of growing demands on, and increasing competition for, the Nation's water resources, there is an increased need for all types of water-related data and analyses now and in the future. The Cooperative Water Program offers the highest level of scientific knowledge, objectivity, and technical expertise. The Cooperative Water Program is integral to providing long-term data collection and analysis of water quantity, quality, and use on a national basis. Without the Cooperative Water Program, the Nation would not have information vital to the routine management of the Nation's water resources and critical in the management of water-related emergencies.

The Cooperative Water Program is performing well. However, the Task Force has identified several areas where improvement can be achieved.

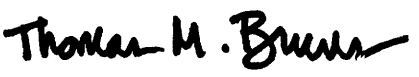
- Current funding for the Cooperative Water Program is not adequate to satisfy all the needs identified for additional streamflow data, regional ground-water information, updated hydrologic models, and technical publications. Funding levels have not kept pace with inflation or the increased demand for the services of the program. The funds available for the program should be increased to a level sufficient to achieve a full match for the current and future cooperator offerings and should be indexed for inflation.
- The Task Force recognizes that the streamgaging network supports wide-ranging water-resources investigations. It was found that in 1997, the Cooperative Water Program supported two-thirds of the gages in the network, but this support does not guarantee continuous operation nor prevent the loss of important stations. The Task Force recommends separate Federal funding for a core national streamgaging network outside of the Cooperative Water Program.
- The Cooperative Water Program supports long-term data-collection activities (currently about 55 percent of funds) and interpretive studies (45 percent). The emphasis should be on data collection, which should not be sacrificed for interpretive studies.
- The Task Force found that the USGS has appropriate internal guidance dealing with project selection that facilitates the avoidance of competition with the private sector. The Task Force has made recommendations that will enable the USGS to enhance its project selection criteria and to better communicate with the private sector to avoid the appearance or reality of competition.
- The distribution of Federal funding among USGS Districts and among projects within a District can be improved by setting priorities for individual projects, reviewing the allocation of funds, and developing a system to distribute a small percentage of Cooperative Water Program funds to meet high priority needs.
- Communication with cooperators and stakeholders is essential to effective accomplishment of the Cooperative Water Program mission. The Task Force has recommended several opportunities for improved communication to strengthen coordination between the Cooperative Water Program and cooperators.
- Given the emergence of the internet and the growing interest in water related issues by a diverse public, the Task Force recommends certain initiatives to make Cooperative Water Program products understandable and readily accessible.

TASK FORCE TO REVIEW THE FEDERAL–STATE COOPERATIVE WATER PROGRAM

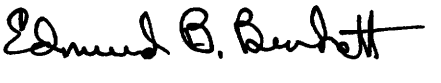
The Findings and Recommendations presented in this report have the consensus acceptance and support of the entire Task Force.

Craig Albertsen
National Weather Service

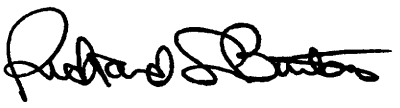
Thomas Baumgardner
U.S. Bureau of Reclamation



Thomas Bruns
American Water Works Association



Edmund Burkett
U.S. Army Corps of Engineers



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Peter Mack
New York Department of Environmental Conservation

Wendall McCurry
Association of State and Interstate Water Pollution Control Administrators

Fred Ogden
University of Connecticut

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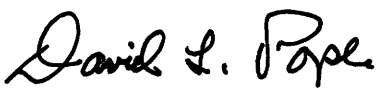

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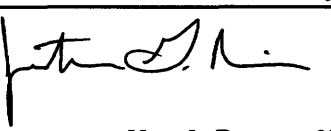
Kansas Department of Agriculture



Jonathan Price
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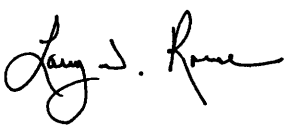
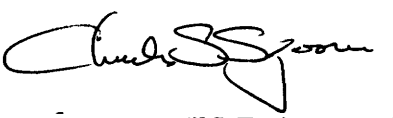


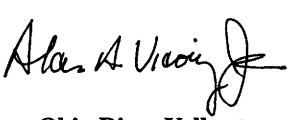
Larry Rowe
Western Water Company, Inc.

James Shotwell
American Institute of Professional Geologists

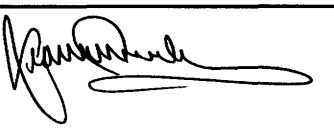
Earl Smith
Interstate Council on Water Policy



Charles Spooner
U.S. Environmental Protection Agency



Alan Vicory
Ohio River Valley Water Sanitation Commission



Leslie Wedderburn
South Florida Water Management District

Donald Woodward
U.S. Department of Agriculture

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External Task Force Review of the U.S. Geological Survey Federal-State Cooperative Water Program, August 1999

INTRODUCTION

The Advisory Committee on Water Information (ACWI) established the Task Force to Review the U. S. Geological Survey (USGS) Federal-State Cooperative Water Program at their August 1998 meeting in Denver, Colorado. The Task Force review is the first external review of the Cooperative Water Program through its more than 100-year history. The purpose of the Task Force is to gather information, assess the effectiveness of the program, and recommend improvements.

This report describes the process used by the Task Force to review the Federal-State Cooperative Water Program and presents the findings and recommendations resulting from the review. This report provides information about the Task Force structure and meetings, the information collected and analyzed, and the decision-making process used to arrive at the findings and recommendations.

Consistent with the Federal Advisory Committee Act, the ACWI will review the Task Force report, and based on information in the report, will provide advice and recommendations about the Cooperative Water Program to the USGS and the Department of the Interior. Before the ACWI forwards the Task Force report to the USGS, the public will have an opportunity to review and comment on it through an announcement in the Federal Register. The results of the Task Force review provide a critical external perspective about the operations of the program and the usefulness of its products. The U.S. Department of the Interior and the USGS will use the input to help position the Cooperative Water Program for the challenges of the next century.

The USGS Cooperative Water Program is the largest single source of hydrologic data and information in the country. Hydrologic monitoring, assessments, investigations, and research conducted under the program support both national interests and Cooperator needs. The USGS and nearly 1,300 State, Tribal, regional, and local government partners jointly fund costs for the program. The Cooperative Water Program is a unique partnership, rather than a grants program. State, Tribal, regional, and local Cooperators transfer their share of the funding to the USGS for the USGS to perform work on specific data-collection activities and projects. The resulting data and information are archived and shared nationwide.

The first USGS cooperative water-resources investigation was with the State of Kansas in 1895. In 1905, Congress appropriated funds specifically for cooperative studies, marking the official beginning of the program. In 1928, Congress gave formal recognition to the Federal-State partnership and limited Federal financial contributions for cooperative water-resources studies to no more than 50 percent of the total funds for each investigation. The main objectives of the program are (1) to collect, on a systematic basis, data needed for the continuing determination and evaluation of the quantity, quality, and use of the Nation's water resources; and (2) to appraise the availability and the physical, chemical, and biological characteristics of surface and ground water through data analysis and interpretive water-resources investigations and research.

In fiscal year (FY) 1999, Cooperative Water Program activities were underway in offices in every State, Puerto Rico, and several territories in concert with about 1,300 cooperating agencies. In FY 1999, Federal funding of $70.1 million was matched by Cooperators, who also provided about $37.4 million unmatched funding for a total program of about $177.6 million. A funding history of the Cooperative Water Program in the recent past is presented in figures 1 and 2. Additional information about the Cooperative Water Program is provided in Section A of the Appendix, which also is on the World Wide Web at http://water.usgs.gov/pubs/circ/circ1192/appendix/a/index.html.

The representatives chosen for the Task Force were selected to ensure a balance of interests, expertise, and functions related to the Cooperative Water Program and to achieve wide geographic coverage. The Task Force elected Mr. Larry Rowe (Western Water, Inc., California) as its Chairperson and Mr. Fred Lissner (Oregon Water Resources Department, Oregon) as its Vice-Chairperson. Steve Blanchard, Staff Assistant to the Chief Hydrologist of the USGS, is the Executive Secretary for the Task Force. The Task Force Membership is provided in table 1.

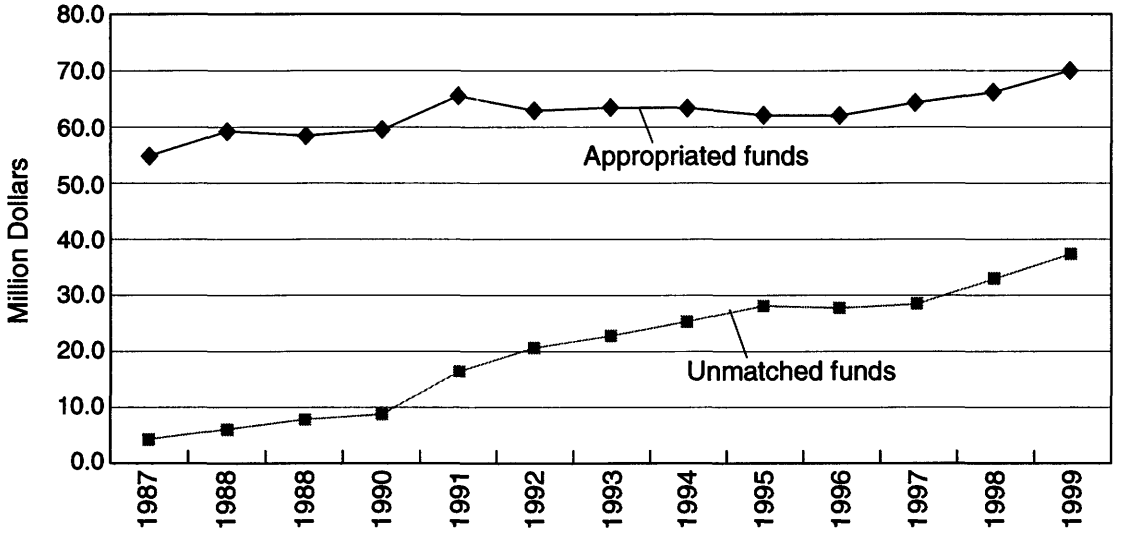

Figure 1. Recent history of appropriated funding for the Cooperative Water Program of the U.S. Geological Survey, in real dollars.

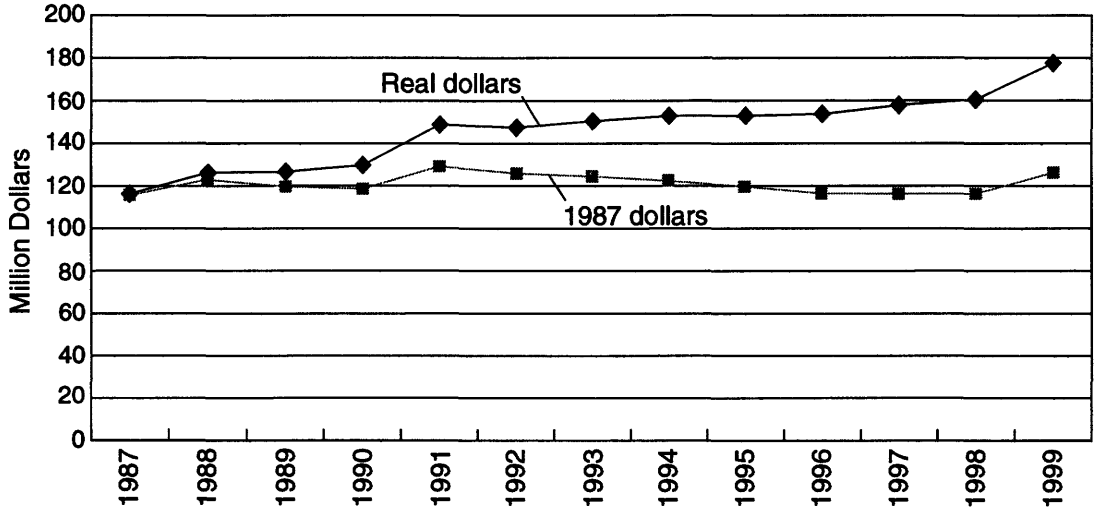

Figure 2. Recent history of all funds for the Cooperative Water Program, in real and 1987 dollars.

Table 1. Membership of the Task Force to Review the US. Geological Survey Federal-State Cooperative Water Program

Mr. Craig H. Albertsen, Manager Water Supply, Use, and Conservation Group U.S. Bureau of Reclamation Denver, Colorado.	Mr. Thomas F. Baumgardner National Weather Service State College, Pennsylvania
Mr. Thomas M. Bruns Vice President, Development Services American Water Works Association Indianapolis Water Company Indianapolis, Indiana	Mr. Edmund B. Burkett Chief, Water Management Section U.S. Army Corps of Engineers Mobile, Alabama
Mr. Richard S. Burton, Director National Association of Counties Monroe County Environmental Health Laboratory Rochester, New York	Mr. Randall C. Duncan International Association of Emergency Managers Sedgwick County Emergency Management Wichita, Kansas
Mr. James E. Enote, Department Head Department of Natural Resources Pueblo of Zuni Zuni, New Mexico	Mr. Frederick G. Lissner Manager, Ground Water and Hydrology Section Oregon Water Resources Department Salem, Oregon
Mr. Peter J. Mack, Regional Engineer New York Department of Environmental Conservation Schenectady, New York	Mr. Wendall McCurry Association of State and Interstate Water Pollution Division of Environmental Protection Control Administrators Carson City, Nevada
Dr. Fred L. Ogden, Assistant Professor Civil and Environmental Engineering University of Connecticut Storrs, Connecticut	Mr. Donald M. Phelps American Society of Civil Engineers Project Manager, Hammond, Collier and Wade Livingstone Chelan, Washington
Mr. David L. Pope, Chief Engineer and Director Division of Water Resources Kansas Department of Agriculture Topeka, Kansas	Dr. Jonathan G. Price, State Geologist Nevada Bureau of Mines and Geology University of Nevada Reno, Nevada
Mr. Larry W. Rowe Western Water Company San Bernadino, California	Mr. James D. Shotwell American Institute of Professional Geologists RMT, Inc. Austin, Texas
Mr. Earl T. Smith Interstate Council on Water Policy Chief, Water Resources Management Division Arkansas Soil and Water Conservation Commission Little Rock, Arkansas	Mr. Charles S. Spooner Monitoring Branch U.S. Environmental Protection Agency Washington, D.C.
Frank Tsai (retired) Federal Emergency Management Agency Washington, D.C.	Mr. Alan H. Vicory Executive Director Ohio River Valley Water Sanitation Commission Cincinnati, Ohio
Dr. Leslie A. Wedderburn Department Director, Water Resource Evaluation South Florida Water Management District West Palm Beach, Florida	Mr. Donald E. Woodward, Hydrologist Natural Resources Conservation Service U.S. Department of Agriculture Washington, D.C. 20250

TASK FORCE CHARTER AND DIRECTION

The work of the Task Force was primarily directed by three documents. The first and most important document is the charter for the Task Force called the "Terms of Reference." The second document is guidance to the Task Force from an ACWI subgroup that focused on how work is conducted as part of the Cooperative Water Program, including the topics of competition with the private sector and the appropriate relationship with the private sector. The third document is a list of potential issues to examine relating to the Cooperative Water Program that was compiled by the Task Force during their first meeting.

Terms of Reference

The Task Force was established by the Terms of Reference approved at the August 1998 meeting of the ACWI. The work of the Task Force was guided by and focused on the questions identified in the "Scope" section of the Terms of Reference. The Terms of Reference also provides guidelines for the Task Force membership, procedures for meetings, and products that should result from the work of the Task Force. The Terms of Reference follow:

9/3/98

Advisory Committee on Water Information
Task Force to Review the Federal-State Cooperative Water Program

TERMS OF REFERENCE

I. Official Designation

Task Force to Review the Federal-State Cooperative Water Program (Task Force) of the Advisory Committee on Water Information (ACWI).

II. Purpose and Scope

A. *Purpose*—The purpose of the Task Force is to assess the effectiveness of the U.S. Geological Survey's (USGS) Federal-State Cooperative Water Program (Cooperative Water Program), to make recommendations, and to provide a written report of findings to the ACWI. The report from the Task Force to the ACWI will serve as the basis for the ACWI to recommend possible enhancements or modifications to the USGS for the Cooperative Water Program.

B. *Scope*—The Task Force is requested to review the activities of the Cooperative Water Program by addressing and responding to four broad topics described below. The Task Force will have from September 1998 to June 1999 to complete its work. The Task Force will address the following four topics:

1. *Mission*—Historically, the Cooperative Water Program has been designed to develop hydrologic data and technical analysis needed to assist in meeting the USGS mission of continuously assessing the Nation's water resources, and to provide technical assistance to State, Tribal, and local water management agencies in seeking solutions to water-resource issues of national concern through a matched funding arrangement. Is the Cooperative Water Program successfully meeting its mission? Is this mission still valid? If not, how should it be altered? Does the Cooperative Water Program adequately contribute to the broad USGS mission, while keeping abreast of emerging water-resources issues at the State and local level?
2. *Prioritization*—In Fiscal Year 1997, the Congress appropriated $64.5 million for the Cooperative Water Program. State and local agencies provided an equal amount of matching funds plus an additional $28.5 million of unmatched funding. Given that there is more funding available from the State and local side than there is matching Federal funding, are matching funds applied to the most important topics and issues? Is there a proper balance between funding of long-term data collection versus short-term interpretive studies? What changes could be made in the approach to project selection to help ensure maximum effectiveness for the program?
3. *Conduct of work*—Nearly all of the work performed in the Cooperative Water Program is done by USGS scientists and technicians. This arrangement is designed to enhance quality control, provide national consistency in data collection and methods of analysis, and provide a stable core of experienced water scientists nationwide. Could this arrangement be improved without sacrificing its benefits? What is the appropriate relationship with the private sector, States, universities, and so forth? What

would be the implications of altering current work arrangements on the unique qualities of the Cooperative Water Program and water management nationwide?

4. *Products*—The products developed in the Cooperative Water Program need to be useful to Cooperators and other users. These users include representatives of all levels of government, the scientific community, the private sector, and the general public. The products also fulfill national needs by building long-term national data bases, augmenting activities in other USGS programs, and providing a national picture of water resources through synthesis of information from individual projects across the country. In addition, the Cooperative Water Program advances the development and application of new approaches and methodologies relevant to water-resources issues. To what extent should the products of the Cooperative Water Program support: (1) national needs, as compared to (2) the needs of Cooperators and other information users? Are the products meeting the needs of the primary users as well as the multiple needs of ancillary parties? What changes in products should the USGS consider to strengthen the Cooperative Water Program's impact? Are there ways to further stimulate the development of new approaches and methods and to enhance the transfer of these approaches and methods to interested parties?

III. Membership

A. The chair of the ACWI will designate up to 24 representatives to the Task Force. The Task Force shall comprise a balanced representation of Federal, regional, State, Tribal, local, and municipal government agencies, and the private sector. Membership will reflect organizations that use USGS water information, have partnerships with USGS, or have interests in the objectives of the Cooperative Water Program.

B. The Task Force will include individuals from each of the four USGS Water Resources Division Regions.

C. Federal membership will not exceed six representatives from the following organizations: National Weather Service, U.S. Army Corps of Engineers, U.S. Department of Agriculture, Federal Emergency Management Agency, U.S. Environmental Protection Agency/Office of Water, and U.S. Department of the Interior. The Office of Management and Budget (OMB) will be invited to participate as a nonvoting member.

D. The Chair of the ACWI may designate up to a maximum of 18 representatives that have a balance of interests and functions. These organizations that participate on the Task Force will represent the following interests: Native Americans, environmental interest groups, industry, local government agencies, professional societies, and river-basin commissions.

E. The Chair will be elected from non-Federal members of the Task Force. The USGS will provide the Executive Secretary for the Task Force.

IV. Meetings and Procedures

A. The Task Force will begin activities during September 1998. The Chair will announce the date, time, and location of each meeting in advance. After the initial two- or three-day meeting, the Task Force will plan further sessions, as necessary. The Task Force report is due to the Executive Secretary of the ACWI by June 30, 1999.

B. Representatives to the Task Force will receive no pay, allowances, or benefits by reason of their service on the Task Force. However, while away from their homes or regular place of business and in performance of service for the Task Force, non-Federal representatives will be allowed travel expenses if needed. Travel expenses will include per diem. Section 5703 of Title 5 of the United States Code describes allowances associated with this expense.

C. Before transmitting the final report to the Director, USGS, the ACWI will announce the availability of the draft report for public review and comment in the Federal Register.

D. The Task Force Executive Secretary will prepare and distribute to all members a summary of each meeting. Summaries of each Task Force meeting, recommendations adopted, and copies of all studies and reports issued by the Task Force will be available for public inspection on the World Wide Web and for review and copying at the following location:

Water Information Coordination Program
U.S. Geological Survey
417 National Center
12201 Sunrise Valley Drive
Reston, Virginia 20192

E. Support services shall be provided by USGS.

F. *Authority*—The Task Force is part of the implementation of the Water Information Coordination Program mandated by OMB Memorandum No. 92–01, dated December 10, 1991. The Task Force reports to the ACWI that operates under the Federal Advisory Committee Act.

V. Products

A. A compilation of Task Force meeting summaries and special studies.

B. A draft written report describing the findings of the Task Force and its recommendations.

C. A written summary of the public comments on the draft report.

D. An oral presentation to the ACWI of the summary findings and recommendations of the Task Force.

E. A final written report describing the findings of the Task Force and its recommendations presented to the ACWI.

F. Transmittal of the final report from ACWI to the USGS including any comments, or suggested enhancements, or suggested modifications of the Cooperative Water Program resulting from the ACWI review of the Task Force report.

Advisory Committee on Water Information Subgroup Guidance

In addition to the Terms of Reference, the Task Force was provided specific guidance from a subgroup of the ACWI on the issue of how work is conducted as part of the Cooperative Water Program, including the topics of competition with the private sector and the appropriate relationship with the private sector. At its August 1998 meeting, ACWI held several subgroup sessions in which the membership of the ACWI was divided into smaller groups and additional guests were invited to participate in the small groups. One group focused on the topic of "USGS Relationships with the Private Sector" especially as it related to the Cooperative Water Program. This breakout group summarized its deliberations and provided specific guidance to the Task Force on dealing with the subject of relationships with the private sector. This guidance follows.

Advisory Committee on Water Information Subgroup Guidance for the Task Force to Review the Federal-State Cooperative Water Program: Relationship with the Private Sector

Dave Carlton, representing the Association of State Flood Plain Managers cochaired this group and presented their report. Mr. Carlton is a private consultant and member of the American Consulting Engineers Council. The breakout group report and guidance is presented below:

A. The Task Force should examine the criteria used to determine whether USGS should become involved in a specific project. This examination should include:
   1. Review of USGS Water Resources Division (WRD) Policy Memorandum No. 95.44 that contains the criteria for determining appropriate and inappropriate work.
   2. Examine the entire decision process for selecting projects.
   3. Develop a clear mechanism for obtaining public input.
   4. Develop a process for resolving conflicts about what work should be done and who should do it.
   5. Develop a process for routinely assessing the appropriate role of USGS as conditions change.
   6. Ensure that the Task Force uses an open process for conducting the review that provides public access and opportunities to provide input.

B. Review the way USGS projects are staffed.
   1. Recommend ways to increase flexibility in staffing USGS projects.
   2. Ensure a staffing approach that provides continuity for completing, documenting, and communicating project results.
   3. Evaluate the long-term financial and other costs of using a more flexible staffing approach.
   4. Develop a process for ensuring that applied science, technology, and information developed during work efforts remain available to the public, rather than becoming proprietary.
   5. Determine the implications of contracting out on the credibility of results that are used in complex decision-making processes.

C. Improve communications between all involved parties when issues arise. Keep these issues out of Congress and the courts.

D. Report back regularly to the ACWI on these issues.

Task Force Issues

During the first meeting of the Task Force in October 1998, the Task Force reviewed the Terms of Reference to understand and outline the scope of their work. Once the Task Force understood the scope of their charge from the Terms of Reference, they spent time brainstorming other potential issues to consider as part of their deliberations. The list of additional potential issues follows:

Additional Potential Issues Determined by the Task Force for Consideration

A. Is the Cooperative Water Program adequately supporting user needs in the areas of surface- and ground-water quality, quantity, and use information and decision-support systems?
   1. What are the practical and "ideal" networks, and how close to ideal is the current network?
   2. What process can ensure network preservation and stability?
   3. Is there a proper balance among the disciplines?
   4. Do data measurement, analysis, and reporting meet user needs?
   5. Is the Cooperative Water Program generating new technology needed to address complex resource management problems?

B. Has there been a formal (written) analysis of contracting procedures?

C. Project Selection
   - Review WRD Memorandum 95.44 for relevance
   - Consider establishing an outside review panel
   - Resource availability
   - Lead agency selection
   - Expansion of scientific knowledge base
   - Compliance with USGS mandate from Congress
   - Compliance with strategic plan

D. Conduct of Work
   - Outsource—public/private
     —"best and brightest"
   - Quality-control methods
   - Multi-year project budgets
   - Use of in-kind services
   - Interim project reports with status of project and data
   - Release of preliminary data
   - USGS/Cooperator relationship

E. Relationships
   - Feedback—(customer satisfaction)
   - Private users
   - Participants
   - Scheduled reviews—responsiveness summary
   - Progress reporting
   - Cooperator and public
   - Collaboration—enabling environment
   - Training
   - Transfer of knowledge
   - Involvement of non-Cooperators
   - New partners
   - Memoranda of Understanding with Professional Societies
   - Joint project development
   - Nonduplication
   - Cost/benefit discussion
   - Alternate funding sources

F. Data Access
   - Access to all data (consider proprietary data)
   - Water-quantity data base

G. Data Standards
   - Define/set standards
   - Quality Assurance (QA) criteria
   - USGS QA on non-USGS data
   - "Certification" of local data

H. Funding, Cost, and Products of Cooperative Water Program
   - Multi-year project planning and funding (adequacy)
   - Projects need cost-value analysis (efficiency)
   - Alternative sources of funding (for example, in kind, private?)
   - Overhead costs!
   - Are current products understandable, usable, accessible, and do current products meet Cooperator needs?
   - Delivery of timely, quality products (review process)

TASK FORCE ACTIVITIES AND PROCEDURES

The Task Force was very proactive in obtaining information about the Cooperative Water Program from a wide variety of sources. The Task Force held meetings in USGS offices and met with USGS staff; had panel discussions with representatives of agencies participating in the Cooperative Water Program; had a panel discussion with users of the products resulting from the Cooperative Water Program; had panel discussions with private sector consultants relating to the issue of competition with the private sector; reviewed

paper documents of policy statements, financial data, and project-description information relating to the Cooperative Water Program; and conducted numerical and verbal surveys of agencies participating in the Cooperative Water Program to determine the effectiveness of the Cooperative Water Program.

Task Force Structure

The Task Force divided itself into three subgroups to facilitate information gathering and deliberations. The subgroups were aligned with the four elements of Scope in the Terms of Reference: Subgroup 1 focused on the "Mission" of the Cooperative Water Program; Subgroup 2 focused on "Prioritization" and "Conduct of Work" in the Cooperative Water Program; and Subgroup 3 focused on the "Products" of the Cooperative Water Program. The membership of each subgroup is listed in table 2.

Table 2. Task Force subgroup membership

Mission Subgroup	Prioritization and Conduct of Work Subgroup	Products Subgroup
Craig Albertsen	Ed Burkett	Tom Bruns
Thomas Baumgardner	Fred Ogden	Jim Enote
Dick Burton	Don Phelps	Wendall McCurry
Randall Duncan	Jonathan Price	Dave Pope
Fred Lissner	Larry Rowe	Alan Vicory
	Earl Smith	Leslie Wedderburn
	Jim Shotwell	
	Charles Spooner	
	Don Woodward	

Task Force Meetings

The Task Force held five meetings during the period of existence established by the ACWI—September 1998 to June 1999. Meeting minutes for each of the five meetings, including the meeting agendas, are provided in the Appendix, Section B (http://water.usgs.gov/pubs/circ/circ1192/appendix/b/index.html). The meeting locations and dates are listed in table 3.

Table 3. Task Force meeting locations and dates

Meeting Location	Meeting Dates
Reston, Virginia	October 14–15, 1998
Denver, Colorado	January 25–27, 1999
Tucson, Arizona	March 24–26, 1999
Troy, New York	May 5–7, 1999
Chicago, Illinois	June 28–30, 1999

The first meeting in October 1998 was held at the USGS headquarters in Reston, Virginia. The primary purpose of the meeting was for the Task Force to gain a better understanding of the USGS, the Water Resources Division (WRD), and the Cooperative Water Program. The Task Force reviewed the Terms of Reference to understand their charge, elected a Chairperson (Larry Rowe) and a Vice-Chairperson (Fred Lissner), and spent time brainstorming potential issues related to the Cooperative Water Program that might be considered in addition to those specified in the Terms of Reference.

The second, third, and fourth meetings were held at USGS District Offices in Denver, Colorado; Tucson, Arizona; and Troy, New York, respectively. The meetings were structured to provide the Task Force with (1) a "field" perspective from District personnel of how the Cooperative Water Program is operated, (2) interaction with Cooperators who participate in the program, (3) interaction with individuals and groups that use Coop-

erative Water Program products, and (4) interaction with individuals and groups who could speak to the issue of competition with the private sector.

Each of these District meetings included a presentation by the District Chief that explained the District's Cooperative Water Program and the primary water-resources issues of interest. The Arizona meeting also included a presentation by the Florida District Chief about the Florida District Cooperative Water Program. In addition, there were topical presentations by USGS staff in response to Task Force requests for specific information. A list of the topical presentations is presented in table 4. Each of the three District meetings included two different panel discussions with the Task Force. The panels consisted of individuals who could provide the Task Force with an "outside" perspective of different aspects of the Cooperative Water Program. The panels are described in more detail below. Each meeting included time for the Task Force to discuss the information it was gathering, to develop preliminary findings and recommendations, and to begin writing the final report. A considerable amount of time during the New York meeting was used to develop consensus findings and recommendations.

The fifth meeting of the Task Force was held near Chicago, Illinois to finalize the Task Force's findings and recommendations and to complete the final report.

Panel Discussions

Each of the three District meetings included two different panel discussions with the Task Force. Each panel included five to seven individuals, and the discussion lasted about 2.5 hours. The minutes of each meeting, which are provided in the Appendix, Section B, contain a list of the individuals that participated in each panel and a summary of the panel discussions. (Section B also is on the World Wide Web at http://water.usgs.gov/pubs/circ/circ1192/appendix/b/index.html.)

At each of the meetings, a panel of individuals representing cooperating agencies that participate in the Cooperative Water Program was convened to provide the Cooperator perspective of the Cooperative Water Program to the Task Force. A list of prepared questions was used to guide the Task Force's discussion with the Cooperators. The list of questions, which the Task Force called a "verbal survey", is included in the meeting minutes in the Appendix, Section B(http://water.usgs.gov/pubs/circ/circ1192/appendix/b/index.html). The questions that are in bold print are the questions that the Task Force focused on in their discussion with the Cooperator panel.

The purpose of the second panel discussion held at each of the District meetings varied slightly. At the Denver meeting, the panel consisted of individuals representing organizations that were not currently participating in the Cooperative Water Program but were using products resulting from the Cooperative Water Program. This panel provided the Task Force with information relating to the types of products used, the value of the products, and suggestions for improving the products. A set of prepared questions was used to guide the discussion. The list of questions is included in the meeting minutes provided in the Appendix, Section B (http://water.usgs.gov/pubs/circ/circ1192/appendix/b/index.html).

At the Arizona and New York meetings, the second panel focused on determining the appropriate role of the USGS in conducting projects as part of the Cooperative Water Program and on the issue of competition with the private sector. The individuals on these panels were from the private sector and represented private consulting firms that performed water-related work. These panels provided the Task Force with information on whether competition with the private sector is an issue and the magnitude of the issue. Additionally, the panels provided information on their perspective of the appropriate role for the USGS in performing projects as part of the Cooperative Water Program and suggested criteria for determining the appropriateness of projects for inclusion in the Cooperative Water Program. A set of prepared questions was used to guide the discussion. The list of questions is included in the meeting minutes provided in the Appendix, Section B (http://water.usgs.gov/pubs/circ/circ1192/appendix/b/index.html).

One additional panel discussion took place at the Arizona meeting. This panel consisted of four USGS managers. This panel discussion took place after the panel discussion with the private sector consultants on the subject of competition with the private sector. The purpose of this panel discussion was to provide the Task Force the opportunity to ask questions of USGS staff about the issue of competition with the private sector.

Topical Briefings

The Task Force received topical briefings, primarily at their request, on various subjects from USGS staff to

obtain specific information and to gain a better understanding of the topic in question. A list of these topical briefings is provided in table 4. There are no topical presentations listed for the New York and Chicago meetings because there were no topical presentations given.

Table 4. Topical briefings

Topic	Presenter
Reston, Virginia Meeting	
Overview of the USGS and the Water Resources Division	Robert Hirsch, Chief Hydrologist
Division Level Overview of the Cooperative Water Program	James Peters, Program Officer
Regional-District Overview of the Cooperative Water Program	William Carswell, Regional Hydrologist, Northeastern Region
WRD Programs and their Relation to the Cooperative Water Program	Robert Hirsch, Chief Hydrologist
Denver, Colorado Meeting	
Overview of the National Water Quality Monitoring Council	Charles Spooner, U. S. Environmental Protection Agency
Overview of the Streamgaging Task Force	Donald Woodward, U. S Department of Agriculture
How a Cooperative Water Program Project is Developed	Douglas Cain, Associate Chief, Colorado District
How Indirect Costs are Determined	William Horak, Chief, Colorado District
Water Resources Division Products	Greg Allord, Chief, Publications Management Program
Water Resources Division Data Bases	John Briggs, National Water Information System
National Water-Quality Laboratory Tour	Robert Williams, Chief, National Water-Quality Laboratory
Tucson, Arizona Meeting	
Comparison of Indirect Costs Between Districts	John Vecchioli, Chief, Florida District
Ideas for Improving Report Timeliness	Nick Melcher, Chief, Arizona District
Tribal Perspective on the Cooperative Water Program	James Enote, Pueblo of Zuni, New Mexico
Fiscal Year 2000 USGS and WRD Budget	Robert Hirsch, Chief Hydrologist
Development of New Technologies and Methods	Robert Hirsch, Chief Hydrologist

1994 U.S. Geological Survey Customer Satisfaction Survey of Cooperators

In 1994, the USGS conducted an informal survey of organizations participating in the Cooperative Water Program. The purpose of this pilot survey was to assess existing perceptions of customer service and to provide input to preliminary customer service standards for the Cooperative Water Program. To get a broad sampling of the Cooperator community, each District (State) office sent a questionnaire containing 11 questions to two Cooperators. The results of this survey were provided to the Task Force and served as background information about Cooperator satisfaction with the Cooperative Water Program. The results of this survey are presented in the Appendix, Section C (http://water.usgs.gov/pubs/circ/circ1192/appendix/c/index.html).

Task Force Verbal Survey of Cooperators

The Task Force developed a list of questions about the Cooperative Water Program that they could use to interview Cooperators to obtain the Cooperator's perception of the Cooperative Water Program. The questions are presented in the Appendix, Section D (http://water.usgs.gov/pubs/circ/circ1192/appendix/c/

index.html). There were questions related to each of the four elements of Scope (mission, prioritization, conduct of work, and products) in the Task Force Terms of Reference. Each Task Force member then used the questions to do a verbal survey interview of at least two Cooperators. The Task Force members took notes of their interviews, and the information resulting from the verbal survey interviews is summarized and presented in the Appendix, Section D (http://water.usgs.gov/pubs/circ/circ1192/appendix/d/index.html).

Task Force Numerical Survey of Cooperators

To get a broad level of concrete feedback from Cooperators about the Cooperative Water Program, the Task Force developed and implemented a numerical survey. The survey consisted of a series of questions in which the Cooperators could rate aspects of the Cooperative Water Program on a scale that ranged from "excellent" to "poor" or "strongly agree" to "strongly disagree." The survey questionnaire was mailed to 400 randomly selected Cooperators across the country. In FY 1998, 1,287 Cooperators participated in the Cooperative Water Program; about one-third of the Cooperators received a questionnaire. The number of Cooperators receiving the survey in any State was in proportion to the number of Cooperators participating in the program and the size of the Cooperative Water Program in that State. About 170 Cooperators responded and returned a completed survey. The numerical questionnaire and the results of the survey are presented in the Appendix, Section E (http://water.usgs.gov/pubs/circ/circ1192/appendix/e/index.html).

The numerical survey was conducted in accordance with the Paperwork Reduction Act. The survey was approved by the Department of the Interior and the OMB and received the authorization number OMB No. 1028–0071; Expiration Date: 2–28–2002.

Informational Documents

The Task Force asked for and received numerous paper documents related to the Cooperative Water Program. These documents provided information on such things as USGS policy, funding for the Cooperative Water Program, and Cooperative Water Program project information. A list of the most important documents the Task Force received is provided in table 5.

Table 5. Informational documents provided to the Task Force

1. Water Resources Division Memorandum No 98.21—Priority Issues for the Federal-State Cooperative Water Program, Fiscal Year 1999
2. Water Resources Division Memorandum No 95.44—Avoiding Competition with the Private Sector
3. Water Resources Division Memorandum No 92.14—Authority for conducting water-resources investigations
4. Water Resources Division Memorandum No 84.21—Hydrologic Activities to be excluded from the Federal-State Cooperative Water Program
5. Strategic Directions for the Water Resources Division, 1998–2008, U.S. Geological Survey Open-File Report 99-249
6. A new evaluation of the USGS Streamgaging Network: A report to Congress, November 30, 1998
7. Water Resources Division National Training Center Course listing and level of participation by USGS employees, Cooperators, and other Federal employees
8. Funding report, by District, of all types of funding received by the District in FY1998
9. Results of the 1994 U.S. Geological Survey Customer Satisfaction Survey of Cooperators
10. USGS and WRD assessment policies, examples of indirect cost calculations, and a summary of indirect costs for each District
11. A listing of all active cooperating organizations in FY1998 and/or FY1999
12. FY1999 Cooperative Water Program projects related to the Clean Water Action Plan
13. FY1999 WRD activities and projects related to Total Maximum Daily Load (TMDL)
14. Correspondence from American Consulting Engineers Council (ACEC) and American Institute of Professional Geologists (AIPG) related to competition with the private sector

Table 5. Informational documents provided to the Task Force

15. Detail Cooperative Water Program project descriptions for the Colorado, Arizona, Florida, and New York Districts for projects that were active in FY1998 and/or FY1999
16. A list of Cooperative Water Program project titles in all Districts for all projects that were active in FY1998 and/or FY1999

The WRD memorandums listed in table 5 are presented in the Appendix, Section F, ://water.usgs.gov/pubs/circ/circ1192/appendix/f/index.html.

Decision-Making Process

The Task Force accomplished much of their initial decision making through the subgroups. The subgroups were tasked with developing findings and recommendations related to their area of emphasis. The findings and recommendations were based on the synthesis of a wide range of information the Task Force received, such as the informational documents list in table 5, the documents provided in the Appendix, and the verbal input received from the panel discussions. At the New York and Chicago meetings, each subgroup presented their preliminary findings and recommendations to the entire Task Force for comment, revision, and acceptance or rejection. The resulting findings and recommendations all have the consensus acceptance and support of the entire Task Force. These consensus findings and recommendations are presented in the section "Review of the Cooperative Water Program."

REVIEW OF THE COOPERATIVE WATER PROGRAM

The Task Force divided its efforts into several areas of focus. Subgroups were formed to study (1) the "Mission" of the Cooperative Water Program, (2) the "Prioritization" of project selections and "Conduct of Work", and (3) the "Products" produced through the Cooperative Water Program.

Mission

The subgroup studying the Mission of the Cooperative Water Program began by investigating the Mission of the USGS and the WRD. The Mission of the USGS is "...to serve the Nation by providing reliable scientific information to describe and understand the Earth; minimize loss of life and property from natural disasters; manage water, biological, energy, and mineral resources; and enhance and protect our quality of life" (U.S. Geological Survey, 1999a).

The Federal government has a clear responsibility and interest in cooperating with State, Tribal, regional and local governments on water-related issues. The national interest is a combination of broad, regional to national concerns and the aggregate of common State, Tribal, and local interests. Examples of broad, regional to national concerns include regional, national, and global changes in climate and related changes in ground-water levels, stream flows, and water quality; predicting and analyzing the impacts of water-related hazards (for example, floods and droughts); and scientific understanding of how ground-water and surface-water systems function and how human activities impact these systems. These national concerns require the acquisition and maintenance of long-term data sets and the development of interpretive tools. Examples of aggregated common State, Tribal, and local interests are concerns about water availability for municipal, industrial, agricultural, and ecological needs; water quality for domestic and other uses; and impacts of floods, subsidence, and other hazards.

The document, ***Strategic Directions For The Water Resources Division, 1998–2008*** (U.S. Geological Survey, 1999b) establishes the principles that will guide the WRD during 1998–2008. In addition to considering changes in the program, the ***Strategic Directions*** identified the mission, activities, and success factors of the WRD applicable at the time and for conditions that are likely to occur during the next decade. The mission of WRD, as defined in the draft document, is "to provide reliable, impartial, timely information that is needed to understand the Nation's water resources." The WRD mission Statement goes on to say "WRD actively promotes the use of this information by decision-makers to: (1) minimize the loss of life and property as a result of water-related natural hazards, such as floods, droughts, and land movement; (2) effectively manage ground-water and surface-water resources for domestic, agricultural, commercial, industrial, recreational, and ecological uses; (3) protect and enhance water resources for human health, aquatic health, and environmental quality; and (4) contribute to wise physical and economic development of the

Nation's resources for the benefit of present and future generations."

The WRD mission objectives are supported by six primary activities and several success factors, which have been and will continue to be critical to the current and future success of WRD. The ***Strategic Directions*** document includes WRD's historical commitment to providing impartial, credible, and excellent science that is applied to issues relevant to water-resources management, environmental protection, protection from water-related hazards, and other public policies. In many ways, it does commit WRD to being all things to all people as it pursues its mission and mission objectives. The 10-year strategic direction plan basically states that WRD will continue its traditional activities and maintain its primary strengths while improving its success by establishing priorities, accomplishing the things necessary to best serve the Nation and to do them very well.

There are several attributes that make the Cooperative Water Program unique, and the Task Force believes recognition of these qualities should be included in a Cooperative Water Program Mission Statement.

- The Cooperative Water Program has contributed to water-resources knowledge for more than 100 years. From its earliest days, the Cooperative Water Program has been responsible directly for the development of procedures for streamgaging, concepts of surface-water and ground-water flow, and analytical techniques for investigations of water quality. The Cooperative Water Program has acknowledged the keen shared-interest of Federal, State, Tribal, and other governmental agencies in appraising the Nation's water resources and seeking solutions to water-related problems. The Cooperative Water Program accommodates the diverse perceptions of approaches, needs, and priorities of these many agencies through joint planning and funding of systematic studies of water quantity, quality, and use on a national basis.
- The fundamental characteristic of the Cooperative Water Program is that State, Tribal, and other governmental agencies provide at least one-half the funds. The matched-funding arrangement is one of the reasons water-management agencies utilize USGS expertise for information and studies of water quantity, quality and use. For the majority of Cooperators, the 50:50 matching is most appropriate for their needs.
- The Cooperative Water Program products have been used for water planning, administrative, management, and regulatory responsibilities of cooperating partners and stakeholders. The need for water information is critical to improving the management of existing water resources.
- Having the USGS quality assure the work results in consistent techniques of data collection and archiving, with the information stored in a common data base readily available to all. The knowledge gained in the interpretation of the data collected is published and added to the body of information about the hydrology of the Nation. Parties on both sides of disputes generally accept data collected by and the results of studies by USGS.
- Cooperators actively seek participation in the Cooperative Water Program because of the high level of scientific knowledge, objectivity, and technical expertise that the USGS provides. There is a willingness and openness of USGS to share experiences and technical expertise with Cooperators.

Prioritization

The ***Strategic Directions for the Water Resources Division, 1998–2008***, States that the WRD has a responsibility to look into the future and to anticipate emerging needs in the water-resources field. This outlook does not differ significantly from the vision used at the inception of the Cooperative Water Program. What has changed, though, is the world within which the WRD operates. As opposed to 100 years ago, there are many more institutions and enterprises offering expertise within the water-resources environment. Because of this situation, it is vital that the WRD focus its efforts on truly meeting the letter and intent of its mission to address issues of national and regional significance.

The ***Strategic Directions*** document identifies nine water-resources issues needing increased emphasis during 1998–2008:

- Effects of urbanization and suburbanization on water resources;
- Effects of land use and population increases on water resources in the coastal zone;
- Drinking water availability and quality;
- Suitability of aquatic habitat for biota;
- Waste isolation and remediation of contaminated environments;
- Hydrologic hazards;

- Effects of climate on water-resources management;
- Surface-water and ground-water interactions as related to water-resource management; and
- Hydrologic system management, including optimization of ground water and surface water.

The Cooperative Water Program will be expected to play a key role in the examination of these issues as partnerships are created with other Federal agencies, Water Resource Research Institutes, the academic community, Tribes, local governmental agencies, and members of the large private sector. The WRD cannot lose sight of the fact that one of the primary functions of the Cooperative Water Program is to gather the fundamental data that will be necessary to address these nine emerging issues and other water-related issues as they arise.

Conduct of Work

Traditionally, almost all work performed under the Cooperative Water Program was done by USGS scientists and technicians. This arrangement was designed to enhance quality control, provide national consistency in data collection and methods of analysis, and provide a stable core of experienced water scientists nationwide. This practice evolved in part from an era when the WRD employed most of the trained personnel in the world that were experienced in collecting water-resources data. Over the past 40 years, however, there has been a dramatic increase in the number of individuals receiving training in water-resources related science, the capabilities and use of sophisticated data-collection equipment, and the capabilities and use of hydrologic and hydrogeologic modeling.

Due to rising travel costs and the difficulty of maintaining small isolated work locations, it is incumbent on the WRD to investigate all means possible to provide increased efficiencies while controlling cost. This may occur through the increased use of remote sensing, use of personnel from outside the USGS, and/or developing quality assurance (QA) and quality control (QC) procedures that will allow acceptance of data from third-party sources.

Regardless of the methods employed by the WRD, it is vital that, above all else, the USGS maintain its reputation for providing correct, unbiased data. If this reputation were impaired, the WRD's ability to be a significant contributor in the water-resources field would be seriously impacted.

Products

In general, the products of the program are well balanced with respect to achieving the needs of the Cooperators. Products made possible by the Cooperative Water Program are well regarded, credible, reliable, unbiased, and generally of excellent quality (for example, technical correctness, thoroughness, graphics, innovation, and use of new technologies, such as the Internet). However, the Task Force does offer suggestions (see "Findings and Recommendations" section) for improvement in several areas. The ability of the USGS to share information and products generated by the Cooperative Water Program, either free of charge (for example, models and data) or for nominal cost (certain publications), is a strong benefit of the program to Cooperators and other users.

Although program products are of high quality, achieving that level of excellence is inherently time consuming. Timely issuance of some products (for example, in adherence to deadlines in agreements), particularly interpretive project final reports, has been and remains a significant problem in the program. However, USGS staff has made significant strides to correct this important problem, in part, by revising the peer-review process and establishing review authority at the regional and District level.

FINDINGS AND RECOMMENDATIONS RESULTING FROM THE REVIEW OF THE COOPERATIVE WATER PROGRAM

The findings and recommendations that follow have the consensus acceptance and support of the entire Task Force. These findings and recommendations are organized in this section as answers to questions raised by the ACWI in the Terms of Reference for the Task Force. The Cooperative Water Program is vital to the Nation in terms of assuring adequate quantity and quality of water for a wide variety of uses, mitigating the impacts of floods and other water-related hazards, and understanding short-term and long-term changes in water resources. Nonetheless, the Task Force finds that there are opportunities to improve the Cooperative Water Program and makes recommendations in the following areas:

- Mission;
- Priorities for Funding;
- Funding Levels;
- A National Streamgaging Program;

- Collaboration and Communication;
- Competition with the Private Sector;
- Quality of USGS work, and
- Products.

Is the Cooperative Water Program Meeting Its Mission? Is the Mission Still Valid? And, if not, How Should It Be Altered?

The Cooperative Water Program is critical to improving the management of the Nation's water resources. It is important to the Nation because the Program addresses the keen shared-interest of Federal, State, Tribal, and other government agencies in appraising the Nation's water resources and seeking solutions to water-related problems. In today's climate of growing demands on, and increasing competition for, the Nation's water resources, there is an increased need for all types of water-related data and analyses now and in the future. The Cooperative Water Program offers the highest level of scientific knowledge, objectivity, and technical expertise. The Cooperative Water Program is integral to providing long-term data collection and analysis of water quantity, quality, and use on a national basis. Without the Cooperative Water Program, the Nation would not have information vital to the routine management of the Nation's water resources and critical in the management of water-related emergencies.

The Advisory Committee on Water Information (ACWI) provided the Task Force with this description of the Cooperative Water Program:

> "Historically, the Cooperative Water Program has been designed to develop hydrologic data and technical analyses needed to assist in meeting the USGS mission of continuously assessing the Nation's water resources, and to provide technical assistance to State, Tribal, and local water management agencies in seeking solutions to water-resource issues of national concern through a matched funding arrangement."

Finding 1: The Cooperative Water Program is meeting its Mission, and the Program Mission is still valid.

Because no specific mission statement exists for the Cooperative Water Program, the Task Force derived the following Mission Statement:

The Mission of the USGS Water Resources Division Cooperative Water Program is to provide reliable, impartial, and timely information needed to understand the Nation's water resources through a program of shared efforts and funding with State, Tribal, and local partners to enable decision makers to wisely manage the Nation's water resources.

Recommendation 1.1: The Task Force recommends that this Mission statement be adopted as the Mission Statement of the Cooperative Water Program, or that this statement be used as an initial attempt in the formulation of such a Mission Statement.

Recommendation 1.2: The Task Force recommends that the words "Federal-State" be removed from the USGS Cooperative Water Program title in recognition of the broader range of cooperative partners involved in the program.

Finding 2: The Cooperative Water Program has been a very successful part of the WRD's "ongoing" Mission of continually assessing the Nation's water resources.

The Cooperative Water Program is successful as a result of the pooling of support and resources. There is a mutual benefit to all levels of government and public data users alike. There is a need to recognize the importance of the Cooperator, partner, and stakeholder in what the USGS accomplishes through the Cooperative Water Program.

Does the Cooperative Water Program adequately contribute to the broad USGS Mission, while keeping abreast of emerging water-resources issues at the State and local level?

Finding 3: The Cooperative Water Program makes a vital contribution to the broad USGS Mission by collecting and archiving large volumes of water supply data, by intergovernmental cooperation and coordination, and by keeping abreast of emerging water-resources issues at the State and local level.

Given that there is more funding available from the State and local side than there is matching Federal funding, are matching

funds applied to the most important topics and issues?

Finding 4: There are significant levels of cooperative funds for worthy proposals that the USGS cannot match. Many Cooperators are bound by agency policies and budgets to not provide more than 50% matching funds in cooperative agreements. At the same time, for Cooperators that are not constrained, the unmatched funds demonstrate the increasing demand for Cooperative Water Programs and services.

Data collected from the Cooperative Water Program are used for hydrologic studies, water planning, water administration, allocation, interstate river compact administration, flood forecasting, snowmelt forecasting, watershed management and water-quality assessments. Interpretive studies provide important information for many water-resources management decisions. The water community places great value on the independent, objective products of the Cooperative Water Program, a point that was heard over and over again from Cooperators and other users of the information produced.

Current (1999) funding for the Cooperative Water Program is not adequate to satisfy all the needs identified for additional streamflow data, regional groundwater information, updated hydrologic models, and technical publications. There also is little doubt that the program has not achieved its full potential and that there have been some loss of benefits due to inadequate funding. Funding levels have not kept pace with inflation. At the same time, there has been increased demand for the services of the program due to the additional need for water-resources data, tools, and information, mainly to satisfy growth while meeting new environmental challenges.

The main impact of the reducing levels of funding, when compared to inflation, have been on the stream-gaging network, which has seen a continuing loss of critical long-term stations and consequent loss of information vital to Federal, State, Tribal, and local agency interests. However, technology development and interpretive studies have also been affected.

Although some gains may be achieved by increased efficiency, effectiveness, and more judicious choice of programs, the conclusion is inescapable that additional funds will improve the program and benefit all sides.

Recommendation 4.1: The funds for the Cooperative Water Program should be increased to a level sufficient to achieve a full match for the current and future Cooperator offerings and should be indexed for inflation.

Recommendation 4.2: Projects that are appropriately funded 100 percent by a cooperating agency should be reported separately. These projects should nonetheless meet the criteria of WRD Memorandum No. 95.44 to prevent the appearance or reality of competition with the private sector.

Finding 5: There is no consistent, documented process for setting priorities at the District, regional, or national levels. Current allocation of Cooperative Water Program funds to regions and to Districts appears to be based on historical patterns.

Recommendation 5.1: District Chiefs should include the following considerations in setting priorities for individual projects and in determining the percentage of match that the USGS puts into a given project:

A. Availability of funds;
B. Ability of the project to clearly meet the USGS's Congressional mandate to work within the national domain or on issues determined by Congress or the Secretary of the Interior to be in the national interest;
C. Ability of the project to meet Cooperator needs consistent with national priorities that are established in the USGS Strategic Plan, the WRD Strategic Plan, and the memorandum issued annually by the Chief Hydrologist concerning Cooperative Water Program priorities; and
D. Ability of the project to meet multiple goals among the eight outlined in WRD Memorandum No. 95.44 (with the understanding that generally a project that meets more of these goals will have a higher priority than one that meets fewer).

Recommendation 5.2: Establish a special panel to meet at least once every 5 years to review lessons learned and to provide improvements to the process for allocating funds to Districts.

Finding 6: In 1995, the USGS discontinued an internally competitive merit program for addressing high-priority research needs with partial funding from the Cooperative Water Program.

Recommendation 6.1: The USGS should consider establishing a program on a regional basis to address high-priority national needs using a small percentage of Cooperative Water Program funds. The objective of

this program is to fund pressing needs without permanently reallocating funds between Districts.

What changes could be made in the approach to project selection to help ensure maximum effectiveness for the program?

Recommendations 5.1, 5.2, and 6.1 are also applicable to this question.

Finding 7: The effectiveness of the USGS Cooperative Water Program is constrained by institutional and political boundaries.

Recommendation 7.1: Improve collaboration between regional and District offices on water issues that cross jurisdictional boundaries.

Recommendation 7.2: Annually review and report all cooperative projects for the purpose of identifying emerging issues that cross institutional and political boundaries and include these issues in the Chief Hydrologist's annual memorandum on Cooperative Water Program priorities.

Is there proper balance between funding of long-term data collection and short-term interpretative studies?

Finding 8: The number of streamgaging stations involved in the Cooperative Water Program has decreased over the recent history of the Program. In nearly all cases, long-term streamgaging stations have been discontinued because of the lack of funds.

The costs for operation and maintenance of streamgaging stations have increased over time with insufficient increases in Congressional appropriations for the Cooperative Water Program. This funding approach to the Cooperative Water Program has resulted in fewer net dollars being available for long-term, data-collection sites and interpretive studies. The number of long-term stations is declining at an alarming rate. Many stations are discontinued because of Cooperator budget cuts.

Of the total number of nearly 35,000 long-term data-collection stations (streamgaging, water quality, sediment, and ground water) in the Cooperative Water Program, nearly 26,000 stations were funded through the Cooperative Water Program in 1997.

Recommendation 8.1: Produce a report of how the USGS derives current billable costs of the streamgaging network.

Recommendation 8.2: Utilize the Streamgaging Task Force to determine feasibility of billing Cooperators for data-collection activities that are based on actual costs.

Finding 9. A network of continually operated streamgaging stations is critical to management of water resources. Long-term data collection has strong support from all user groups. The need for continued support of long-term streamgaging stations was stressed as a priority.

This network serves a number of purposes with immediate importance, including real-time forecasting, water management, water-quality modeling, flood- and drought- frequency analysis, stream/aquifer interaction, and hydroclimatological studies related to the impact of natural climate variability and potential global-climate change.

Recommendation 9.1: Establish an adequate and permanent streamflow monitoring network in the national interest. Funding for long-term data collection should be stressed as a national priority. The Task Force supports the concept that the Federal government should provide 100 percent funding for a national streamgaging network, and that the funding for this network should not come at the expense of the Cooperative Water Program.

Recommendation 9.2: ACWI (or its Streamgaging Task Force) should make a specific finding regarding the number, distribution, and character of long-term data sites necessary to meet national data-collection objectives. Similar findings should be developed for ground-water and water-quality data sites.

Recommendation 9.3: The USGS should work to limit the loss of long-term streamgaging stations funded by the Cooperative Water Program, until the ACWI Streamgaging Task Force has presented its findings.

Recommendation 9.4: Supplement the national data networks with additional stations funded through the

Cooperative Water Program to address State, Tribal, and other governmental water management needs.

Finding 10: The emphasis and level of need for the two components (data collection and interpretive studies) of the Cooperative Water Program vary from Cooperator to Cooperator. The distribution of funds has evolved over time to about 55 percent for long-term data collection and about 45 percent for interpretive studies.

Recommendation 10.1: The emphasis of the Cooperative Water Program should be on long-term data-collection activities. Data collection should not be sacrificed for interpretive studies.

What is the appropriate relationship with the private sector, States, universities, etc.? Could this arrangement be improved without sacrificing its benefits?

Finding 11: The majority of the hydrologic data in the USGS national data base has been collected by and quality assured by USGS staff. Data collected by others are sometimes entered into the data base but not always quality assured by the USGS.

Recommendation 11.1: USGS should take advantage of all available expertise and technology, regardless of where it resides, provided that the USGS certifies final quality.

Recommendation 11.2: USGS should consider employing outside contractors and cooperating agencies for data collection under strict USGS supervision when doing so can reduce costs.

Recommendation 11.3: Increase the use of in-kind services to maintain data-collection stations and provide the data to USGS for quality assurance and publication.

Finding 12: There is a significant amount of non-USGS data that could contribute to assessing the Nation's water resources.

Recommendation 12.1: Establish guidelines for accepting and disseminating data from non-USGS sources and include appropriate data from other sources in USGS data bases.

Recommendation 12.2: Be aware of data-collection efforts of other Federal agencies, such as the U.S. Environmental Protection Agency and the U.S. Department of Agriculture, and strive for compatibility with their data bases.

Finding 13: In some Districts, Cooperator panels have been convened to review program implementation issues. This has proven to be very beneficial to all parties.

Recommendation 13.1: USGS should continually strive to increase their awareness of Cooperators' needs.

Recommendation 13.2: Promote increased collaboration with Cooperators in data-collection work, interpretive work, report preparation and presentation activities consistent with maintaining the objective nature of the work.

Recommendation 13.3: At the District level, annually convene a general meeting of all Cooperators and interested parties to review overall progress, critique quality of work, assist in development of priorities, and offer feedback on water-resources issues present or in development within the District.

Recommendation 13.4: Each cooperative agreement should contain an explicit and detailed scope of work, including tasks, timelines, costs, staffing levels, and identification of Project Chief.

Recommendation 13.5: Improve technology transfer to Cooperators through joint effort in the field, laboratory and office work, topical seminars, and training-center offerings.

Finding 14: Although most cooperative projects address national issues, a small number of projects appear to meet only local interests and are not appropriate for the USGS Cooperative Water Program.

Recommendation 14.1: In project proposals and in project information that is available to the public, Districts should document how each project is in the national interest and specifically meets the applicable criteria outlined in WRD Memorandum No. 95.44.

Finding 15: The private sector has raised issues relating to work performed by the USGS under the Cooperative Water Program that could be more appropriately performed by the private sector. This problem is reported to be increasing.

Nonetheless, competition is a concern in only a small number of projects nationwide.

Recommendation 15.1: Partnering with private-sector and university practitioners should be encouraged. This would enhance technology transfer to those who apply these investigative tools. It would also help to engage the best and brightest experts on particular projects.

Recommendation 15.2: The Cooperative Water Program should concentrate on its core competency. The Program should continue to advance its capabilities in long-term data collection and analysis, technology and model development, and the transfer of technology to end users.

Recommendation 15.3: The USGS must refrain from unfairly competing with or giving the impression of unfairly competing with the private sector.

Finding 16: WRD Memorandum No. 95.44 addresses the issue of competition with the private sector. The Task Force endorses the criteria specified in WRD Memorandum No. 95.44 for project selection.

Recommendation 16.1: WRD Memorandum No. 95.44 should be amplified to include specific examples of activities that have been deemed inappropriate for USGS involvement (for example, routine site-specific investigations of bridge scouring, wellhead-protection-area delineation, and ground water).

Recommendation 16.2: Convene ad hoc committees by project type, and which are composed of private sector, other agencies, and Cooperators to resolve emerging competition issues, and to help determine what types of projects are appropriate for the USGS to undertake.

Recommendation 16.3: Create and convene biennially a review panel to update WRD Memorandum No. 95.44 as necessary.

Recommendation 16.4: Produce a biennial report for ACWI on successful collaborative work efforts with the private sector, as well as a listing of projects the USGS deemed inappropriate on the basis of WRD Memorandum 95.44. Include a description of projects that are affected by competition issues.

Finding 17: Public knowledge of USGS Cooperative projects is important. Currently, the USGS posts the project title, the problem statement, objectives, and approach on the Internet at the time that the Cooperator and the District Chief sign the joint funding agreement.

Recommendation 17.1: This information should be posted on the public Internet at the time the proposal is forwarded to the Regional Hydrologist for approval. The Regional Hydrologist should consider comments, but not lengthen the timeframe in which projects are approved. The decision shall be communicated to the District and to all those who submitted written comments. The information should include a Statement of how the project is in compliance with WRD Memorandum No. 95.44.

Recommendation 17.2: Copies of WRD Memoranda Nos. 95.44 and 84.21, and any future updates to them, should be posted on the Web for easy reference.

Finding 18: USGS management and scientists interact with State, Tribal, and local water-resource experts on a frequent basis. USGS personnel attend and participate in water-resource planning and management meetings at the request of State, Tribal, and other governmental water authorities.

Recommendation 18.1: Continue to be active in, conduct regular project reviews at, and have a greater visible presence at State, Tribal, and other governmental water workshops, forums, and seminars to share knowledge, technology advancements, and data access.

Recommendation 18.2: Increase involvement in professional and local scientific society forums.

Recommendation 18.3: Annually assess emerging water-resources issues and include these issues in the memorandum referred to in Recommendation 7.2.

Recommendation 18.4: Prepare and publish on the Internet a national summary of projects to increase public awareness of the USGS role in water resources.

What would be the implications of altering current work arrangements on the unique qualities of the Cooperative Water Program and water management nationwide?

Finding 19: The perceived quality and objectivity of USGS data and studies, together with the

USGS cost share, are the primary reasons many entities become Cooperators.

Finding 20: The USGS is nationally recognized as providing the highest quality, long-term water-resources data available.

Finding 21: Any activity that appears to reduce the objectivity of the USGS might negatively impact potential Cooperator interest and confidence.

Recommendation 21.1: The USGS must continue to act professionally and objectively to preserve its respected reputation.

To what extent should the products of the Cooperative Water Program support: (1) national needs, as compared to (2) the needs of Cooperators and other information users?

Finding 22: In general, the products of the program meet Cooperator and other information users needs, while contributing to the national interest. The balance between data collection and interpretive studies is currently meeting the needs of Cooperators and national needs and is in overall proper balance.

Recommendation 22.1: The Cooperative Water Program should be driven by the needs of the users (State, Tribal, and local users and other Federal agencies), where those aggregate interests form a basis for meeting the national interest.

Recommendation 22.2: Establish core data collection networks (streamgaging, water quality, sediment transport, and ground water) to serve the national interest (See also Recommendation 9.1).

Are the products meeting the needs of the primary users as well as the multiple needs of ancillary parties?

Finding 23: The Cooperative Water Program products are well regarded, credible, reliable, unbiased, and generally of excellent quality (for example, technical correctness, thoroughness, graphics, innovation, and use of new technologies, such as the Internet).

Recommendation 23.1: Continue to develop products that are effective in communicating to the diverse audiences concerned with water-management issues. Products being produced by the program, such as fact sheets and fast-read summaries are excellent examples. To continue to improve in this area, develop a program to subject such products to a critical review by non-scientists to assure understandability.

Finding 24: Maintaining a strong objective scientific program is essential to create products that meet Cooperator and user needs.

Recommendation 24.1: Maintain high standards of unbiased, credible products of superior quality through assignment of experienced professionals, quality assurance/quality control techniques, and peer review.

Finding 25: Timely issuance of some products (for example, in adherence to deadlines in agreements), particularly interpretive project final reports, has been and remains a significant problem in the program. Achieving the high standard of current products is inherently time consuming. USGS staff has made significant progress in correcting this important problem, in part, by revising the peer review process and establishing review authority at the regional and District level.

Recommendation 25.1: To facilitate continued improvement in achieving deadlines for the release of products, especially interpretive reports:

A. Secure agreement between Cooperator and USGS staff up front as to the date for the receipt of deliverables;
B. Improve efforts to explain to Cooperators the process for report preparation, review, and release;
C. Continue to cultivate approaches to provide information to Cooperators when they need it (for example, "Open-File" reports, real-time data, Cooperator staff serving as peer reviewers;
D. Develop the capability to be prepared for and respond to situations when USGS staff, who are serving as report authors, are disengaged from the responsibility (for example, retirement, resignation, transfer, or other action); and

E. Take appropriate action to transfer knowledge and experience to others in the organization to reduce the degree of corporate knowledge loss.

Finding 26: The USGS provides information and products generated by the Cooperative Water Program either free of charge (for example, models and data) or for nominal cost (certain publications).

Recommendation 26.1: The long-standing policy that provides for program products to be made available free or for minimal charge should remain unchanged.

What changes in products should the USGS consider to strengthen the Cooperative Water Program's impact?

Finding 27: Use of the Internet and other state-of-the-art technologies by the Cooperative Water Program has been innovative and highly effective. These technologies are and will continue to be an extremely important medium for the timely dissemination of streamgaging data and other program products.

Recommendation 27.1: USGS should continue to aggressively explore ways to incorporate use of the Internet and other available and emerging electronic communication technologies in the development, review, and release of all its products.

Recommendation 27.2: Make reports available in an appropriate electronic format, beginning with current reports and ultimately working back in time to include historic reports.

Finding 28: Cooperative Water Program products tend to be written for technical professionals and can be difficult for lay readers to understand. Recent use of fact sheets and other such products are important improvements.

Recommendation 28.1: Products should address the critical issues of the Cooperator as specified in the cooperative agreement. When appropriate, the USGS should expand the use of lay summaries and fact sheets for the general public.

Finding 29: Some data bases are difficult to use (for example, the USGS Ground Water Site Inventory (GWSI) data base).

Recommendation 29.1: Update, maintain, and make more accessible existing data bases, such as GWSI.

Recommendation 29.2: Make historical data and metadata available in electronic formats at the shortest available temporal resolution.

Finding 30: Data dissemination practices vary between Districts, ranging from release to the Cooperator as data are collected, to release upon approval of the final interpretive report.

Recommendation 30.1: Develop a consistent nationwide policy that results in the earliest possible release of data to Cooperators.

Are there ways to further stimulate the development of new approaches and methods and to enhance the transfer of these approaches and methods to interested parties?

Finding 31: The Cooperative Water Program has been the vehicle for the development of many technologies and important national information summaries that have been successfully transferred to the private sector. Examples are the MODFLOW ground-water-flow model, numerical methods, and acoustic Doppler and ultrasonic velocity-meter technology for measuring streamflow.

Recommendation 31.1: Increase resources for the development of national synthesis products to enhance information and technology transfer.

Recommendation 31.2: Increase resources to update previously developed modeling technologies.

Recommendation 31.3: Strengthen partnerships between USGS divisions. Such partnerships are necessary to synthesize diverse information and provide comprehensive answers to resource questions.

Recommendation 31.4: Strengthen coordination between the Cooperative Water Program and other Federal, State, Tribal and local programs to achieve improved focused and economical products.

Recommendation 31.5: As appropriate, continue to co-locate USGS staff with Cooperators (and conversely) to facilitate day-to-day information transfer

and to promote better understanding of local issues and perspectives.

Finding 32: The WRD's National Training Center located in Denver is a valuable resource that appears to be underutilized.

Recommendation 32.1: Promote the National Training Center in Denver as an available resource for professional development.

REFERENCES

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Circular 1192

External Task Force Review of the U.S. Geological Survey Federal-State Cooperative Water Program, August 1999

Appendixes A–F

Appendix A – Federal-State Cooperative Water- Resources Program Fact Sheet

U.S. Geological Survey
Federal-State Cooperative Water-Resources Program

The USGS provides maps, reports, and information to help others meet their needs to manage, develop, and protect America's water, energy, mineral, and land resources. We help find natural resources needed to build tomorrow, and supply scientific understanding needed to help minimize or mitigate the effects of natural hazards and environmental damage caused by human activities. The results of our efforts touch the daily lives of almost every American.

Reliable supplies of suitable quality water are necessary to the health and well being of America's people, cities, and businesses. Numerous Federal, State, regional, and local agencies share keen interests in appraising the Nation's water resources and seeking solutions to water-related problems. Because of their varying missions and areas of responsibility, these many agencies hold diverse perceptions of approaches, needs, and priorities. The U.S. Geological Survey's (USGS) Federal-State Cooperative Program accommodates this diversity through joint planning and funding (50:50 matching) of systematic studies of water quantity, quality, and use on a national basis. The Cooperative Program has contributed to water-resources knowledge for 100 years. From its earliest days, the Program has been responsible directly for the development of procedures for streamgaging, concepts of surface-water and ground-water flow, and analytical techniques for investigations of water quality.

The Federal-State Cooperative Program, a partnership between the USGS and State and local agencies, provides information that forms the foundation for many of the Nation's water-resources management and planning activities. In addition, the information may function as an early warning of emerging water problems. The fundamental characteristic of the Program is that local and State agencies provide at least one-half the funds, but the USGS does most of the work. Having the USGS do the work results in consistent techniques of data collection and archiving, with the information stored in a common database readily available to all. The knowledge gained in the studies is published and added to the growing body of information about the hydrology of the region or area.

Most work in the Cooperative Program is directed toward potential and emerging long-term problems, such as water supply, waste disposal, ground-water quality, and effects of agricultural chemicals, floods, droughts, and environmental protection. Standardized methods are used so that study results are transferable to similar problems in other areas and contribute to issues that have interstate, regional, or international significance. Data collected by USGS and the results of its studies are accepted by parties on both sides of disputes and furnish the basis required for interstate and international compacts, Federal law and court decrees, congressionally mandated studies, regional and national water-resources assessments, and planning activities.

A comprehensive and forward-looking program of hydrologic data collection and investigations is needed to provide the information necessary for the wise development and use of the Nation's water resources. The jointly planned and funded Cooperative Program provides assurance that the information needed to meet national and local needs will be produced and shared. Because rivers and aquifers cross jurisdictional lines, studies and data collected in one county or one State have great value in adjacent counties or States. It is therefore effective to have one agency involved in these studies so that the information can be shared and is comparable from one jurisdiction to the next. The USGS can respond to major floods with crews from all over the Nation who bring to bear common knowledge of streamgaging technology and procedures. This versatile response capability would not be possible if State agencies had to act alone in flood emergencies.

Program priorities are developed in response to mutual Federal, regional, State, and local requirements. Thus, the USGS and cooperating agencies work together in a continuing process that leads to adjustments in the program each year. During 1994, cooperative water studies were conducted by USGS personnel in every State, in Puerto Rico, and several territories. About 1,100 cooperators participated in the program (see table 1). These cooperators include State, county, and municipal agencies, as well as interstate compact organizations, conservation districts, water-supply districts, sanitary districts, drainage districts, flood-control districts, and similar organizations. Through the pooling of support, the USGS is able to conduct studies that lead to an improved understanding of the Nation's water resources to the mutual benefit of all levels of government--at substantial financial savings.

Within the Cooperative Program, typically about half of the funds support the collection of hydrologic data; the remaining half support hydrologic investigations and research. In 1994, the Federal-State Cooperative Program served as the sole source of funding for the operation of more than 4,200 continuous streamflow stations and partially funded an additional 650 continuous streamflow stations. These stations constitute about 67 percent of the continuous streamflow stations operated by the USGS. The Program also provided funds for the collection of ground-water levels at approximately 27,300 wells and the collection of water-quality data at about 1,900 surface-water stations and 4,800 ground-water well and spring stations. These data provide information necessary for the determination of the suitability of water for various uses, identification of trends in water quality, and evaluation of the effects of stresses on the Nation's surface- and ground-water resources. Since the early 1970's, there has been an increase in the number of investigations that have emphasized water-quality issues, such as aquifer contamination, river quality, storm-runoff quality, and the effects of acid rain, mining, and agricultural chemicals and practices on the hydrologic system.

Table 1. Number of cooperators in the 1994 Federal-State Cooperative Program.

	State	County	Municipal	Indian	Other	Total
Alabama	5	4	10	--	1	20
Alaska	7	--	5	--	1	13
Arizona	4	3	2	6	6	21
Arkansas	7	2	3	--	1	13
California	6	28	17	4	20	75
Colorado	6	13	27	1	30	77
Connecticut	2	--	4	--	2	8
Delaware	2	--	--	--	1	3
District of Columbia	--	--	2	--	1	3
Florida	3	14	23	--	12	52
Georgia	6	10	14	--	2	32
Hawaii	3	5	--	--	--	8
American Samoa	2	--	--	--	--	2
Guam	1	--	--	--	--	1
Northern Marianas	1	--	1	--	--	2
Trust Territory	4	--	--	--	--	4
Idaho	2	2	1	2	7	14
Illinois	5	7	8	--	4	24
Indiana	3	1	3	--	1	8
Iowa	3	--	9	--	3	15
Kansas	6	3	4	4	5	22

Kentucky	3	2	6	--	4	15
Louisiana	5	2	1	--	4	12
Maine	5	1	2	--	3	11
Maryland	4	2	2	--	--	8
Massachusetts	6	--	1	--	3	10
Michigan	2	6	17	2	3	30
Minnesota	4	5	3	6	4	22
Mississippi	5	3	1	--	4	13
Missouri	4	2	4	--	2	12
Montana	6	2	1	4	3	16
Nebraska	4	--	2	--	15	21
Nevada	6	5	2	4	4	21
New Hampshire	1	--	1	--	--	2
New Jersey	4	5	6	--	4	19
New Mexico	4	1	7	3	8	23
New York	4	13	9	1	3	30
North Carolina	3	2	12	--	3	20
North Dakota	5	--	3	2	1	11
Ohio	3	7	5	--	4	19
Oklahoma	5	--	1	3	1	10
Oregon	5	4	8	1	4	22
Pennsylvania	6	4	13	--	7	30
Puerto Rico	6	--	--	--	--	6
Rhode Island	3	--	1	--	1	5
South Carolina	6	1	7	--	6	20
South Dakota	8	3	4	5	7	27
Tennessee	5	4	21	--	2	32
Texas	5	7	19	--	28	59
Utah	5	2	3	--	5	15
Vermont	2	--	--	--	--	2
Virginia	3	2	4	--	4	13
Virgin Islands	1	--	--	--	--	1
Washington	4	12	7	9	--	32
West Virginia	5	--	2	--	--	7
Wisconsin	5	5	30	4	26	70
Wyoming	7	3	4	--	6	20
TOTAL	237	197	342	61	266	1,103

All data and results of analytical studies are made available to cooperating agencies and to the public through published reports, and through computerized data bases. Hydrologic data can be accessed through USGS offices in every State and will soon be available over the Internet. The benefits of the program are demonstrated by the extent to which other agencies apply the information produced. For example, the National Weather Service uses streamflow and water-level information from some 3,000 USGS-operated gaging stations for their flood-forecasting systems.

Many Cooperative Program activities provide information necessary for making water management decisions. Investigations are undertaken in response to a specific need but produce information and/or techniques that are applicable to other situations in related settings. Several examples follow.

California---Contaminant Transport in Fractured Rock, Penn Mine

The USGS is conducting a study, in cooperation with the California State Water Resources Control Board and the East Bay Municipal Utility District, to verify
Ground-water flow paths and quantify ground-water flow in the fractured rock aquifer that connects unlined mining waste-water ponds to Camanche Reservoir; to quantify the water-rock interactions that control the geochemistry of the ground-water system; and to quantify transport of major chemical constituents and trace elements along ground-water flow paths from the mine to the reservoir. This study represents one of the first attempts at modeling contaminant transport in fractured rock, and will serve to advance the understanding of fractured-rock hydrogeology. This knowledge will be used to solve contamination problems in other fractured-rock environments.

Delaware, Maryland, and Virginia---Bridge Scour Studies

The undermining (scouring) of bridge-pier and abutment foundations by erosive action of water can result in structural failure of bridges. The numerous equations that have been developed to predict scour produce a wide range of estimates for the same set of conditions. However, field data to test the validity of these equations are sparse. The USGS, in cooperation with State Highway Departments in Delaware, Maryland, and Virginia, is developing techniques for measuring scour continuously at bridge piers to improve the predictive equations. The results of these and other similar USGS studies are being used by engineering firms, State departments of transportation, and the Federal Highway Administration to determine the risk of and to prevent bridge failure. Bridges identified as having high risk for destructive scour are investigated in detail by private or State engineers who devise ways to safeguard the bridge.

Florida---Development of Flow Models for Wetlands, Dade County

The USGS has developed numerous computer techniques to simulate both ground-water flow and surface-water flow. These models are now in use by State and local agencies, consulting firms, and universities throughout the Nation. The USGS, in cooperation with the South Florida Water Management District, is investigating methods of combining the capabilities of ground-water and surface-water models to study the effects of water-management alternatives in ecologically sensitive wetlands that commonly are in direct connection with the ground-water system. Hydrologic data collected in Dade County will be used to construct and calibrate models of the Biscayne aquifer that will include simulations of the interactions between surface water, ground water, and wetlands. This study will help improve the understanding of the hydrologic relations in the South Florida Everglades area, and will provide improved analytical tools to the water-resources community.

Illinois---Improved Techniques for Predicting Flood Risks

Understanding the relation between rainfall and resulting runoff is important for accurate prediction of the risk of flooding. Many computer-based models have been developed to simulate this relation, but they need significant improvement to better describe how factors such as land use, soil properties, and rainfall distribution affect runoff. The USGS, in cooperation with the Illinois Department of Transportation, is using geographic information system technology to improve the way that models handle the various factors involved. Improved model simulations will provide better predictions of runoff and enable forecasters to provide more accurate flood information.

Damage caused by floods is especially acute in highly urbanized watersheds. Yet the predictive tools used to estimate the potential effects of flooding are least accurate in urban areas because of

rapidly changing land-use activities. The USGS, in cooperation with DuPage County and the Illinois Department of Water Resources, is improving statistical methods used to estimate peak flood levels and volumes in densely-populated, rapidly-changing areas around Chicago. The methods will provide better information for protecting existing structures and for planning future development. These studies and similar work nationwide have resulted in a USGS report that provides the means by which to estimate the magnitude and frequency of floods at ungaged sites on streams. The equations in this report are widely used by consulting engineers and government agencies for flood prediction.

Iowa, Kansas, Minnesota, Missouri, North and South Dakota, and Nebraska---Midwest Floods, 1993

During the 1993 Mississippi River floods, USGS field personnel made more than 2,000 visits to streamgaging stations in the flood-affected areas to verify that the instruments were working and communicating properly, to make repairs as needed, and to make direct measurements of the streamflow. Approximately 70 percent of the USGS streamgaging stations were operated in cooperation with various State and local agencies. The data from the gaging stations were provided continuously to the National Weather Service and the U.S. Army Corps of Engineers and formed the basis for flood forecasts that allowed people and personal property to be evacuated from areas about to be inundated. It also enabled the Corps of Engineers and others to focus flood-fighting activities where they would be most useful. Without the long-standing gaging station network and well-developed communications systems, accurate forecasts could not have been made and loss of life and damage to property would have been far greater than it was (47 lives were lost, and property damages totaled $16 billion). This same experience with the real-time use of USGS gaging station data is repeated several times each year as catastrophic floods strike various sections of the Nation. In addition, the hydrologic information is used by transportation planners to design safe bridges and roadways and to establish valid zoning and insurance regulations that protect people and property during future floods.

Kansas---Effects of Soil- and Cropping-Management on Atrazine Movement

Contamination of surface water by atrazine and other herbicides may pose a serious problem for public water supplies. Experiments conducted at the Kansas River Valley Experimental Field near Topeka, Kansas, as part of a USGS-Kansas State University cooperative study, reveal that some simple improvements in farming techniques can greatly reduce herbicide loss from fields. A farming technique that results in considerable reduction in herbicide concentrations in runoff from cultivated fields is the incorporation of the herbicide into the soil. Runoff from experimental plots in which the herbicides were incorporated into the soil during application had initial concentrations of herbicides 10 to 100 times less than initial concentrations in runoff from plots in which the herbicides were applied directly to the soil surface. Other experiments showed that encapsulated herbicides help reduce herbicide loss, especially when incorporated into the soil. These findings are significant in light of a common farming practice of spraying herbicides on the surface of minimum-tilled fields. The additional crop residue on the surface of such fields reduces soil erosion, but the surface application of the herbicides clearly contributes a large amount of herbicide to surface water. This study brought together the University's expertise in agricultural systems and soils with the USGS capability in water-quality monitoring and organic chemistry. The information produced by the study is of great benefit to the Nation's agricultural community in making decisions with respect to techniques for herbicide application.

Louisiana---Flooding on the Lower Pearl River

Severe flooding on the lower Pearl River in the vicinity of Slidell, Louisiana occurred in April of 1979, 1980, and 1983. Each flood approached or exceeded a 100-year frequency of recurrence.

The chance for three such floods happening within a 4-year span is about 1 in 10,000. Following the 1980 flood, the USGS, in cooperation with the Louisiana Department of Transportation and Development, Office of Highways, began a study of river flow at the I-10 Interstate Highway crossing of the Pearl River near Slidell. The USGS developed a mathematical model to simulate flow conditions through the existing bridge openings. The model also can be used to simulate conditions without I-10 in place, the effects of alternative bridge designs, or modifications to the existing bridge. After further development, the model has been adopted by the Federal Highway Administration, many State departments of transportation, and consulting engineers to analyze complex streamflow situations at existing or proposed bridge crossings. The information from the model results in safer and more cost-effective bridge design.

South Carolina---Rates of Petroleum Hydrocarbon Degradation

The USGS, in cooperation with the South Carolina Water Resources Commission, is investigating an extensively contaminated shallow water-table aquifer underlying a fuel tank farm in Hanahan, South Carolina. Data collected to date have revealed that petroleum hydrocarbons in the aquifer are being degraded in a complex pattern of zones dominated by chemically distinct conditions that change dynamically in time and space. Future studies are planned to determine relative rates of hydrocarbon degradation under these conditions and how degradation rates are affected by changes in conditions. This information will benefit the evaluation and design of low-cost bioremediation strategies at this and similar sites nationwide.

Texas---Areas of High Risk from Contamination, Edwards Aquifer

The USGS, in cooperation with the Edwards Underground Water District in San Antonio, Texas, mapped outcrops of the Edwards aquifer in northern Bexar, Comal, and Hays counties. The Edwards aquifer is the sole source of water for 1.5 million people in San Antonio and the surrounding area. The resulting hydrogeologic maps indicate areas of the aquifer most susceptible to contamination by surface sources, such as spills or stormwater runoff from residential or commercial development on or adjacent to the aquifer outcrops. This information is essential for land-use planning to protect the Edwards aquifer in the rapidly urbanizing outcrop area. In addition, the hydrogeologic maps are useful for determining relative fault displacement, which, when combined with the defined "most sensitive to pollution" areas, aids in inferring the path of ground-water flow from the outcrop into the aquifer. USGS investigations of the Edwards aquifer led to enactment of a Federal law to protect aquifers that are the sole source of public water supplies.

From U.S. Department of the Interior, U.S. Geological Survey, Fact Sheet FS-052-95

Appendix B - Minutes of the Task Force Meetings

11/20/98

Task Force to Review the Cooperative Water Program

Minutes of the First Meeting
October 14-15, 1998
Reston, Virginia

Attendees:
Task Force Members - - Craig Albertsen, Bureau of Reclamation; Thomas Baumgardner, National Weather Service; Tom Bruns, American Water Works Association; Ed Burkett, Corps of Engineers; Richard Burton, National Association of Counties; Randall Duncan; International Association of Emergency Managers; James Enote, Pueblo of Zuni; Frank Tsai, Federal Emergency Management Agency (FEMA); Fred Lissner, Oregon Department of Water Resources; Peter Mack (by phone), New York Department of Environmental Conservation; Fred Ogden, University of Connecticut; Don Phelps, American Society of Civil Engineers; David Pope, Kansas Department of Agriculture; Jonathan Price (by phone), Nevada Bureau of Mines and Geology; Robert Roberts (1st day), Environmental Council of States; Larry Rowe, Mojave Water Agency; Jim Shotwell, American Institute of Professional Geologists; Earl Smith, Interstate Council on Water Policy; Charles Spooner, U.S. Environmental Protection Agency; Alan Vicory, Ohio River Valley Water Sanitation Commission; Leslie Wedderburn, South Florida Water Management District; Don Woodward, USDA

U. S. Geological Survey - - Steve Blanchard, Task Force Executive Secretary; Bill Carswell, Regional Hydrologist – Northeastern Region; Betsy Daniel, Facilitator; Robert Hirsch, Chief Hydrologist; Nancy Lopez, Chief - Water Information Coordination Program; Jim Peters, Water Resources Division Program Officer

Location: U. S Geological Survey, National Center, Reston Virginia

The meeting closely followed the meeting agenda (attachment 1). The first day of the meeting (October 14, 1998) was primarily the USGS Water Resources Division (WRD) staff sharing information about the USGS, the WRD, and the Federal – State Cooperative Water Program with the Task Force members. Presentations included (1) introductory remarks and the charge to the Task Force by Bob Hirsch, (2) an overview of the USGS and the WRD by Bob Hirsch, (3) a general Division level presentation on the Coop Program from Jim Peters, (4) a more detailed presentation on how the Coop Program works at the Regional/District level by Bill Carswell, (5) a presentation on how other WRD programs relate to the Coop Program by Bob Hirsch, and (6) a time for the Task Force Members to share their thoughts and expectations about the work of the Task Force and the Coop Program.

Most of the Task Force members and some USGS staff participated in an informal social hour followed by a group dinner on the evening of October 14, 1998.

The second day (October 15) of the meeting was solely for Task Force deliberations. Betsy Daniel facilitated the process the Task Force used for its deliberations. The goals for the deliberations were (1) to brainstorm issues that the Task Force should address in addition to those listed in the Terms of Reference, (2) prioritize and develop preliminary action plans for the list of issues resulting from the deliberations combined with those in the Terms of Reference, (3) elect a chair and vice-chair, and (4) set the dates for the next three meetings. The Task Force ultimately divided into three groups to develop a list of issues and preliminary action plans for future meetings. The time available was limited so that most groups were able to develop a list of issues but only start on the preliminary action plans. The three groups focused on the four elements of scope from the Terms of Reference. The three groups and their topics were:

1. Federal-State Cooperative Water Program Mission (Terms Of Reference – Element 1 of the Scope)

   Craig Albertsen
   Thomas Baumgardner
   Randall Duncan
   Fred Lissner
   Frank Tsai

2. Federal-State Cooperative Water Program Prioritization and Conduct of Work (Terms of Reference – Elements 2 and 3 of the Scope)

   Ed Burkett
   Dick Burton
   Peter Mack
   Fred Ogden
   Don Phelps
   Jonathan Price
   Larry Rowe
   Earl Smith
   Jim Shotwell
   Charles Spooner
   Don Woodward

3. Federal-State Cooperative Water Program Products (Terms of Reference – Element 4 of the Scope)

   Tom Bruns
   Jim Enote
   Dave Pope
   Alan Vicory
   Leslie Wedderburn

The issues and preliminary action plans developed by each group are summarized in attachments 2 for "Mission", attachment 3 for "Prioritization and Conduct of Work", and attachment 4 for "Products."

The committee selected Mr. Larry Rowe, General Manager of the Mojave Water Agency, Apple Valley, California as the Chairperson for the Task Force. Mr. Fred Lissner, Manager, Ground Water and Hydrology Department, Oregon Department of Water Resources, Salem, Oregon was selected as Vice-Chairperson.

The Task Force set dates for the next three meetings. The locations will be USGS District offices in different USGS Regions and will be determined by the Chair and Vice-chair in consultation with the Executive Secretary. The dates for the next meetings are:

January 25-27, 1999
March 24-26, 1999
May 5-7, 1999

Action Items:

The Chair, Vice-Chair, and Executive Secretary meet by conference call to:

1. further develop and consolidate the preliminary plans of action,
2. determine the information needs for the January 25-27 meeting, including guest attendees and presenters,
3. determine the location for the January 25-27 meeting, and
4. set the preliminary agenda for the January 25-27 meeting.

TASK FORCE TO REVIEW THE COOPERATIVE WATER PROGRAM

AGENDA
OCTOBER 14-15, 1998
Reston, Virginia
Room 5A217

Wednesday, October 14

8:30 Opening Remarks – Hirsch (1 Hr)
- ACWI
- Overview Of Terms Of Reference
- Composition Of Task Force
- Self Introductions
- Goals For And Outline Of Meeting
- Brief Overview Of Coop Program

9:30 Break (0.5 Hr)

10:00 WRD Overview – Hirsch (1 Hr)

11:00 Coop Program – Division Level General Overview – Peters (1 Hr)

12:00 Lunch (USGS Cafeteria) (1 Hr)

1:00 Regional/District Overview – Carswell (1 Hr)

2:00 Break (0.5 Hr)

2:30 WRD Programs And Their Relation To The Coop Program – Hirsch (1 Hr)

3:30 Open Discussion Of Coop Program – Daniel (1 Hr)

4:30 Adjourn

6:30 Group Dinner

Thursday, October 15

8:30 Task Force Deliberations – All (1.5 Hr)

- Selection Of Chair And Co-Chair For Task Force – Daniel
- Discussion Of Terms Of Reference – Blanchard
- Discussion Of Approach/Plans For Task Force – Blanchard/Daniel
- Set Dates And Locations for Future Meetings

10:00 Break (0.5 Hr)

10:30 Continue Task Force Deliberations (1.5 Hr)

12:00 Lunch (1 Hr)

1:00? Question/Answer and Discussion of Anything Relating to USGS/WRD/Coop Program – Hirsch/Peters/Blanchard/Daniel/Others as needed (1 Hr)

Note: This can occur at any time during the day

2:00 Break (0.5 Hr)

2:30 Continue Task Force Deliberations (1 Hr)

3:30 Task Force Closeout Briefing To Chief Hydrologist (0.5 Hr)

4:00 Adjourn

Mission
Terms of Reference - Element 1 of Scope

Issues:

Mission – What, how, who, and why

Is the Coop Program adequately supporting user needs in the areas of surface- and ground-water quality, quantity, and use information and decision support systems?

1. What are the practical and "ideal" networks, and how close to ideal is the current?

2. What process can assure network preservation and stability?

3. Is there a proper balance among the disciplines?

4. Do data measurement, analysis, and reporting meet user needs?

5. Is the Cooperative Water Program generating new technology needed to address complex resource management problems?

Preliminary Action Plan:

Actions before the January 25-27 meeting

- Get list of cooperators
- Get lists of groups that are coop users to answer questions
- Plan agenda and identify speakers
- Prepare questions for field meetings.
- Telecom or email /brainstorm preservation process (#2)
- Review mission Statement - revise
- Conference calls, etc to flesh out details
- Have Chuck Spooner give an overview of National Water-Quality Monitoring Council
- History of network by States, Tribes, counties, etc.

Actions during the January 25-27 meeting

- USGS and outside presentation on success in technical development
- Gather success stories regarding network preservation
- Public comment period
- What are streamgaging group, monitoring group, and ground water group doing and how does that relate to our task?
- Do post mortem evaluation after field presentations
- Document meeting results
- Select random samples?
- Outline mission section and assign writers
- Revisit mission Statement

March 24-26 meeting

- Finish report for Task Force review and approval
- Edit mission section
- Revisit mission Statement

May 5-7 meeting

- Review final version of report

Prioritization and Conduct of Work
Terms of Reference – Elements 2 and 3 of Scope

Issues:

General
- Has there been a formal (written) analysis of contracting procedures?
- Need a copy of the USGS Organic Act and USGS mission Statement

Project Selection
- Review WRD Memorandum No. 95.44 for relevance
- Consider establishing an outside review panel
- Resource availability
- Lead agency selection
- Expansion of scientific knowledge base
- Compliance with USGS mandate from Congress
- Compliance with strategic plan

Conduct of Work
- Outsource – public/private
  - "best and brightest"
- Quality control methods
- Multi-year project budgets
- Use of in-kind services
- Interim project reports with status of project and data
- Release of preliminary data
- USGS/cooperator relationship

Relationships
- Feedback – (customer satisfaction)
- Private users?
- Participants?
- Scheduled reviews – responsiveness summary
- Progress reporting
- Cooperator, public

- Collaboration – enabling environment
- Training
- Transfer of knowledge
- Involvement of non-cooperators
- New partners
- MOUs with Professional Societies.
- Joint project development
- Non duplication
- Cost/benefit discussion
- Alternate funding sources

Data Access
- Access to all data (consider proprietary data)
- Water-quantity database

Data Standards
- Define/set standards
- QA criteria
- USGS QA on non-USGS data
- "Certification" of local data

Preliminary Action Plan:

Actions before the January 25-27 meeting

- Review WRD Memoranda Nos. 95.44 and 92.14
- Look for evidence of encroachment into private consultant roles
- USGS provide a list of FY1997 projects in enough detail to determine the relative emphasis of coop projects
- Invite two District Chiefs to discuss their programs
  * 1 doing well
  * 1 not doing well
- Invite critics to talk to Task Force
- Ask USGS for copies of cooperative agreement to check for problem Districts
- Ask USGS for list of cooperators by State
- Ask USGS for trends up/down in the Cooperative Program funding by District
- Ask USGS for information on how streamgaging network is funded
- Choose sample group of cooperators
- Task Force contacts cooperators by mail include ACWI charge and TOR
- Task Force prepares questionnaire for interviews
- Conduct interviews (3-5 per person)
- USGS compiles results of interviews
- Ask USGS for quality plans for projects
- Ask USGS for policy on interim reports and release of data
- Appoint subcommittee to review QA/QC process and in-kind services policy
- Ask USGS for their quality control plans - internal and external
- Review issues and add/revise
- Ask USGS for a policy on in-kind services – what is it?

Actions during the January 25-27 meeting

- Interview results (re: WRD Memorandum No. 95.44)
- Assessment of QA/QC and in-kind services
- Policies on interim reports and release of data
- Discussion of initial perspectives on the coop program
- Review/revision of action plans

Actions before the March 24-26 meeting

- Draft Task Force recommendations
- Outside review panel
- Resource availability
- Lead agency
- Multi-year project plan
- Draft recommendations on relationships

Actions during the March 24-26 meeting

- Task Force recommendations on WRD Memorandum No. 95.44
- Task Force recommendations on outsourcing

Actions before the May 5-7 meeting

- Finalize Task Force recommendation

Actions for the May 5-7 meeting

- Adoption of Task Force recommendations on WRD Memorandum No. 95.44

PRODUCTS
Terms of Reference – Element 4 of Scope

Issues:

Funding, cost, and products of the Cooperative Water Program

- Multi-year project planning and funding (adequacy)
- Projects need cost-value analysis (efficiency)
- Alternative sources of funding (for example, in kind and private?)
- Overhead costs!
- Are current products understandable, useable, accessible, and meet cooperator needs?
- Delivery of timely, quality products (review process)

Preliminary Action Plan:

Actions for multi-year project planning and funding before/during January 25-27 meeting

- USGS provide national data on multi-year project planning and funding such as the number of active projects, the number of terminated projects, and the amount of rollover funding
- USGS provide a detail list of projects for some representative districts
- USGS provide information on Federal law vs. USGS policy on 1-year funding

Actions associated with cost before/during January 25-27 meeting

- USGS and Task Force examine how project costs are determined from project chief perspective through interviews with project chief(s) at the district; USGS provide district policies and worksheets.
- USGS provide detail description of overhead costs
- Task Force compare USGS overhead costs to the engineering community
- Try to obtain information about projects that were not done because of excessive cost/quality. USGS provide information, if possible, and Task Force interview cooperators
- Task Force members cost some projects/data collection to compare to USGS
- USGS provide gaging-station costs by District and explanation of why costs differ

Action associated with products before/during January 25-27 meeting

- USGS provide a flow chart of the product review and approval process
- USGS provide information on percent of projects that meet deadline
- Task Force examine if project deadlines are reasonable
- USGS make a presentation describing the various WRD products with samples of the products
- USGS make a presentation describing the WRD data bases and schedule of posting them to the web and for increasing access
- USGS make a presentation describing data-collection methods and quality standards and why they are important
- USGS provide a copy of the policy on direct services

Task Force to Review the Cooperative Water Program

Minutes of the Second Meeting
January 25-27, 1998
Denver, Colorado

Attendees:
Task Force Members - - Craig Albertsen, Bureau of Reclamation; Thomas Baumgardner, National Weather Service (2nd and 3rd days only); Tom Bruns, American Water Works Association; Ed Burkett, Corps of Engineers; Richard Burton, National Association of Counties; Randall Duncan; International Association of Emergency Managers; James Enote, Pueblo of Zuni; Fred Lissner, Oregon Water Resources Department; Fred Ogden, University of Connecticut; Don Phelps, American Society of Civil Engineers; David Pope, Kansas Department of Agriculture; Jonathan Price, Nevada Bureau of Mines and Geology; Tom Looby for Robert Roberts, Environmental Council of States; Larry Rowe, Western Water Inc; Jim Shotwell, American Institute of Professional Geologists; Earl Smith, Interstate Council on Water Policy; Charles Spooner (1st day only), USEPA; Alan Vicory, Ohio River Valley Water Sanitation Commission; Leslie Wedderburn, South Florida Water Management District; Don Woodward, USDA

U. S. Geological Survey - - Steve Blanchard, Task Force Executive Secretary; Dave Lystrom (1st day only), Regional Hydrologist – Central Region; Betsy Daniel, Facilitator; Bill Horak, District Chief – Colorado District (1st day only), Doug Cain, Associate District Chief -Colorado District (1st day only)

Absent: FEMA representative; Peter Mack, New York Department of Environmental Conservation;

Location: U. S Geological Survey, National Training Center, Denver, Colorado

The meeting closely followed the meeting agenda (attachment 1). The meeting started with overview presentations by Don Woodward on the ACWI Streamgaging Task Force activities and Chuck Spooner on the ACWI National Water-Quality Monitoring Council activities. The morning of the first day of the meeting (January 25, 1999) primarily focused on the Federal-State Cooperative Program of the Colorado District. Bill Horak (District Chief) and Doug Cain (Assistant District Chief) made the Colorado District presentations. The topics they covered included (1) an overview of the Colorado District program, (2) how cooperative projects are developed, and (3) how indirect costs are determined and applied. The Task Force had questions about how the District determined the appropriateness of projects to take on and how the USGS indirect costs compared to those of the private sector.

The afternoon sessions included a presentation by Lew Wade (Chief of the Office of Information) and Greg Allord (Chief Cartographer of the Publications Management Program) on USGS products and information. The Task Force spent the remainder of the afternoon in their subgroups discussing a survey of cooperators to be conducted by the Task Force. Most of the Task Force members and some USGS staff participated in an informal group dinner on the evening of January 25, 1999.

The second day (January 26) of the meeting started with a presentation by John Briggs (Chief of the National Water Information System Testing, Data Transfer, Support, and Maintenance Unit) on WRD databases. This presentation was followed by a panel discussion between the Task Force and a panel of individuals representing agencies that cooperate with the Colorado District. The panel was composed of the following individuals:

Cooperators Panel – Ms. Janet Bell, Jefferson County Board of Commissioners, Golden, Colorado; Mr. Russell Forrest, Town of Vail, Vail, Colorado; Mr. Alan Hamel, Board of Water Works, Pueblo, Colorado; Mr. David Holm, Colorado Dept of Public Health and Environment, Denver, Colorado; Mr. David Merritt, Colorado River Conservation District, Glenwood Springs, Colorado; Mr. John Porter, Dolores Water Conservancy District, Cortez, Colorado; Mr. Phil Saletta, Colorado Springs Utilities, Colorado Springs, Colorado

The discussion with the cooperator panel focused on answers to questions from the list of questions in attachment 2. The questions in bold text were the questions asked of the cooperator panel.

The afternoon included another panel discussion between the Task Force and a group of individuals that represented users of Cooperative Program data and products. The panel was composed of the following individuals:

Data Users Panel -- Mr. Neil Grigg, Head, Department of Engineering, Colorado State University, Fort Collins, Colorado; Mr. Reed Dills, Four Corners Expeditions, Buena Vista, Colorado; Mr. Ralph Clark, Gunnison Basin POWER, Gunnison, Colorado; Mr. Chuck Haines, Wright Water Engineers Inc, Denver, Colorado; Mr. Jim Sharkoff, State Agronomist, NRCS, Lakewood, Colorado; Mr. Allen Davey, Davis Engineering Inc, Del Norte, Colorado

The discussion with the data-users panel focused on answers to questions from the list of questions in attachment 3.

The third day (January 27) started with presentations about and a tour of the WRD National Water Quality Laboratory (NWQL) in Arvada, Colorado. Bob Williams (NWQL Chief) presented information of the mission, operation, and unique characteristics of the lab. Leroy Schroder (Chief, Branch of Quality Systems) provided an overview of the activities used by the Water Resources Division to monitor and ensure the quality of its data, especially water quality data and laboratory analyses.

A portion of the Task Force (Don Phelps, Larry Rowe, Fred Lissner, Randy Duncan, and Alan Vicory) did not attend the lab tour and remained at the training center to work on developing and completing two surveys (verbal and numerical) that could be used to survey USGS cooperators to get their opinions about the Coop Program.

The remainder of the day was spent by the Task Force finalizing the plans for the use of the surveys, planning the next meeting, and making assignments for the subgroups for the period in between meetings.

The Task Force adopted a verbal survey (attachment 4) that each Task Force member would use to interview at least two cooperators. The verbal survey was based on the questions used during the cooperator panel discussion. The Task Force also adopted a numerical survey (attachment 5) to be mailed to 400 cooperators pick at random in proportion to the number of cooperators in each State.

During the period between the Reston and Denver meetings and at the beginning of the Denver meeting, there was minor rearranging of the subgroup membership. The subgroup membership established at the Denver meeting is as follows:

1. Cooperative Water Program Mission (Terms of Reference – Element 1 of the Scope)

   Craig Albertsen
   Thomas Baumgardner
   Dick Burton
   Randall Duncan
   Fred Lissner
   Peter Mack

2. Cooperative Water Program Prioritization and Conduct of Work (Terms of Reference – Elements 2 and 3 of the Scope)

   Ed Burkett
   Fred Ogden
   Don Phelps
   Jonathan Price
   Larry Rowe
   Earl Smith
   Jim Shotwell
   Charles Spooner
   Don Woodward

3. Cooperative Water Program Products (Terms of Reference – Element 4 of the Scope)

   Tom Bruns
   Jim Enote
   Dave Pope
   Alan Vicory
   Leslie Wedderburn

The next meeting location was selected to be the Arizona District Office in Tucson, Arizona. The Task Force laid out the general format for the meeting as:

Day 1

- District overview presentations by two District Chiefs – Arizona District and an eastern District
  - District overview
  - what's unique about the program in that district
  - indirect costs – explain variation high, medium, low
  - difficulties in the program and what's right about the program
  - ideas for improving report timeliness
- Presentation on how new technologies and methods are being developed and incorporated into the coop program – Hydro21 and research

Day 2

Panel on competition – invite American Consulting engineers Council and American Institute of Professional Geologists
Panel of Cooperators – include Tribes

Day 3

Task Force deliberations

Action Items:

January 27,1999

1. Table of overhead rates by District – Blanchard by next meeting. Cost of field personnel vs. total budget.

2. FACA rules for reports; example of reports done for ACWI – Blanchard by next meeting

3. Subgroups begin drafting responses to Terms of Reference. Task Force members get products to Blanchard by 1st week in March

4. Blanchard to distribute compiled products to Task Force members at least 10 days prior to March meeting.

5. Task Force co-chairs make presentation to next ACWI meeting on status of Task Force – May

6. Final copies of verbal survey to Task Force members (by email) so that they can be used to interview cooperators – Blanchard

Task Force Agreements regarding the Verbal Survey

1. Each Task Force member will survey a minimum of two cooperator organizations and members may do more.
2. In selecting organizations for interviewing, members will avoid organizations that have only one gaging station and will attempt to interview representatives of different categories of (i.e., not all the same) organizations.
3. Members will complete their interviews by 3rd week in February. Interview results will be summarized in bullet form and submitted to Blanchard by 3rd week in February.
4. Subgroups should begin the analysis of survey results before the next meeting.

Task Force Agreements regarding the Numeric Survey

1. Survey will go to 400 randomly selected cooperators. The number of cooperators selected in each State will be in proportion to the number of total cooperators in that State.
2. Survey results should be distributed by the 1st week in March.

Task Force to Review the Cooperative Water Program

Agenda
January 25-27, 1998
Denver, Colorado

Monday, January 25, 1999

8-8:30 Opening remarks/discussion – meeting agenda and Task Force (Task Force) directions

Larry and Fred

8:30-9:30 Presentation/discussion of ACWI streamflow and water quality subcommittee work – tentative presenters would be Charlie Spooner for the National Water-Quality Monitoring Council and Don Woodward for the Streamgaging Task Force. The goal of these presentations is to help the Coop Task Force understand the scope of the work of the other two groups so that the Coop Task Force won't duplicate the other groups efforts.

9:30-9:45 Break

9:45-10:45 Presentations by the host District Chief (as much paper info as possible, on the topics below, will be handed out prior to the meeting)

- overview of Cooperative Water Program in district
- how a coop project is developed
- how overhead is determined

10:45-12:00 Questions and answers – Task Force with the District Chief

12-1 lunch

1-2 presentation on WRD products - - reports, fact sheets, etc

2-3:30 subgroup deliberations on survey question; subgroup plans. The goal of this session is for the subgroup to (1) review their plans and strategy and develop further as necessary and (2) review the consolidated list of survey questions.

3:30-4:30 Task Force deliberations to finalize survey questions, plans for use of the survey, survey data analysis, etc.

4:30- 5:30 Overview/tour of National Training Center and District Office

Evening – group outing/diner

Tuesday, January 26, 1999

8-9:00 Presentation on WRD databases

9:00 –11:30 Task Force meeting with cooperators from host district – want diversity of types of agencies, geographic locations, and types of programs on the panel

11:30-1 Task Force deliberations and working lunch

1-3 Task Force meeting with non-cooperators – private sector, academia, other product users, etc

3-4:30 Task Force deliberations

Evening – subgroup deliberations if necessary/desired?

Wednesday, January 27, 1999

7:30-11:00 Tour of National Water-Quality Lab – including presentations from Methods Development Group and Branch of Quality Assurance

11-2:30 Subgroup deliberation and working lunch

2:30- 4 Combined Task Force deliberations

4:00 Adjourn

Cooperator Panel Discussion Questions

A. General Introductory Questions

1. What is the primary role of your organization (for example, regulatory, water management, scientific, etc.)?

2. What is your position and how does it relate to the USGS Coop Program?

3. Has your organization participated in the Federal-State Coop Program for more than 5-years?

4. Has your organization's level of participation changed over time? If yes, how so?

5. What types of programs/projects are you involved in with the USGS under the Federal-State Coop Program (for example, stream gaging, water sampling and testing, interpretive studies)?

6. Does your organization foresee a change in the programs/projects requested of the Coop Program in the future? What are the reason(s) for the change(s)?

B. Mission - Historically, the Coop Program has been designed to develop hydrologic data and technical analysis needed to assist in meeting the USGS mission of continuously assessing the Nation's water resources, and to provide technical assistance to State, Tribal, and local water management agencies in seeking solutions to water-resources issues of national concern through a matched funding arrangement.

7. How important is your organization's participation in the Coop Program to accomplishing the activities, goals, and responsibilities assigned to your organization? Is the need increasing or decreasing?

8. Is cost sharing a necessary element in your organization's participation in a cooperative agreement with the USGS?

9. What is the minimum USGS cost share acceptable to your agency?

C. Prioritization - In Fiscal Year 1997, the Congress appropriated $64.5 million for the Coop Program. State and local agencies provided an equal amount of matching funds plus an additional $28.5 million of unmatched funding.

10. Is there adequate funding in the Coop Program to meet your short and long term needs? If no, please explain the needs that are not being met.

11. Do you have any suggestions for broadening support for the Coop Program?

12. How do changes in the USGS Coop Program, such as losing long-term data-collection stations, affect the mission of your organization?

13. What means, if any, does your organization use to involve other possible cooperators who may have an interest in your Coop Program activity as a way to improve study results and lower costs?

D. Conduct of Work - Nearly all of the work performed in the Coop Program is done by USGS scientists and technicians. This arrangement is designed to enhance quality control, provide national consistency in data collection and methods of analysis, and provide a stable core of experienced water scientists nationwide.

14. What would be the implications of altering current work arrangements on the Coop Program and water management nationwide (such as the cooperator performing a portion of the work, contracting out some of the work, etc)?

15. If appropriate USGS quality assurance was made available, would your organization (1) be able to, and (2) want to perform the data collection portion of a coop project so that the project costs would be reduced? If yes, what interest would your organization have? If no, please explain.

16. Why does your organization go to the USGS for assistance rather than to other sources (for example, consulting firms, academia, etc.)?

17. What services does the USGS offer that you cannot get elsewhere?

18. What is your opinion on the USGS outsourcing (contracting out) parts or all of the work you asked it to perform?

E. Products - The products developed in the Coop Program need to be useful to cooperators and other users. These users include representatives of governments, the scientific community, the private sector, and the general public. The products also fulfill national needs by building long-term national databases, augmenting activities in other USGS programs, and providing a national picture of water resources through synthesis of information from individual projects across the country. In addition, the Coop Program advances the development and application of new approaches and methodologies relevant to water resources issues.

19. Is the USGS using the appropriate, applicable, and most cost effective technology to satisfy your organization needs?

20. In what areas does the USGS need to develop and apply new approaches, methods, and technologies?

21. Is the USGS conscious of and sensitive to the needs of the cooperator in areas such as:
- **a) types of data collected,**
- **b) documentation of data,**
- **c) timeliness of products,**
- **d) cost/value of products, and**
- **e) other?**

22. Does your organization use real-time data? If yes, are you satisfied?

23. Do you routinely have access to data you need to make to make informed decisions?

24. Do you see changes in the products to be delivered to you in the future?

F. General Closing Question

25. Do you have any other ideas for improving or changing the Coop Program?

1/25/99

Discussion Questions for Data Users Panel

1. **Briefly** (3-5 min) provide:
   - your name
   - your position
   - a description of your organization (if appropriate)

2. What types of USGS information/products/data do you use?

3. How is the information used?

4. How often do you access and use USGS information?

5. How do you usually obtain this information?

6. Why is the information important?

7. What are the most important USGS products for you? The least important?

8. How would the value and/or the usefulness of the information change if contractors produced it for the USGS?

9. Do you have any suggestions about ways to improve the information or method of delivery?

10. Would you access USGS information and data if there were a cost to you for using it?

11. Have you ever been approached about participating in or supporting the USGS Cooperative Water Program?

TASK FORCE TO REVIEW THE COOPERATIVE WATER PROGRAM

Cooperator Survey

A. General Introductory Questions

1. What is the primary role of your organization (i.e., regulatory, water management, scientific, etc.)?

2. What is your position in the organization and how does it relate to the USGS Federal-State Cooperative Water Program (Coop Program)?

3. Has your organization participated in the Coop Program for more than 5-years?

4. What is your organizations current level of financial participation? How has it changed over time?

5. What types of programs/projects are you involved in with the USGS under the Coop Program?

6. Does your organization foresee a change in the programs/projects it requests of the Coop Program in the future? Do you see the need increasing or decreasing?

A. Mission - Historically, the Coop Program has been designed to develop hydrologic data and technical analysis needed to assist in meeting the USGS mission of continuously assessing the Nation's water resources, and to provide technical assistance to State, tribal, and local water management agencies in seeking solutions to water-resource issues of national concern through a matched funding arrangement.

7. Explain how the Coop Program assists your organization in accomplishing its activities, goals, and responsibilities?

8. Is cost sharing a necessary element in your organization's participation in a cooperative agreement with the USGS? Please explain.

9. What is the minimum USGS cost share acceptable to your organization?

10. Explain whether your coop program is meeting your needs in the areas of groundwater and surface-water quality, quantity, and use data, and analytical tools, etc.?

C. Prioritization - In Fiscal Year 1997, the Congress appropriated $64.5 million for the Coop Program. State and local agencies provided an equal amount of matching funds plus an additional $28.5 million of unmatched funding.

11. Is there adequate funding in the Coop Program to meet your short and long term needs? If no, please explain the needs that are not being met.

12. Do you have any suggestions for the appropriate level of funding for the Coop Program?

13. What is the proper balance between routine long-term data collection and interpretive studies?

14. How do changes in the Coop Program, such as losing long-term data-collection stations, affect the mission of your organization?

15. How does your organization involve other parties in your Coop Program activity to improve study results and lower costs?

D. Conduct of Work - Nearly all of the work performed in the Coop Program is done by USGS scientists and technicians. This arrangement is designed to enhance quality control, provide national consistency in data collection and methods of analysis, and provide a stable core of experienced water scientists nationwide.

16. If appropriate USGS quality assurance were made available, would your organization be able to and/or want to perform the data collection portion of a coop project? Please explain.

17. How do you believe the quality and credibility of the Coop Program would be impacted if data collection and analysis were not performed entirely by the USGS staff?

18. Why does your organization use the USGS for assistance rather than other sources (for example, consulting firms, academia, etc.)?

19. What does the USGS offer through the Coop Program that you cannot obtain elsewhere?

20. What is your opinion of the Coop Program contracting out parts or all of the work you have asked them to perform?

E. Products - The products developed in the Coop Program need to be useful to cooperators and other users. These users include representatives of governments, the scientific community, the private sector, and the general public. The products also fulfill national needs by building long term national data bases, augmenting activities in other USGS programs, and providing a national picture of water resources through synthesis of information from individual projects across the country. In addition, the Coop Program advances the development and application of new approaches and methodologies relevant to water-resources issues.

21. Is the Coop Program using the appropriate, applicable, and most cost effective level of technology to satisfy your needs?

22. What suggestions do you have for the Coop Program to improve approaches, methods, and technologies to enhance the usability and effectiveness of products?

23. Is the Coop Program conscious of and sensitive to the needs of the cooperator in areas such as:
    a. types of data collected,
    b. documentation of data,
    c. timeliness of products,
    d. value of products, and
    e. other?

24. Do you have timely access to the data you need?

25. In what form will you want Coop Project output delivered in the future?

F. General Closing Question

26. Do you have any recommendations for improving or changing the Coop Program?

2/2/99

Section 1: Introduction

This questionnaire relates to your **overall** experience with the United States Geological Survey (USGS) Water Resources Division (WRD) **Federal-State Cooperative Water Program (Coop Program).** For each Statement, please mark the appropriate box. If a Statement does not apply to your experience, please check the not applicable (NA) box.

The United States Geological Survey, through the Cooperative Water Program...

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	NA
• Provides products and services that are necessary for my organization to accomplish its mission.						
• Responds to the changing needs of my organization.						
• Keeps me informed of the types of products it offers.						
• Keeps me informed of the types of service it offers.						
• Coordinates with my organization on programs and activities that may be of interest to us.						
• Keeps my organization informed of programmatic and fiscal changes that affect us.						
• Responds to my requests in a timely manner.						

Please rate the overall expertise offered by the USGS through the Cooperative Water Program in the following areas:

	Excellent	Above Average	Average	Below Average	Poor	NA
• Water-resources data and information.						
• Water-resources investigations and research.						
• Geologic information and investigations.						
• Mapping information and products.						
• Biological-resources information and investigations.						
• Provider of unbiased scientific and technical support and products.						

Section 2: Proposals

Proposals from the Cooperative Water Program...

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	NA
• Address the needs of my organization.						
• Reflect work that is realistic in scope.						
• Are of appropriate content and length.						
• Are clear and understandable.						
• Present realistic work schedules.						
• Reflect reasonable pricing.						

Section 3: Data Collection

E=Excellent; AA=Above Average; A= Average; BA= Below Average; P=Poor; NA= Not Applicable

	Ground Water						Surface Water						Water Quality						Water Use					
	E	AA	A	BA	P	NA	E	AA	A	BA	P	NA	E	AA	A	BA	P	NA	E	AA	A	BA	P	NA
• Performance in meeting the needs of my organization.																								
• Adequacy of geographic coverage.																								
• Length of data-collection period																								
• Frequency of data collection																								
• Reliability																								
• Value relative to cost																								

Hydrologic Equipment and Instrumentation...

	Excellent	Above Average	Average	Below Average	Poor	NA
• Performance in meeting the needs of my organization.						
• Reliability						
• Use of advanced technology						
• Accuracy						
• Innovation						
• Value relative to cost						

Section 4: Data Analysis and Interpretation

E=Excellent; AA=Above Average; A= Average; BA= Below Average; P=Poor; NA= Not Applicable

	Ground Water						Surface Water						Water Quality						Water Use					
	E	AA	A	BA	P	NA	E	AA	A	BA	P	NA	E	AA	A	BA	P	NA	E	AA	A	BA	P	NA
• Performance in meeting the needs of my organization.																								
• Adequacy of technical approach																								
• Technical quality																								
• Ability to be understood																								
• Timeliness																								
• Consideration of alternative interpretations																								
• Value relative to cost																								

Section 5: Products

Requests for data, reports, and information...

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Not Applicable
• Are handled courteously						
• Are addressed promptly						
• Are answered accurately						

Reports (e.g., Water-Resources Investigations Reports, Open-File Reports, Data Reports)...

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Not Applicable
• Meet the needs of my organization						
• Adequately address the objectives of the investigation						
• Include the appropriate level of detail						
• Are understandable						
• Are technically sound						
• Are timely						

I have sufficient access to hydrologic data and reports...

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Not Applicable
• In printed form						
• On the Internet						
• On-line by computer						
• On diskette, tape, or CD-ROM						

Section 6: Support

I receive sufficient support in...

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	NA
• Administrative Processes (Contracts, Billings, Etc.)						
• Computer Systems (Performance, Compatibility, Ease of Use, Etc.)						
• Technical capability (Performance, Professionalism, Expertise, Etc.)						

Section 7: Summary

	Excellent	Above Average	Average	Below Average	Poor	N A
• Overall, I think the Cooperative Water Program is						

Section 8: Cooperator Information

The following questions will be used only to identify similarities and differences among groups of customers. Thank you for your cooperation in providing the following data.

Please indicate your affiliation: (please circle)

State Government
County Government
Other Local Government
Water Management Districts
Other (specify)_____

Tribal Government
Municipal Government
Basin Commission
Interstate Commission / Compact / Agency

Please indicate your area(s) of specific interest: (please circle any that apply)

Surface Water Ground Water Other (specify)_____

Water Quality Water Use

Please indicate your organization's involvement with the USGS: (please circle one for each column)

Duration of Participation	Annual Coop Budget (your agency contribution)
Less than 5 years	under $50,000
5-10 Years	$50,000- $150,000
10-20 Years	$150,000 - $250,000
More than 20 Years	More than $250,000

(Optional Information): Your Name: _____
Your Organization: _____

Section 9: Comments

Are there any other comments that you would like to make regarding the Federal-State Cooperative Water Program, or any clarifications of your responses? (Attach additional sheets as needed.)

Task Force to Review the Cooperative Water Program

Minutes of the Third Meeting
March 24-26, 1999
Tucson, Arizona

Attendees:
Task Force Members - - Craig Albertsen, Bureau of Reclamation; Thomas Baumgardner, National Weather Service; Tom Bruns, American Water Works Association; Ed Burkett, Corps of Engineers; Richard Burton, National Association of Counties; James Enote, Pueblo of Zuni; Fred Lissner, Oregon Department of Water Resources; Wendell McCurry, Association of State and Interstate Water Pollution Control Administrators; Fred Ogden, University of Connecticut; Don Phelps, American Society of Civil Engineers; Jonathan Price, Nevada Bureau of Mines and Geology; Larry Rowe, Western Water Inc; Jim Shotwell, American Institute of Professional Geologists; Alan Vicory, Ohio River Valley Water Sanitation Commission; Leslie Wedderburn, South Florida Water Management District; Don Woodward, USDA

U. S. Geological Survey - - Bill Alley, Chief Office of Ground Water; Steve Blanchard, Task Force Executive Secretary; Bob Hirsch, Chief Hydrologist; Nick Melcher, Arizona District Chief; John Vecchioli, Florida District Chief; Tim Hale, Southeastern Region Program Officer; Betsy Daniel, Facilitator.

Absent: A FEMA representative; Randall Duncan, International Association of Emergency Managers; Peter Mack, New York Department of Environmental Conservation; Dave Pope, Kansas Department of Agriculture; Earl Smith, Interstate Council on Water Policy; Chuck Spooner, USEPA.

Location: U. S Geological Survey, Arizona District Office, Tucson, Arizona

The meeting closely followed the meeting agenda (attachment 1). The meeting started with presentations by Nick Melcher (Arizona District Chief) and John Vecchioli (Florida District Chief) on the Arizona and Florida District's Cooperative Water Programs, respectively. Nick Melcher highlighted the Arizona District Cooperative Water Program areas of emphasis in work for Indian Tribes, collecting ground-water information, developing new methods, participation in public consortiums, and development of a ground-water database. John Vecchioli presented information on the Florida District's Cooperative Water Program areas of emphasis in studying ground water and surface water interactions, conducting lake studies, studying and modeling the factors that influence salt water intrusion and its impacts, and studying the susceptibility of ground water to contamination through various techniques including ground-water age dating.

Following the presentations on each district's Cooperative Water Program, John Vecchioli discussed the costs that are included in a district's indirect costs and explained why there is variation from district to district. Nick Melcher then described what the Arizona District and the Water Resources Division are doing to improve report timeliness. Both Nick and John discussed their thoughts about what is working well in the Cooperative Water Program and what difficulties they have with the program.

The afternoon sessions was a panel discussion between the Task Force and a panel of individuals representing agencies that cooperate with the Arizona District. The panel was composed of the following individuals:

Cooperators Panel – Michael Block, District Hydrologist, Metropolitan Domestic Water Improvement District, Tucson, AZ; Dave Gardner, Flood Control District of Maricopa County, Phoenix, AZ; Katharine L. Jacobs, Director, Arizona Department of Water Resources, Tucson, AZ; Bruce Johnson, Chief Hydrologist, Tucson Water, Tucson, AZ; Allon C. Owen, Director - Floodplain Administrator, Cochise County Flood Control District, Bisbee, AZ; Greg Wallace, Chief Hydrologist, Arizona Department of Water Resources, Phoenix, AZ.

The discussion with the cooperator panel focused on answers to questions from the list of questions in attachment 2. The questions in bold text were the questions asked of the cooperator panel. The Task Force summarized the information they heard from the panel discussion and the initial Task Force response to the information in bullet Statements as listed in attachment 3.

The second day (March 25) started with a presentation by Bob Hirsch (WRD Chief Hydrologist) on the proposed FY2000 budget and its impacts on the Cooperative Water Program.

During the next session, the Task Force deliberated and developed the major points to be presented in a status report to the ACWI Alternate Chair at the end of the day. The Task Force also discussed different options that might be used for developing their findings and recommendations. Options such as reaching consensus and majority voting were discussed. No decision was made but the Task Force members were asked to consider which options they would prefer and to be prepared to discuss it at a later time.

The afternoon session began with a panel discussion between the Task Force and a group of individuals from the private sector to discuss the issue of competition with the private sector and the appropriate role of the USGS. The panel was composed of the following individuals:

Panel on competition and the appropriate role of the USGS -- Ed McGavock, Montgomery and Associates, Sedona, Arizona (Representing AIPG local); Tyler Gass, Geologist, Blasland Bouck and Lee Inc, Golden, CO (Representing AIPG National); Jeff Bradley, West Consultants, Bellevue, WA; Bob Weaver, Hydrosphere Resource Consultants, Boulder, Colorado; Martin Nicholson, Vice President of Water Resources, CH2MHill, Reading, California

The discussion with the panel on competition focused on answers to questions from the list of questions in attachment 4. The Task Force summarized the information they heard from the panel discussion and the initial Task Force response to the information in bullet Statements as listed in attachment 5. In addition, the Task Force summarized criteria proposed by the panels to be used by the USGS for project selection to avoid competition. The proposed criteria are also presented in attachment 5.

The Task Force discussions with a panel of private sector individuals on the issue of competition was followed by Task Force discussions with a panel of USGS staff to provide the Task Force an opportunity to ask the USGS question related to competition. The USGS staff on the panel were Bill Alley, Chief of the Office of Ground Water; Tim Hale, Southeastern Region Program Officer, Nick Melcher, Arizona District Chief; and John Vecchioli, Florida District Chief. The Task Force asked the USGS panel various questions related to how projects are selected for inclusion in the Cooperative Water Program and why the USGS was involved in a few specific projects.

The Day ended with a presentation by Larry Rowe, Chair of the Task Force, to Bob Hirsch, the Alternate Chair of ACWI on the status of the Cooperative Water Program Review. Larry described the activities the Task Force has conducted and the information the Task Force has gathered to date. The Task Force believes it will complete its work by the June 30, 1999 deadline.

The third day (March 26, 1999) began with a presentation by Nick Melcher on the WRD project titled "Hydro21" which is investigating new technologies that could be applied to the streamgaging program to determine river stage, water velocity, and river channel configuration through non-contact methods. Bob Hirsch then presented information on new water resources related technologies and methods that have been developed though the National Research Program. The remainder of the day was spent in subgroup meetings with the subgroups working to develop preliminary findings and recommendations.

The next meeting location was selected to be the Massachusetts District Office in Marlboro, Massachusetts or the New York District Office in Troy, New York. The Task Force laid out the general format for the May 5-7, 1999 meeting as:

Day 1

District Overview Presentation

- No description of the organization, funding allocations, etc. Presentations should be focused on issues
    - Write-ups of district information sent to Task Force members before the meeting would be helpful.

Panel 1 – Cooperators Panel for Eastern Districts with Tribal Representative – it is assumed that water quantity will not be an issue.

Panel 2 – Competition Panel

- Try for a more "balanced panel. Include some non-critics – seek private sector individuals who are representative of "typical" private consultants - those who have not lodged specific complaints (?). Also include ACEC and a university perspective on competition.
- The intent is to get a realistic sense of what the magnitude of the problem is.
- Would like more stories of successful collaboration between USGS and private sector.

Day 2

Subgroups meet to develop consensus within Subgroup

Day 3

Subgroups report to the combined Task Force to reach consensus

Action Items:

- Description of Massachusetts Coop projects
- Background info on the Coop allocation
- Summary sheet of district issues
- Verbal and numerical survey results
- Denver and Tucson meeting minutes
- Description of the process USGS uses to advertise for contract work
- Participants on the Massachusetts competition panel should provide a written Statement to Task Force members ahead of time with both opinions and facts of examples illustrating inappropriate competition.

Task Force to Review the Cooperative Water Program
March 24-27, 1999
Tucson, Arizona

Final Agenda

Wednesday March 24, 1999

8:00-8:10 Welcome and housekeeping – Steve Blanchard

8:10-8:30 Opening remarks/discussion – meeting agenda and Task Force (Task Force) directions -- Larry and Fred

8:30-11:00 Presentation by Nick Melcher – AZ District Chief and John Vecchioli, FL District Chief, (as much paper info as possible, on the topics below, will be handed out prior to the meeting) (includes a break)

- overview of coop program in district – emphasize what is unique
- difficulties in program and positives (what's right) with the program
- compare your indirect costs to all districts and explain why it is higher or lower
- ideas on improving timeliness of products

Questions and answers from the Task Force after each segment of the presentation

11:00-12:45 Subgroup deliberations and working lunch -- The goal of this session is for the subgroups to (1) review the status of their work to date and progress on assignments (2) discuss and report on results of verbal survey, (3) continue working on consensus Statements and findings related to the questions in the Terms of Reference, and (4) draft summary bullets that can be shared with the rest of the Task Force.

12:45-1:00 Break and prep for panel

1:00-3:30 Task Force meeting with cooperators from host district – want diversity of types of agencies, geographic locations, and types of programs on the panel (include a break) – Larry Rowe

3:30-4:00 Task Force discussion and summary of panel

4:00-4:15 Break

4:15- 5:30 Combined Task Force deliberations –

- Status of verbal survey
- Status of numerical survey
- Each subgroup will report on the status of their work and preliminary findings (10 min per group)
- Begin drafting summary bullets for report to ACWI Alternate Chair

5:30 Adjourn

Evening – group outing/dinner

Thursday March 25, 1999

8:00-8:45 Tribal perspective/issues – Jim Enote

8:45-9:30 FY2000 WRD budget – Bob Hirsch, Chief Hydrologist

9:30-9:45 Break

9:45-10:45 Task Force deliberations – prep questions for competition panel (note: I suggest that subgroup 2 use the questions from the non-cooperators panel from Denver and, prior to the AZ mtg, modify them accordingly for use with the competition panel. This list would be a starting point for the combined Task Force to review and modify.)

10:45-11:45 Task Force deliberations –

- summarize progress and status – prepare summary bullets for report to ACWI Alternate-Chair
- decide on Task Force decision making rules – how will "consensus" Statements be decided on and adopted (Betsy draft proposal prior to meeting)?

11:45-12:45 Lunch

12:45-1:00 Prep for panel

1:00-3:30 Task Force meeting with those concerned about competition with the private sector (include a break) – Fred Lissner

3:30-4:00 Task Force discussion and summary of panel

4:00-4:15 Break

4:15-5:00 Task Force Questions about competition to USGS (AZ + FL District Chiefs, Bill Alley – Chief Office of GW, Tim Hale- SE Region Program Officer)

5:00-5:45 Task Force status report to Alternate-Chair of ACWI (Bob Hirsch) -- Larry and Fred

5:45 Adjourn

Friday March 26, 1999

8:00 - 9:00 Presentation on Hydro21 and new technologies from the National Research Program – Melcher for Hydro21 and Bob Hirsch for NRP

9:00-9:15 Break

9:15-11:00 Subgroup deliberations – subgroups continue working on consensus Statements and findings related to the questions in the Terms of Reference (include a break)

11:00-11:45 Subgroup 1 report on preliminary findings – rest of Task Force comment and discuss

11:45-12:45 Lunch

12:45-1:45 Subgroup 2 reports on preliminary findings – rest of Task Force comment and discuss

1:45-2:00 Break

2:00-2:45 Subgroup 3 report on preliminary findings – rest of Task Force comment and discuss

2:45-4:00 Task Force deliberations – review status, pick next mtg locations, plan next meeting, make assignments

4:00 Adjourn

TASK FORCE TO REVIEW THE COOPERATIVE WATER PROGRAM

Cooperator Survey

A. General Introductory Questions

1. What is the primary role of your organization (i.e., regulatory, water management, scientific, etc.)?

2. What is your position in the organization and how does it relate to the USGS Federal-State Cooperative Water Program (Coop Program)?

3. Has your organization participated in the Coop Program for more than 5-years?

4. What is your organization's current level of financial participation? How has it changed over time?

5. What types of programs/projects are you involved in with the USGS under the Coop Program?

6. Does your organization foresee a change in the programs/projects it requests of the Coop Program in the future? Do you see the need increasing or decreasing?

A. **Mission -** Historically, the Coop Program has been designed to develop hydrologic data and technical analysis needed to assist in meeting the USGS mission of continuously assessing the Nation's water resources, and to provide technical assistance to State, tribal, and local water management agencies in seeking solutions to water-resource issues of national concern through a matched funding arrangement.

7. Explain how the Coop Program assists your organization in accomplishing its activities, goals, and responsibilities?

8. Is cost sharing a necessary element in your organization's participation in a cooperative agreement with the USGS? Please explain

9. What is the minimum USGS cost share acceptable to your organization?

10. Explain whether your coop program is meeting your needs in the areas of ground water and surface-water quality, quantity, and use data, and analytical tools, etc.?

C. Prioritization - In Fiscal Year 1997, the Congress appropriated $64.5 million for the Coop Program. State and local agencies provided an equal amount of matching funds plus an additional $28.5 million of unmatched funding.

11. Is there adequate funding in the Coop Program to meet your short and long term needs? If no, please explain the needs that are not being met.

12. Do you have any suggestions for the appropriate level of funding for the Coop Program?

13. What is the proper balance between routine long-term data collection and interpretive studies?

14. **How do changes in the Coop Program, such as losing long-term data-collection stations, affect the mission of your organization?**

15. How does your organization involve other parties in your Coop Program activity to improve study results and lower costs?

D. Conduct of Work - Nearly all of the work performed in the Coop Program is done by USGS scientists and technicians. This arrangement is designed to enhance quality control, provide national consistency in data collection and methods of analysis, and provide a stable core of experienced water scientists nationwide.

16. **If appropriate USGS quality assurance were made available, would your organization be able to and/or want to perform the data collection portion of a coop project? Please explain.**

2. How do you believe the quality and credibility of the Coop Program would be impacted if data collection and analysis were not performed entirely by the USGS staff?

18. **Why does your organization use the USGS for assistance rather than other sources (for example, consulting firms, academia, etc.)?**

19. What does the USGS offer through the Coop Program that you cannot obtain elsewhere?

20. **What is your opinion of the Coop Program contracting out parts or all of the work you have asked them to perform?**

E. Products - The products developed in the Coop Program need to be useful to cooperators and other users. These users include representatives of governments, the scientific community, the private sector, and the general public. The products also fulfill national needs by building long term national data bases, augmenting activities in other USGS programs, and providing a national picture of water resources through synthesis of information from individual projects across the country. In addition, the Coop Program advances the development and application of new approaches and methodologies relevant to water resources issues.

21. Is the Coop Program using the appropriate, applicable, and most cost effective level of technology to satisfy your needs?

22. What suggestions do you have for the Coop Program to improve approaches, methods, and technologies to enhance the usability and effectiveness of products?

23. **Is the Coop Program conscious of and sensitive to the needs of the cooperator in areas such as:**
   a) types of data collected,
   b) documentation of data,
   c) timeliness of products,
   d) value of products, and
   e) other?

24. Do you have timely access to the data you need?

25. **In what form will you want Coop Project output delivered in the future?**

F. **General Closing Question**

26. **Do you have any recommendations for improving or changing the Coop Program?**

2/2/99

Summary Following Cooperator's Panel - March 24, 1999

1. Cooperators view USGS as relatively unbiased. Cooperators are willing to pay a premium for USGS credibility.
2. The same may not be true on the East Coast.
3. There's a real issue with communication and the process of converting hard science to information the public can understand.
4. If USGS moves too far into homogenizing information, they may be perceived as biased.
5. Cost sharing is an important part of the credibility of the Coop Program.
6. The importance of cost sharing argues against the concept of unmatched funding.
7. There is a need for an increase in funding for the Coop Program.
8. USGS may need a line item appropriation for increased national streamgaging data network.
9. It would be very difficult to contract out long term projects (those lasting three years or longer) because of the potential loss of institutional memory in the private sector.
10. USGS could outsource maintenance and administrative work.
11. Data collection and interpretation and report writing cannot be outsourced.
12. USGS needs to have a better understanding of the need for timely data by local communities and be more sensitive to their needs and how their results are communicated.
13. Technology is important ("overkill" is good).
14. Applying new technology is important.
15. The effect of using the merit-funding program was problematic. USGS needs to inform cooperators that the merit-funding program is no longer operating.
16. There should be a way for the USGS to release provisional reports.
17. Each USGS District needs a Public Information Officer (PIO).
18. There is pressure for the USGS to be more involved in local issues and not just to do science.
19. If USGS is more involved in local issues, they run the risk of becoming advocates and loosing their credibility.
20. USGS is a facilitator to bringing communities and Tribes together.
21. The cooperators had a strong positive response to the topic of peer reviews.
22. Funding to Districts should be on the basis of need not past history.
23. Cooperators were confident they could get preliminary data from USGS if they asked for it.
24. USGS needs to be more visible.
25. USGS has developed and uses cutting edge technology.

TASK FORCE TO REVIEW THE COOPERATIVE WATER PROGRAM

Discussion Points for the Panel Dealing With Issues Related to Competition and the Appropriate Role of the USGS

1. Discuss where you see the USGS competing with the private sector? Can you provide specific examples?

2. Describe criteria the USGS should use to decide whether a project is appropriate for them to undertake?

3. Discuss the advantage you perceive USGS personnel to have over individuals in private practice with regard to such items as liability insurance, registration issues, etc.?

4. Discuss the appropriate role for private sector individuals in long term data collection efforts?

5. Discuss what role the USGS should be taking relative to national, regional, and local issues?

6. Discuss how the private sector could assure that the same consistent standard of excellence was applied to work conducted by them – over a period of 20 – 40 years?

7. Given the Federal procurement process, discuss how the private sector could maintain the level of expertise required to perform the services offered by the USGS?

8. Describe how the USGS could better involve the private sector in its operations?

9. How can USGS communicate with the private sector to avoid even the appearance of competition with the private sector?

10. What services and products can you provide that USGS cannot?

11. Discuss how you've collaborated with the USGS on projects. Are there ways for the USGS to transfer technology through using consultants that may not have the expertise already?

Summary Following the Competition Panel - March 25, 1999

1. There needs to be more opportunities for teaming (USGS/private sector).

2. Scopes of work tended to expand when USGS became involved to be consistent with mission (effect: to eliminate the consultant's opportunity).

3. Quality/QA of USGS work slipping.

4. You can't pay the USGS to slant conclusions.

5. There is a need for a Cooperative Water Program clearinghouse for private sector to lodge complaints.

6. Too much competition could lead to a backlash against USGS core programs.

7. Competition conflicts are almost always over work that has a local scope.

8. Competition is a big issue involving multimillions of dollars.

9. USGS has criticized consultant's proposals.

10. Consultants are afraid to complain because of the potential for it to impact their relationship with the cooperator (ramifications from the cooperator).

11. USGS is becoming more aggressive (the competition problem is increasing).

12. A level playing field (for example, issues around certification of USGS employees and insurance) is not a big issue.

13. USGS should not submit proposals if consultants have already been negotiating with the client.

14. USGS should open up a dialogue on the non-competition policy.

15. Private sector consultants have no interest in competing for work involving high levels of policy or procedures.

16. USGS should make an effort to identify key sites for their core programs.

Questions and/or Suggestions to Determine Criteria for Non-Competition

1. Is USGS conduct of work
    - A benefit to the private sector?
    - An advance to the profession?
2. Can the work be accomplished by the private sector?
3. Is there an opportunity to collaborate with the private sector?
4. The transition between interpretation and implementation is a cut-off for USGS involvement.
5. How work products will be used by community?
6. What are expectations of the cooperator?
7. If recommendations are expected, should be private sector.
8. Is the perception of being unbiased needed in a contentious situation?
9. Are the issues being addressed regional in scope?
10. Private consultants should do projects of short-term duration to answer immediate questions. Short term - less than 3 years.
11. Water-supply development, bridge scour, and application of models without modification are examples of work that should be outside the purview of the USGS.

Task Force to Review the Cooperative Water Program

Minutes of the Fourth Meeting
May 5-7, 1999
Troy, New York

Attendees:
Task Force Members - - Craig Albertsen, Bureau of Reclamation; Thomas Baumgardner, National Weather Service; Ed Burkett, Corps of Engineers; Richard Burton, National Association of Counties; James Enote, Pueblo of Zuni; Fred Lissner, Oregon Department of Water Resources; Wendell McCurry, Association of State and Interstate Water Pollution Control Administrators; Fred Ogden, University of Connecticut; Don Phelps, American Society of Civil Engineers; Dave Pope, Kansas Department of Agriculture; Jonathan Price, Nevada Bureau of Mines and Geology; Larry Rowe, Western Water Inc; Jim Shotwell, American Institute of Professional Geologists; Earl Smith, Interstate Council on Water Policy; Alan Vicory, Ohio River Valley Water Sanitation Commission; Leslie Wedderburn, South Florida Water Management District

U. S. Geological Survey - - Steve Blanchard, Task Force Executive Secretary; Grady Moore, District Chief, New York; Ward Freeman, Associate District Chief, New York; Besty Daniel, Facilitator.

Absent: A FEMA representative; Tom Bruns, American Water Works Association; Randall Duncan, International Association of Emergency Managers; Peter Mack, NY Department of Environmental Conservation; Chuck Spooner, USEPA; Don Woodward, USDA

Location: U.S. Geological Survey, New York District Office, Troy, New York

The meeting closely followed the meeting agenda (attachment 1). The meeting started with a brief presentation by Grady Moore (New York District Chief) on the New York District's Cooperative Water Program. Grady Moore highlighted the New York District Coop Program areas of emphasis in doing low-ionic strength waters research, pesticide monitoring, sediment chemistry and transport, nitrogen cycling in small watersheds, and ground water age-dating and modeling.

The remainder of the morning session was a panel discussion between the Task Force and a group of individuals from the private sector to discuss the issue of competition with the private sector and the appropriate role of the USGS. The panel was composed of the following individuals:

Panel on competition and the appropriate role of the USGS - Paul Grosser, P.W. Grosser Consulting Engineer and Hydrologist, Bohemia, NY (Representing ACEC); Robert K Lamonica, CPG – President, Leggette, Brashears, and Graham, Inc, Trumbull, CT; Ken McGraw, Paul B Krebs and Associates, Montgomery, AL; Gary Lovett, Institute of Ecosystem Studies, Millbrook, NY; Don Cohen, Senior Associate, Malcolm Pirnie Inc, Mahwah, NJ.

The discussion with the panel on competition focused on answers to questions from the list of questions in attachment 2. The Task Force summarized the information they heard from the panel discussion and the initial Task Force response to the information in bullet Statements as listed in attachment 3.

The afternoon session was a panel discussion between the Task Force and a panel of individuals representing agencies that participate in the Coop Program. There were cooperators representing the Coop Program in New York, Connecticut, New Jersey, and Washington. The panel was composed of the following individuals:

Cooperators Panel – Fred Van Alstyne, New York State Deptartment of Environmental Conservation, Division of Water, Albany, NY; Patti Stone, Water Quality Coordinator Colville Confederated Tribes, Nespelem, WA; Tom Baxter, Executive Director, New Jersey Water Supply Authority, Clinton, NJ; Jim Mayfield, Chief of Watershed Management, New York City Department of Environmental Protection, Bureau of Water Supply, Shokan, NY; Tom Morrissey, Director of Planing and Standards, Connecticut Department of Environmental Protection, Hartford, CT; Robert K. Lamonica, Leggette, Brashears, and Graham, Inc , representing Suffolk County Water Authority, Oakdale, NY.

The discussion with the cooperator panel focused on answers to questions from the list of questions in attachment 4. The questions in bold text were the questions asked of the cooperator panel. The Task Force summarized the information they heard from the panel discussion and the initial Task Force response to the information in bullet Statements as listed in attachment 5.

The second (May 6, 1999) and third days (May 7, 1999) were spent by the Task Force in deliberations, both in subgroups and together as one group, to develop preliminary findings and recommendations to present to ACWI.

The next meeting location was selected to be Chicago, Illinois. The meeting will not be held in the Illinois District Office but at a hotel in the Chicago area. The entire meeting will focus on editing and revising the preliminary findings and recommendations and writing the final report.

Action Items:

- Each Subgroup is to incorporate the comments and edits suggested by the entire Task Force and transmit the document electronically to Steve Blanchard
- Steve Blanchard is to compile the findings and recommendations from the Subgroups into one document
- The Task Force will work on editing and consolidating the compiled findings and recommendations
- Steve Blanchard will draft the supporting text of the final report for all sections but the findings and recommendations

Task Force to Review the Cooperative Water Program

May 5-7, 1999 in Troy, New York

New York District Office

Final Agenda

Wednesday May 5, 1999

8:00 – 8:15 Introductory Remarks and housekeeping – Steve Blanchard, Larry Rowe, Fred Lissner

8:15 – 8:45 New York District Coop Program – highlight of issues and selected projects - Grady Moore, NY District Chief

8:45 – 9:00 Break and Prep for Panel

9:00 – 11:30 Competition Issues Panel - Task Force meeting with panel to discuss issues relating to competition with the private sector and the appropriate role of the USGS (include a break) – Fred Lissner

11:30 -12:15 Task Force discussion and summary of panel – Betsy Daniel

12:15 - 1:15 Lunch – box lunch in building

1:15 - 1:30 Prep for Panel

1:30 – 4:00 Cooperators Panel – Task Force meeting with Cooperators from NY and other Districts (include a break) – Larry Rowe

4:00 – 4:45 Task Force discussion and summary of panel – Betsy Daniel

4:45 Adjourn

Thursday May 6, 1999

8:00 – 4:30 Task Force Deliberations

- presentation and discussion of the draft final report outline
- a recommendation for and discussion of decision making rules
- presentations and discussions of each subgroups conclusions/recommendations

Friday May 7, 1999

8:00 – 1:30 A mix of subgroup deliberations to continue to draft conclusions / recommendations and combined Task Force deliberations to reach "consensus" decisions / recommendations

1:30 – 2:15 Draft bullets for status report to ACWI at their May 18 -19 meeting

2:15- 3:00 Next meeting – pick location and plan agenda

3:00 Adjourn

TASK FORCE TO REVIEW THE COOPERATIVE WATER PROGRAM

Discussion Points for the Panel Dealing With Issues Related to Competition and the Appropriate Role of the USGS

1. Discuss where you see the USGS competing with the private sector? Can you provide specific examples?

2. Describe criteria the USGS should use to decide whether a project is appropriate for them to undertake?

3. Discuss the advantage you perceive USGS personnel to have over individuals in private practice with regard to such items as liability insurance, registration issues, etc.?

4. Discuss the appropriate role for private sector individuals in long term data-collection efforts?

5. Discuss what role the USGS should be taking relative to national, regional, and local issues?

6. Discuss how the private sector could assure that the same consistent standard of excellence was applied to work conducted by them – over a period of 20 – 40 years?

7. Given the Federal procurement process, discuss how the private sector could maintain the level of expertise required to perform the services offered by the USGS?

8. Describe how the USGS could better involve the private sector in its operations?

9. How can USGS communicate with the private sector to avoid even the appearance of competition with the private sector?

10. What services and products can you provide that USGS can not?

11. Discuss how you've collaborated with the USGS on projects. Are there ways for the USGS to transfer technology through using consultants that may not have the expertise already?

Summary Following the Competition Panel - May 5, 1999

1. Calling a study "regional" says nothing about its geographic size.

2. There was a clear Statement of a role for the USGS in research, long-term data collection, and interpretative studies on a regional scale or initial application of a new process.

3. There is strong support for USGS data-collection programs.

4. The private sector's role is to apply regional models.

5. There is a need to protect the integrity of USGS at all costs (for example, data, studies, etc.). That may involve keeping the USGS away from work that is a simple application of existing models.

6. On Long Island, contentiousness of issues should not be a criterion for involving USGS.

7. There are a number of examples of unfair competition with the private sector by USGS.
   - USGS is sensitive to the issue
   - It is perceived as counter productive for consultants to complain
   - The occurrence of instances of competition is perceived to be increasing
   - The amount of competition between the USGS and private sector is small but measurable.

8. USGS needs to be sensitive to the point at which technology development changes to implementation.

9. The private sector wants to open up a dialogue with USGS on the competition issue and technology transfer.

10. Discussion on the difficulty of acquiring private sector data.
    - to fill in the gaps in USGS data
    - volatility of streamgaging data

11. There is a reluctance to consider having USGS outsource its work.

12. Competition with universities exists and is a good thing.

13. There is no role for the private sector in long-term data collection. Long term data collection is a core competency of the USGS that is not receiving enough emphasis.

14. The private sector has much of the same expertise as the USGS – and that contributes to the competition issue. The USGS should attempt to hire staff interested in doing field work for data collection.

15. The private sector likes the idea of an ad hoc committee to address the roles of the players in specific activities.

16. There is a need for an annual review for "Lessons Learned".

17. The private sector likes the idea of posting of proposed projects for comments.

18. Guidelines to avoid competition need to be more specific and continually improved.

19. Location of USGS offices (and need to keep employees working) is causing some competition (USGS needs a stronger funding base).

TASK FORCE TO REVIEW THE COOPERATIVE WATER PROGRAM

Cooperator Survey

A. General Introductory Questions

1. What is the primary role of your organization (for example, regulatory, water management, scientific, etc.)?

2. What is your position in the organization and how does it relate to the USGS Federal-State Cooperative Water Program (Coop Program)?

3. Has your organization participated in the Coop Program for more than 5-years?

4. What is your organization's current level of financial participation? How has it changed over time?

5. What types of programs/projects are you involved in with the USGS under the Coop Program?

6. Does your organization foresee a change in the programs/projects it requests of the Coop Program in the future? Do you see the need increasing or decreasing?

B. **Mission** - Historically, the Coop Program has been designed to develop hydrologic data and technical analysis needed to assist in meeting the USGS mission of continuously assessing the Nation's water resources, and to provide technical assistance to State, Tribal, and local water management agencies in seeking solutions to water-resource issues of national concern through a matched funding arrangement.

7. **Explain how the Coop Program assists your organization in accomplishing its activities, goals, and responsibilities?**

8. Is cost sharing a necessary element in your organization's participation in a cooperative agreement with the USGS? Please explain

9. What is the minimum USGS cost share acceptable to your organization?

10. Explain whether your coop program is meeting your needs in the areas of ground-water and surface-water quality, quantity, and use data, and analytical tools, etc.?

C. **Prioritization** - In Fiscal Year 1997, the Congress appropriated $64.5 million for the Coop Program. State and local agencies provided an equal amount of matching funds plus an additional $28.5 million of unmatched funding.

11. **Is there adequate funding in the Coop Program to meet your short and long term needs? If no, please explain the needs that are not being met.**

12. Do you have any suggestions for the appropriate level of funding for the Coop Program?

13. What is the proper balance between routine long-term data collection and interpretive studies?

14. **How do changes in the Coop Program, such as losing long-term data-collection stations, affect the mission of your organization?**

15. How does your organization involve other parties in your Coop Program activity to improve study results and lower costs?

D. Conduct of Work - Nearly all of the work performed in the Coop Program is done by USGS scientists and technicians. This arrangement is designed to enhance quality control, provide national consistency in data collection and methods of analysis, and provide a stable core of experienced water scientists nationwide.

16. **If appropriate USGS quality assurance were made available, would your organization be able to and/or want to perform the data collection portion of a coop project? Please explain.**

17. How do you believe the quality and credibility of the Coop Program would be impacted if data collection and analysis were not performed entirely by the USGS staff?

18. **Why does your organization use the USGS for assistance rather than other sources (e.g., consulting firms, academia, etc.)?**

19. What does the USGS offer through the Coop Program that you cannot obtain elsewhere?

20. **What is your opinion of the Coop Program contracting out parts or all of the work you have asked them to perform?**

E. Products - The products developed in the Coop Program need to be useful to cooperators and other users. These users include representatives of governments, the scientific community, the private sector, and the general public. The products also fulfill national needs by building long term national data bases, augmenting activities in other USGS programs, and providing a national picture of water resources through synthesis of information from individual projects across the country. In addition, the Coop Program advances the development and application of new approaches and methodologies relevant to water resources issues.

21. Is the Coop Program using the appropriate, applicable, and most cost effective level of technology to satisfy your needs?

22. What suggestions do you have for the Coop Program to improve approaches, methods, and technologies to enhance the usability and effectiveness of products?

23. **Is the Coop Program conscious of and sensitive to the needs of the cooperator in areas such as:**
    - **a) types of data collected,**
    - **b) documentation of data,**
    - **c) timeliness of products,**
    - **d) value of products, and**
    - **e) other?**

24. Do you have timely access to the data you need?

25. **In what form will you want Coop Project output delivered in the future?**

F. **General Closing Question**

26. **Do you have any recommendations for improving or changing the Coop Program?**

2/2/99

Summary Following Cooperator's Panel - May 5, 1999

1. Base data is valuable for TMDL studies.
2. Some studies wouldn't get done without cost share.
3. Six months for peer review (between submission of manuscript and approval to publish).
4. Timeliness is an issue with interpretive studies.
5. In several areas, USGS is vital in supporting cooperator programs.
6. Easier to raise dollars than manpower.
7. Better accounting for gage costs.
8. Better forecasting.
9. Multi-year funding.
10. More than 60-40% split makes cooperators uncomfortable.
11. State and Federal budget cycles present a problem (they're out of whack – some States are on a 2 year cycle).
12. Easier to contract govt.-to-govt. than with the private sector – administration of agreement easier than contract administration.
13. Public wants to know what's going on in their backyard.
14. Not enough USGS dollars.
15. Program has diminished from lack of dollars.
16. Like to see more Federal dollars.
17. Unmet Needs:
    - sampling and gaging in small drainage basins.
    - marrying water quality monitoring with flow monitoring.
    - predicting runoff and runoff changes with land-use changes.
    - trend analysis.
18. Improve remote sensing applications.
19. Oversight tracking of projects.
20. Independent audit of methods and means used.
21. Need for national consistency of work.
22. Reservations regarding outsourcing.
23. Trust responsibilities for Tribes.
24. Fact sheets are useful.
25. Timeliness is a REAL problem.
26. Government involvement in trans-boundary waters.
27. Partial billings tied to progress Statements may be possible with some cooperators (not all).
28. Designing projects to meet both national and cooperator needs is not seen as a problem.
29. Review of proposed projects is okay with these cooperators.
30. Great deal of interest in real-time data.
31. Examples of work USGS had refused as inappropriate.
32. Support for establishing a core network of streamgaging stations financed by Federal government (not at expense of cooperative program).
33. TMDLs, nonpoint source pollution from industrial sources.
34. Not all cooperators have seen USGS guidelines for avoiding competition.
35. Value, credibility, trust for USGS program.

Task Force to Review the Cooperative Water Program

Minutes of the Fifth Meeting
June 28-30, 1999

Rolling Meadows, Illinois

Attendees:
Task Force Members - - Craig Albertsen, Bureau of Reclamation; Thomas Baumgardner, National Weather Service; Ed Burkett, Corps of Engineers; Randall Duncan, International Association of Emergency Managers; Fred Lissner, Oregon Water Resources Department; Fred Ogden, University of Connecticut; Don Phelps, American Society of Civil Engineers; Dave Pope, Kansas Department of Agriculture; Jonathan Price, Nevada Bureau of Mines and Geology; Larry Rowe, Western Water, Inc; Jim Shotwell, American Institute of Professional Geologists;; Chuck Spooner, USEPA; Alan Vicory, Ohio River Valley Water Sanitation Commission; Leslie Wedderburn, South Florida Water Management District; Don Woodward, USDA.

U. S. Geological Survey - - Steve Blanchard, Task Force Executive Secretary; Besty Daniel, Facilitator.

Absent: A FEMA representative; Tom Bruns, American Water Works Association; Richard Burton, National Association of Counties; James Enote, Pueblo of Zuni; Peter Mack, New York Department of Environmental Conservation; Wendell McCurry, Association of State and Interstate Water Pollution Control Administrators; Earl Smith, Interstate Council on Water Policy.

Location: Holiday Inn Rolling Meadows, Illinois (near O'Hare Airport)

The entire meeting was spent in deliberations to finalize the "Findings and Recommendations" of the Task Force and the report resulting from the review of the Cooperative Water Program.

Appendix C – 1994 Survey of Cooperator Satisfaction with U.S. Geological Survey Federal-State Cooperative Water Program

USGS Customer Service Team
Preliminary Report of the Pilot Project: Water Resources Division Federal - State Cooperative Water Program

July 1994

Outline

Introduction

Description of Pilot Effort

Summary of Responses with Interview Guide

Identification of Customer Needs

- Access and Timely Review of Data
- Communications/Usability of Products
- Geographic Information System (GIS) Support
- Training

Customer Service Standards

- Existing Division Standards
- Proposed Preliminary Customer Service Standards

Appendix: Compilation of Survey Responses

INTRODUCTION

The U.S. Geological Survey, Water Resources Division, has a unique program activity--the Federal/State Cooperative Matching Program--that provides Federal funding for matching at least an equal amount of funding from State, County, city, or other local tax-based entities. USGS Cooperators, which number more than 1,000 nationwide, are considered primary customers—partners in hydrologic studies and data activities. These customers represent a broad user community which collectively has a "first line" concern of national water issues, water problems, and water needs.

DESCRIPTION OF PILOT EFFORT

The purposes of this Water Resources Division pilot effort were to assess existing perceptions of customer service and to provide input to preliminary customer service standards for the cooperative program for the Division. To get a broad sampling of the cooperator community, each District (State) office of the Division was asked to survey two cooperators with 11 questions. The responses to the survey, which are compiled and included in the Appendix, are summarized in "Summary of Responses with Interview Guide" section. In addition, other possible customer services are identified ("Identification of Customer Needs"). Finally, existing Division standards for three product areas in the cooperative program--hydrologic data, hydrologic consultation, and hydrologic interpretative reports--are described, and preliminary draft customer service standards are suggested and compared to existing standards where they apply.

For the 48 Districts (Maryland-Delaware, New Hampshire-Vermont, and Massachusetts-Rhode Island are each two-State Districts; Puerto Rico is a District), a potential survey return of 96 responses was projected. Eighty- two survey responses (85 percent of the potential 96 responses) were completed as identified below:

STATE/DISTRICT	NUMBER OF RESPONSES	STATE/DISTRICT	NUMBER OF RESPONSES
1. Alabama	1	25. Montana	2
2. Alaska	2	26. Nebraska	0
3. Arizona	2	27. Nevada	3
4. Arkansas	2	28. New Hampshire-Vermont	2
5. California	2	29. New Jersey	2
6. Colorado	2	30. New Mexico	2
7. Connecticut	2	31. New York	3
8. Florida	3	32. North Carolina	2
9. Georgia	1	33. North Dakota	2
10. Hawaii	0	34. Ohio	3
11. Idaho	2	35. Oklahoma	2
12. Illinois	1	36. Oregon	2
13. Indiana	1	37. Pennsylvania	2
14. Iowa	2	38. Puerto Rico	0
15. Kansas	1	39. South Carolina	1
16. Kentucky	0*	40. South Dakota	0
17. Louisiana	2	41. Tennessee	1
18. Maine	2	42. Texas	7
19. Maryland-Delaware	2	43. Utah	0
20. Massachusetts-Rhode Island	2	44. Virginia	1
21. Michigan	2	45. Washington	1
22. Minnesota	0	46. West Virginia	0
23. Mississippi	2	47. Wisconsin	2
24. Missouri	3	48. Wyoming	2
		49. Unknown	1

*Kentucky had very recently completed an external customer survey.

These 82 responses do not strictly represent two cooperators per District. However, they are geographically well distributed, and are, therefore, considered representative of the cooperator community. One survey was received without a District/State designation and it is shown as "unknown".

SUMMARY OF RESPONSES WITH INTERVIEW GUIDE

The basis for the Interview Guide was a more general guide that the USGS Customer Services Standards Committee is using in other pilot efforts. The guide was customized to provide more specific information relating to services for the Water Resources Division Federal/State Cooperative Program. A copy of the guide is included here and a summary of the interview responses is included following each question.

USGS FEDERAL/STATE COOPERATIVE PROGRAM
CUSTOMER SERVICE INTERVIEW GUIDE

1. IS YOUR BUSINESS PRIMARILY: A) REGULATORY _____, B) SCIENTIFIC _____, C) WATER MANAGEMENT _____, D) OTHER _____

When asked to identify the primary role of their organization, 51 of 82 cooperators indicated a "Water Management" responsibility, 31 identified a "Regulatory" role, 21 identified a "Scientific" mission, and 17 identified "Other" responsibilities which included design of highway structures, transportation engineering, geologic and water resources information, planning, State fish and wildlife agency, sanitation quality, power, fish and wildlife research and management, data base management and technical assistance, environmental restoration, and geographic information systems. Many cooperators identified more than one primary responsibility.

2. WHAT IS THE MOST SIGNIFICANT EFFECT OF THE USGS ON YOUR OPERATIONS?

In answer to this query, 73 identified data (28 general data, 29 streamflow data, 11 water-quality data, and 5 ground-water data), including 3 for real-time data. Thirty responses identified information from hydrologic investigations or research has a most significant effect. Fifteen responded that hydrologic expertise provided by the USGS has a significant effect on their operations. A few included the importance of other USGS contributions such as the availability of mapping products (National Mapping Division), availability of Cooperative Program funding, and the quality assurance process for peer review of reports.

3. HOW DO YOU ACCESS USGS PRODUCTS/SERVICES?

A)	MAIL	75	EASY?	_72__	DIFFICULT?	__3__
B)	TELEPHONE	76	EASY?	_73__	DIFFICULT?	__4__
C)	FAX	64	EASY?	_64__	DIFFICULT?	_____
D)	COMPUTER ACCESS	49	EASY?	_33__	DIFFICULT?	_19__
E)	CD-ROM	11(2*)	EASY?	__7__	DIFFICULT?	__4__

*Third Party Vendor

The above counts indicate the method of access of USGS products and services. Three other methods of access were identified by a few customers; reports, regular meetings, and personal contact. The difficult rating (and a few individuals thought that some methods were both easy and difficult) is, percentage wise, more significant for computer access and CD-ROM. Sixty percent of the cooperators say they access information by computers, and 39 percent of those individuals say that the process is difficult. Thirteen percent of the cooperators say they access information by CD-ROM, and 36 percent say it is difficult.

4. ON A BROAD SCALE, WE SEE OUR MAJOR PROJECTS [PRODUCTS] FOR OUR CUSTOMERS TO BE A) BASIC HYDROLOGIC DATA, B) HYDROLOGIC CONSULTATION, AND C) INTERPRETATIVE REPORTS OF HYDROLOGIC INVESTIGATIONS. WHICH OF THE ABOVE DO YOU USE?

A) BASIC HYDROLOGIC DATA	80
B) HYDROLOGIC CONSULTATION	70
C) INTERPRETATIVE REPORTS OF HYDROLOGIC INVESTIGATIONS	72

5. WHAT OTHER PRODUCTS/SERVICES WOULD YOU LIKE TO RECEIVE FROM USGS?

The responses were broadly categorized into 12 types of services or assistance. These categories and the number of responses for each are listed below:

a.	Technical consultation or assistance	19
b.	GIS support (some Mapping support included)	10
c.	On-line data access	8
d.	Training support	8
e.	Happy customers--needs being met	8
f.	Summary information (statistical analysis of data, State-wide conditions periodically, 10-year data summaries, annual summary of ongoing studies and completed reports.)	6
g.	More funding for cooperative program and State research	6
h.	Public education/outreach/more lay reader reports	3
i.	Need for enhanced communications (quarterly meetings; describing who we are/what we do; involvement in local issues, meetings, committees; etc.)	3
j.	Data on floppy disks	2
k.	Data on CD-ROM	2
l.	Equipment support	2

(INQUIRIES FOR SETTING CUSTOMER SERVICE STANDARDS):

6. FOR 4 A, B, C (ABOVE), WHAT TIME AND QUALITY STANDARDS WOULD YOU LIKE TO SEE FOR DISSEMINATION OF THOSE PRODUCTS?

A) BASIC HYDROLOGIC DATA

Overall 55 of the 82 responses (67 percent) indicated that timeliness of hydrologic data was important; 26 of 82 (32 percent) indicated quality was important; and one cooperator identified the need for some operational information to assist with their planning and activities. Seventeen respondents (21 percent) indicated satisfaction with the current standards for providing data, a likely indication that their timeliness and quality requirements are being met. Seventeen (21 percent) requested on-line data access by computer, 11 requested real- time data (assumed to imply need for on-line data access and included in the 17), 5 requested "as soon as possible" or on-demand data, 3 requested in less than 1 week, 9 in less than 1 month, and 11 wanted to receive data more timely. Twelve asked for annual publication of the data (including several that wanted provisional real-time or on-line access), one requested publication in 6 months, and one requested publication in 3 months. Eleven were of the opinion that the data should be of high quality.

B) HYDROLOGIC CONSULTATION

Thirty-four cooperators (41 percent) think that timeliness of consultation is important and 14 (17 percent) think that quality is important as a standard. Thirteen (16 percent) indicate that the current standards are acceptable. Cooperators thought the following types of response was appropriate: on demand--14; more timely--2; less than 1 week--3; less that 1 month--2; quarterly--3; and annual--1. Seven thought that consultation standards should be of high quality and two identified a need for better communications skills.

C) INTERPRETATIVE REPORTS OF HYDROLOGIC INVESTIGATIONS

Overall 55 respondents (67 percent) indicated that timeliness was an important standard and 17 (21 percent) indicated that quality was important. Six (7 percent) thought that current standards are acceptable. Twenty-seven cooperators are of the opinion that reports should be more timely; three think they should be provided by the project completion date; four think they should be completed in 1 month or less; seven, in 3 to 6 months; seven, in 1 year or less, and two, on demand or as soon as possible. Two cooperators indicated a need for better communications and more understandable products and eight indicated that the products should be high quality.

7. IN ALMOST ALL STATES, USGS AND ITS CUSTOMERS HAVE A COOPERATIVE PROGRAM WHICH CONTAINS AN INVESTIGATIVE PROGRAM WITH WRITTEN INTERPRETATIVE REPORTS AS PRODUCTS. WHAT CUSTOMER SERVICE STANDARDS DO YOU THINK SHOULD APPLY TO THESE INTERPRETATIVE REPORTS?

In addition to timeliness standards (identified by 40 people) and quality standards--including accuracy, reliability, professionalism--(identified by 31 people), 13 cooperators indicated the need for management standards that include project management interaction with cooperators (discussion of technical or scope changes, concern about layers of peer/editorial/policy review, flexibility for regulatory changes, realistic project scope and completion dates, cost-effectiveness issues, etc).

Thirty-one cooperators (38 percent) thought that reports should be more timely; four thought that the report should be completed within 1 year of project completion; two thought that the report should be completed within 6 months of project completion; and seven thought the current standards are acceptable. Fifteen cooperators felt that high quality is important and 20 (24 percent) thought that the report products should be more understandable, be better coordinated with the customer, or better meet their needs.

8. IF YOU HAD TO SET CUSTOMER SERVICE STANDARDS FOR THE USGS FOR THE ABOVE PRODUCTS (4 AND 6 A, B, C), WHAT WOULD BE THE MOST IMPORTANT COMPONENTS?

The responses have been categorized into eight components as identified below:

	COMPONENT	RESPONSES
a.	Timeliness	54
b.	Accuracy	22
c.	Quality	22
d.	Format/Usability	12
e.	Communications	10
f.	Cost-effectiveness	4
g.	Relevance	4
h.	Objectivity	2

9. WHAT COULD WE DO TO IMPROVE OUR CUSTOMER SERVICE?

The following categories of improvements were suggested by the cooperators:

Timely products	38
Communication issues	23
Funding concerns	12
Management or project concerns	8
On-line Computer Data Access	4
Training	2

10. WHAT HAVE YOU DONE TO IMPROVE YOUR CUSTOMER SERVICE THAT WE SHOULD DO?

The responding cooperators provided excellent suggestions for improving customer service. Please see list in the Appendix.

11. IN YOUR EXPERIENCE, WHAT BUSINESS OR ORGANIZATION MIGHT THE USGS USE AS A BENCHMARK FOR COMPARING CUSTOMER SERVICE STANDARDS?

The responses include suggested benchmarks of 13 major industries or businesses, 11 government entities, 10 consultant firms, and 5 that indicated that the USGS sets the standard in its field. Please see list in Appendix.

IDENTIFICATION OF CUSTOMER NEEDS

The most common concern expressed by the cooperators was timeliness of product completion. In addition to the three specific areas of hydrologic data, hydrologic consultation, and interpretative reports, following are other areas of concern identified by customers as needed services.

Access and Timely Review of Data

The Division is studying the question of whether to continue to publish the Annual Data report in paper copy. Other options discussed have been publishing the data on CD-ROM (this practice has been in place for the last several years), or doing away with an annual product by providing on-line computer access to users to retrieve approved data. The question of publication medium is a high-profile customer issue.

The other important question besides the medium of publication is the process of working, reviewing, and approving records. We are rapidly moving into a real-time data world. Hydrologic data are needed for real-time management decisions. It will be important to provide services, as high priorities, for two types of data: (1) Real-time provisional data and records, as accurate and up to date as possible (with correct rating tables and shifts kept up to date in the computer), for use by water managers; and (2) checked, reviewed, and approved data and records that will stand up in court and continue to set the standard for objective and unbiased data. The first type of service, when considered with other needs and interest for on-line access to data (as indicated by responses to question 6A, above), will be increasingly important to water users and managers. Our response will need to be easy computer access, user-friendly software for ease of use, and time- and cost-effective systems that easily interact with the rest of the water management and scientific community. The challenge for the second type of data will be to interact with the real-time data world to develop processes to work all data and records in a more real-time mode and to provide approved data faster for whatever "publication" mechanism is used.

Communications/Usability of Products

The survey results indicated that many of the customers who cooperate with USGS on multi-year interpretative studies felt the need for better communication during the working years of the project as well as when the report was delivered. The primary needs were for reports of progress during the course of the project as well as more up-front indications of final technical results. Cooperators also indicated a need for more understandable final products as well as lay-reader reports.

Geographic Information System (GIS) Support

Several cooperators identified the need for GIS assistance ranging from actual operation of systems to preparation and population of various databases for use by the public and water information community.

Training

Training assistance was a need identified by several cooperators. This request included presentation of customized hydrologic training for their employees as well as continued and additional availability of cooperator attendance at training at the USGS National Training Center.

Customer Service Standards

Although not established specifically as customer service standards, and not compiled to be readily obtainable as a body of information, and certainly not concise enough for providing clear, relevant information to customers, there are sets of goals, deadlines, guidelines, and practices that provide Division consistency in meeting customer requirements. More important at this point is whether these guidelines and practices are customer driven, or whether they are process artifacts of historically successful methods that have lost effectiveness over time. The following discussion on "Existing Division Standards" will briefly discuss current practices for providing data, consultation, and interpretative reports. The section following that will provide "Proposed Preliminary Customer Service Standards".

A. HYDROLOGIC DATA

The current practice for basic hydrologic data is to make the data available to the public immediately, following field and office checks to verify that equipment was operating properly and that computations were without major error. The data are provided provisionally until final checking and review, at which point the data are approved flagged "final" in the computer databases, and generally published. Data are stored in State (District) databases that use the National Water Information System (NWIS) which is comprised of four separate databases. The data base for continuous and real-time data (ADAPS) manages this provisional/approval flagging quite well. This is not the case with the water-quality database (QWDATA), the ground-water database (GWSI), or the water-use database (SWUDS). The data stored in these databases are assumed to be final and approved, but at any particular time, some of the data are in some State of checking and review until they are published. State data bases are also compiled into a national database (WATSTORE) where provisional flags are carried forward from the individual State NWIS databases. Additionally, data updated to WATSTORE are unavailable for retrieval for 20 days following the update. Updates from the State databases to WATSTORE are done periodically but the schedule and frequency varies widely.

Data collected as part of the basic hydrologic data program in a District office are published under guidelines established for the annual review and publication of hydrologic records. The standards for the review of hydrologic data and records in the USGS are extensive and comprehensive to include field equipment and practices, methods of data computation, training, periodic quality assurance reviews by national technical discipline teams, District field and office procedures, and a long list of other practices. The process involves large numbers of people nationwide in an annual cycle of data collection, checking, review, and approval. The end of the water year, September, marks the start of the job to finalize hydrologic records for the water year for final review and publication. The Division goal for completion of records and sending the Annual Data report to the printer is by 6 months after the last data for the water year are collected (April 1).

Data collected as part of interpretative investigations may be reviewed and published as part of the annual hydrologic data program publication. However, a District may choose to publish the data separately as a data report or as part of the final interpretative report for the study.

B. HYDROLOGIC CONSULTATION

There is probably no specific guideline for responding to requests for technical assistance. Generally, cooperators are provided technical consultation, depending on the type of request, within a reasonable time frame. The time frame might range from less than an hour, to provide an instantaneous discharge, to a week or two for a more technical request such as advice on hydraulics of a bridge site or modeling scenarios.

C. INTERPRETATIVE REPORTS OF HYDROLOGIC INVESTIGATIONS

There is a significant and complex peer/editorial/policy review process for reports that is intended to provide a high level of quality assurance and quality control of the final product to USGS technical and publication standards. The requirements for completion of the product have been indirect to the present. The only Division control placed on timeliness has been the declaration of a report as "overdue" when it has not received Director's approval within 6 months of project completion. Once approved, there are no specific time requirements for printing the report.

Within the past few years there have been several efforts at the local, regional, and national levels to review problems related to late reports and to provide direction and solutions for these problems. These efforts include all aspects of the report process, from the project planning to the printing stages. The Division is working actively to solve problems that prevent the timely completion of reports.

Proposed Preliminary Customer Service Standards

A. HYDROLOGIC DATA

The timeliness and availability as well as the quality or accuracy, of hydrologic data collected by the USGS are essential to our cooperators. There are three important standards to maintain:

1. Provisional data are made available as soon as preliminary checks are completed, usually within one week of collection, or immediately if collected via satellite (or other telemeter) transmission.

2. Computer hydrologic records (continuous computation of discharge from gage-height records and continuous water-quality records) are updated with shift and datum corrections within one week of field measurement/visit. These provisional records are available by computer retrieval on request, or by on-line computer access by cooperators.

3. Hydrologic records and data are computed, reviewed, and approved for final release (usually publication) within 6 months of the end of the water year in which the data are collected.

B. HYDROLOGIC CONSULTATION

The existing practice of individual response to requests for technical assistance from cooperators will continue. As suggested by responses to the survey, ongoing and periodic communication (whether monthly, quarterly, or annual) between USGS and cooperators is encouraged. This practice will encourage technical interchange and accommodate opportunities for discussions of ongoing project activities, management concerns, and water issues that may impact ongoing and potential mutual activities.

C. INTERPRETATIVE REPORTS OF HYDROLOGIC INVESTIGATIONS

The results of the pilot survey process indicated that there is significant concern over the amount of time it takes to provide a published report to the cooperators. It is clear that a report being "overdue" if Director's approval has not been attained within 6 months after project completion is unacceptable. Late reports have been a major problem to USGS for several decades, and as such it seems unreasonable to set division-wide standards in the one-month period of the pilot study. It is, however, reasonable to expect that the Division will address this issue in the near future and that timeliness standards will contain provisions for providing published reports by the end of the project completion date. In doing so, every aspect of project and report planning and management and review must be evaluated to avoid merely adding time to the project life to accommodate report completion. The Districts must do better planning and implementation with early quality assurance while the Division must look at re-engineering the entire peer review and publication process with the idea of saving major time and evaluating the degree of quality necessary.

APPENDIX - COMPILATION OF SURVEY RESPONSES

1. IS YOUR BUSINESS PRIMARILY: A) REGULATORY _31__, B) SCIENTIFIC _21__, C) WATER MANAGEMENT _52__, D) OTHER _18*_

*-Design of Highway Structures
-Transportation Engineering
-Geologic and Water Resources Information
-Planning
-State Fish and Wildlife Agency
-Sanitation Quality
-Power
-Fish and Wildlife Research and Management
-Data Base Management and Technical Assistance
-Environmental Restoration
-Geographic Information Systems
-Water Delivery

2. WHAT IS THE MOST SIGNIFICANT EFFECT OF THE USGS ON YOUR OPERATIONS?

- Collects streamflow data for the State of Texas
- Cost of getting data. USGS funding cuts requiring more money for less.
- Providing basic data for scientific studies and management
- Ability to obtain reliable data from stormwater analysis; sharing of reports and research projects in other parts of the U.S. on stormwater quality issues.
- Operation of gaging stations on Colorado River (Texas) mainstream.
- Data collection agency, maintain high-quality work and retain unbiased nature
- The USGS provides hydrologic data that assists the State Engineer
- Office in regulating use of Water Resources throughout the State of New Mexico.
- Providing hydrologic information for the Albuquerque basin upon which long-term management decisions will be based.
- Providing flood data.
- Assist with calculation of surface-water flows used to recharge ground-water basin.
- USGS provides the expertise in hydrologic data collection and research that provides the foundation for Carson City Utilities to develop sound water management programs.
- Rely on real-time data from river/lake gaging stations for reservoir operation and other water accounting procedures.
- Operation of stream gages and data derived.
- Provides virtually all of the streamflow and ambient water-quality information used in our water pollution control program.
- Pesticides sampling and analysis of both surface water and ground water.
- Acquisition and interpretation of basic hydrologic data allows us to estimate assimilative capacity of streams/rivers.
- Providing data and research for our programs.
- Ground water, water quality, and stream gaging databases.
- Provides needed water data and hydrologic investigations for the proper management of the State's surface- and ground-water resources.
- The service that keeps the municipality in compliance with the Clean Water Act.
- Provides streamflow, water-quality data, and special studies.
- Providing reliable water data through the cooperative program.

- Hydrologic data and procedures developed by the USGS are valuable tools used in the Department's hydraulic design process.
- Provide baseline data for a major portion of our work projects.
- USGS-Iowa City is providing technical/scientific assistance:
- Assessment of current well fields and potential sites. Studies to determine if wells are under direct influence of Cedar R.
- Investigations and GIS/data base information compilation for well-head protection programs.
- As a source of map products and hydrologic data.
- Providing us with information so we can make decisions.
- Accurate real-time data.
- Access to historic and real-time streamflow data for policy analysis and management decisions.
- Water quantity and quality monitoring on streams the Water District gets its water supply from.
- Source of information
- Provision of basic water-quantity data and special hydrologic studies.
- Operation of gaging and thermograph stations. Providing streamflow data upon request, doing technical water availability studies for us.
- Equipment and expertise in measuring water flow and collecting water quality samples.
- Measurement of stages and flows.
- USGS has provided valuable information for making several long-range, multimillion-dollar management decisions.
- Provide data and interpretations of regional scope that assist planning and regulatory decisions for ground-water resources.
- Quality hydrologic data.
- USGS is the primary operator of streamgages used to monitor the Salt-Verde watershed.
- Providing information on hydrogeologic topics through investigations focused on the Tucson Basin and Area Valley. The subsidence studies, the on-going maintenance of the subsidence network, are the most significant. At this time, the USGS has minimal impact on our operations.
- It has enhanced our ability to fund more sites due to the cooperative funding that has been available.
- Water quantity data collection and analysis. Water quality data. Hydrologic technical support.
- The supplying the State of Connecticut with national standardized monitoring, inventory, and special studies for support to the State regulatory and resource management program.
- USGS supplies nearly all surface-water data and over half of ground water data. Single biggest entity that our organization deals with for coop programs.
- Collecting data and conducting applied research and generating interpretative reports.
- Enhanced ability to perform scientific studies necessary for Water and Environmental Management.
- USGS provides needed design data in the form of quadrangle maps and stream gaging.

- Improved quality of final cooperative study reports through the USGS review process. Improved usability of final maps through use of USGS base materials. Source of additional hydrologic expertise to which we can refer inquiries when necessary. Source of technical expertise that we can draw on when developing our programs.
- Provide basic data influencing management of our watershed storage reservoirs.
- USGS provides streamflow, water-quality data and watershed analysis to support management programs.
- Ground-water expertise accepted by regulators and community.
- USGS provides important and critical support services.
- We rely on USGS data to determine flood discharge and drought flow estimates and to develop hydrologic methodologies.
- Cooperation in the development and implementation of stream monitoring programs and flow data from gages.
- Provide statewide data and information regarding State's water resources.
- Through cooperative agreements, our department has been able to utilize the expertise of the Survey to aid us with the hydrology and hydraulic theory needed to properly design our hydraulic structures.
- The expertise and cooperative spirit of USGS have allowed us to explore ground-water quality issues that otherwise would have been impossible.
- A dependable base line data source.
- Provides hydrogeologic data and technical expertise which are critically important to the success of State government's efforts to develop and implement water resources management and protection policies.
- Technical expertise for resource allocation that is not available within NJDEP.
- Assistance with Somerset County flood monitoring system.
- USGS provides technical assistance and reports/data that are recognized by the scientific community to be of high quality. This lends itself to significant support in the development of local management strategies.
- Offers credible water management support, including instantaneous and record streamflows.
- Difficult question--publish data and consult on technical issues.
- Providing water-quality data, flow measurements and information from special studies.
- Advancing the State-of-the-art in hydraulic design for highways.
- Maintaining and operating surface water streamgaging network. Furnishing stream- and ground-water data.
- Hydrologic, hydrogeologic, and water-quality information.
- Stream gaging.
- Contract special studies (aquifer vulnerability, GIS, ground-water- quality data, etc.)
- Technical support; operation and maintenance of primary data collection sites--USGS streamflow data is essential to many of our programs and activities.
- Data for use in low-flow investigations; flow policy; flood frequency.
- Regional data.
- Provides basic data and analyses of hydrologic systems. Used to support management decisions.
- Coordinate ground-water modeling studies and collection of ground-water data.
- Provide data to make management decisions.
- Hydrologic investigations to produce a ground-water model which will assist in regional management.

- The USGS has skilled personnel in highly specialized fields. Their expertise cannot be found anywhere else. TNRCC has benefited from this expertise. _____'s diverse governmental background has been very helpful to the Clean Rivers Program Technical Task Forces.
- Technical expertise and support.
- Monitoring and technical support.
- The collection, compilation, and storage of streamflow records are essential to our regulatory and management responsibilities.

3. HOW DO YOU ACCESS USGS PRODUCTS/SERVICES?

A) MAIL	75	EASY? _72__	DIFFICULT? __3__
B) TELEPHONE	76	EASY? _73__	DIFFICULT? __4__
C) FAX	64	EASY? _64__	DIFFICULT? _____
D) COMPUTER ACCESS	49	EASY? _33__	DIFFICULT? _19__
E) CD-ROM	11(2*)	EASY? __7__	DIFFICULT? __4__
*Third Party Vendor			

-Reports	2	2
-Regular progress meetings		
-Personal contact	2	2

4. ON A BROAD SCALE, WE SEE OUR MAJOR PROJECTS [PRODUCTS] FOR OUR CUSTOMERS TO BE A) BASIC HYDROLOGIC DATA, B) HYDROLOGIC CONSULTATION, AND C) INTERPRETATIVE REPORTS OF HYDROLOGIC INVESTIGATIONS. WHICH OF THE ABOVE DO YOU USE?

A) BASIC HYDROLOGIC DATA	80
B) HYDROLOGIC CONSULTATION	70
C) INTERPRETATIVE REPORTS OF HYDROLOGIC INVESTIGATIONS	72

5. WHAT OTHER PRODUCTS/SERVICES WOULD YOU LIKE TO RECEIVE FROM THE USGS?

- Statewide water conditions, reservoir levels, rainfall summaries, soil indexes, etc.
- We would like to connect on-line to the USGS Data Network
- Stormwater sampling. Continued sharing of stormwater quality related research and BMP's.
- Hydrogeological investigations of alluvial aquifer, use of Doppler flowmeter, if it can be done efficiently.
- Prefer to have data on floppy disks, distributed in book-like binders with the floppy disks and information regarding file names, access, formats, support, software, etc.
- State Engineer Office receives almost everything they need. There could be more specific data and interpretation needed as other issues come up.
- The above three categories cover everything.
- Special flood measurements; scour measurements
- Statistical analysis of the reliability of the data.
- None at this time.
- Interaction with Geographic Information System
- GIS (expansion of coverages); software development.
- Give advice to cooperators on emergency basis without approval from Reston.
- A more easily accessible data base for flow and water-quality data by computer-phone modem access.
- Instead of expanding your product line, increase funding for cost share. Place hydrologic/water-use data on CD-ROM. Make more use of data servers over the Internet.
- Level 2 (detailed) bridge scour evaluations.
- USGS provides us with essentially any service we request.

- Long-term cooperative research activities would be of interest. For example, monitoring rivers, surface-water and ground-water sources, etc.
- 2:1 cooperative match.
- Routine 1-page report on flow conditions at index stations Statewide to monitor floods and drought situations.
- Has the USGS looked into providing basic hydrologic data in CD-ROM format? EARTHINFO provides this service for the Water District but the expense is quite high.
- We're receiving what we need at present.
- Hydraulic analyses.
- More help with GIS technology and coverages.
- Increased routine background data collection for future reference.
- Recent products and services seem out of sink (sync ?) with local needs. There is a need for meaningful interpretative reports, but recent work has in certain cases contained serious flaws. And as always, the turn around time takes too long. In general, our needs are very practical.
- You are providing our needs--only request would be new summary reports for WY 1970-1980, 1980-1990.
- Automated database of all topo maps for Alaska in 1:63,360 scale with hydrography and topography to expedite ungaged analyses.
- Direct computer access to District from CTDEP and DEP customers. More Federally supported scientific research on Connecticut and New England hydrologic processes and anthropogenic processes. Sponsorship with the Water Resources Institutes of area conferences on a regular basis on multistate topical hydrologic issues such as bedrock fracture flow and contaminate plume modeling. Include regional WRD, Geol. Div., NBS, NMD, as well as State and other Federal agencies. Public education and outreach to the academic community. More public/lay reader publications accessed through District rather than national orders. More lay publications on regional Federal studies.
- Product mix is about right; strongly prefer that additional funds be allocated for cooperative programs. Also urge that training programs continue to be available.
- We seem to receive most every product we desire.
- Peer review; laboratory analyses.
- Scour coding for bridges to meet FHWA requirements.
- We would like to see easier access to water-quantity/water-quality data stored in USGS computer databases. As cooperators we have access to much of this data, but the methods of access are not especially user friendly, and the format of the data is difficult to change to fit our needs. Incorporation of basic data in geographic information systems (GIS) would also be nice. In general, access to database via computer is more desirable than CDROM products because of the timeliness of the data in the databases.
- None known currently.
- Scheme for classifying waters for management decisions, i.e. potability, background (background-?), yield, size, etc.
- Biological-related services, to augment DEP's existing program.
- We have asked for and received stream gaging assistance from USGS in the upper peninsula, where it wasn't feasible for us to make a trip. We would like to still have this upper peninsula help.
- Access to technical expertise at USGS national level.
- I am fully satisfied with the range of products and services provided by USGS.
- In-kind, no money exchanged cooperative projects. Quarterly meetings with States/users to review projects, access to data (automated), etc. More orthophoto priority to assist in GIS related work. IPA would facilitate communication and training.
- Training in the use of specific USGS software packages; access to computerized bibliographic data, such as "Selected Water Resources Abstracts".
- None--we are receiving what we need.
- Water-quality data for surface runoff, streamflow, and river flow.

- It would be nice if USGS had more public educational materials available at Regional offices. Get the topographical maps digitized.
- Expanded water-quality program. Full funding of NAWQA.
- Provide training opportunities for the cooperator at the USGS training center.
- Become more involved in environmental issues.
- Training by USGS or with USGS.
- What else can you do?
- Develop bathymetric maps for all major reservoirs; complete and update 7.5 min. quad maps; delineation of all watersheds in South Carolina in ARC coverages at a scale of 1:24,000; hypsography for all digital 7.5' quadrangles automated in South Carolina.
- Periodic statistical runs with the output on disk, including outlier analysis.
- Would like on-line hydrological data. Annual listings of ongoing studies and recently completed reports.
- More education at local or State level. Try to understand State's needs for educating public about water resources and the value of science/reliable knowledge.
- Assistance in biologic data analysis; training in QA/QC procedures, lab, field, and data QA/QC procedures; cooperation on development of GIS applications; continued participation in the Rio Grande/Rio Bravo GIS Consortium.
- Computer, training, laboratory services, equipment.
- Additional GIS coverages; consistency in mapping between USGS, BLM, etc.; expand technical consultation.
- Greater access to training sessions for cooperators would be beneficial.
- Reports on time.

6. FOR 4 A, B, C (ABOVE), WHAT TIME AND QUALITY STANDARDS WOULD YOU LIKE TO SEE FOR DISSEMINATION OF THOSE PRODUCTS?

-Need information available online so we can access it and answer immediate questions for decision-making purposes. Need output in digital format.

-Well, the joke is that USGS operates on the geologic time scale. All data reports should be available to the public within a year following submittal for publication. It is crazy to get 1986 streamflow data in 1991 or later.

-Currently adequate. Quality is generally more important to us than a hurried report.

A) BASIC HYDROLOGIC DATA

-24-hour access by computer to gaging station data, yearly publications, adequate to monitor completely in a State

-Immediate, on-line electronic bulletin board

-More timely; publish data, less than 1 year after work is completed. Quality is good now.

-On-line access to current and historical data. Accurate advice without having to ask.

-1 to 4 weeks--less than publications standards.

-Monthly reports in ASCII format

-Current practice meets the needs of the Carson City Utilities.

-Highest quality standards and recognition of operational needs.

-Currently acceptable. Would always prefer faster and better.

-Acceptable--would like to see results sooner.

-1 week to 1 month (phone, fax, mail)

-Completion on time.

-Faster process of reviewing and publishing data.

-Turn-around for lab results too long.
-Goal is to meet customer requirements.
-Real-time flow, monthly water-quality data.
-Near real-time data via Internet with quality indicators attached to data
-Monthly and annual publication to include daily information at key sites.
-Very high quality standards
-Comprehensive; accurate; reliable
-As soon as possible.
-Time
-Real-time, instantly. Published data, within 1 year.
-Advance notice of scheduled trips to stations (for our information), otherwise service has been superb.
-Quality standards are good. Improve time to press.
-Specific streamflow data upon request (reasonably).
-Annual--high
-Real-time
-As real-time as possible.
-Available when collected.
-Real time, annual reporting.
-Real time, high quality
-In general, the turn-around time and quality standards which were in place 15 to 20 years ago.
-Data review seems a bit long. More timely reports would be helpful.
-Hard copy annually with electronic access all the time.
-Real-time preliminary data and report within 1 year of data collection that has national standards. Update trend analyses on basic data after first report is completed.
-Quicker turn around time; preliminary data within 30 days.
-Currently, it is very good.
-Two week availability; greater than 95 percent accuracy.
-Quad maps updated every 10-15 years.
-As currently provided.
-Currently satisfactory.
-Official report 90 days.
-Weekly
-Quality standards are acceptable. Would like data as soon as possible but no major complaints on current timeliness.
-Must be precise and accurate, available close to time taken.
-Instant access; high quality.
-Annual summaries.
-Requires time for peer reviews and editorial critique.
-Quality control is good. Lag before publication could be reduced but data are generally readily available prior to publication.
-On time and have met our needs.
-Accuracy, timeliness.
-Annually. What we have now is okay.
-High quality in less than 1 month.
-One month approval for final reports.
-Real time, all data available on computer (shift curve), publish report within 6 months.
-Immediate access, standard QA/QC.
-One year turn around time.
-One week.

-On-line. Current QC standards.
-No opinion.
-Quality good.
-Your current quality standards are excellent, but the time required for completed reports is too long.
-Periodic uploads of data should be delivered on a set date. New data (NAWQA data) should be available to partners ASAP.
-Okay on timing.
-Satisfactory.
-As near to real time as possible--rated excellent.

B) HYDROLOGIC CONSULTATION

-On demand, with reasonable response time.
-More timely response.
-Competent straight-forward answers 1 to 2 days after asking for advice. Advice without having to ask.
-Current practice meets the needs of the Carson City Utilities.
-Currently acceptable. Would always prefer faster and better.
-Acceptable.
-1 week to 6 months (phone, fax, mail)
-Better communication skills
-No problems
-Present standard is adequate.
-As needed.
-Currently adequate.
-Should be accessible for consultation within several days of request.
-Very high quality standards.
-Comprehensive; accurate; reliable
-Time
-Quarterly meetings between staffs.
-Upon request with reasonable advance notice.
-Real-time help is needed; no change in quality.
-Available by phone for info relative to current projects.
-In general, the turn-around time and quality standards which were in place 15 to 20 years ago.
-Year round.
-Real time, through personal contact.
-Reduced turn around time.
-Currently, it is very good.
-Reports available within 1 month.
-As currently provided.
-Currently satisfactory.
-48 hours.
-Almost immediately.
-Okay.
-Must be understandable, realistic, and usable.
-Available on short notice.
-As needed--minimum quarterly.
-Immediate.
-Timely and reliable at present.
-Request basis--timely.
-Accuracy, timeliness.

-Set times for completion of project case by case. Meet the set times.
-Good quality in less than 1 week.
-One month approval for final reports.
-As needed.
-Timely reasonable response, confidence in quality.
-One year turn around time.
-Two weeks.
-Rapid turnaround. current QC. Allow memo reports.
-No problems that I am aware of.
-Satisfactory.
-Reasonable time response--top quality.

C) INTERPRETATIVE REPORTS OF HYDROLOGIC INVESTIGATIONS
-Only when report is needed by a customer
-Short review time, product out within 6 months.
-Reports should be reviewed and completed by the agreed completion date on JFA's.
-According to due dates set in contract.
-More timely; publish report less than 1 year after work is completed.
-Need reports produced much more rapidly after completion of field work or data collection.
-2 to 8 weeks--less than publication standards
-Current practice meets the needs of the Carson City Utilities.
-Faster dissemination and more willingness to extrapolate rating tables.
-Currently acceptable. Would always prefer faster and better.
-1 month to 1 year (report)
-Good summation
-Layers of unnecessary bureaucracy causes extreme delay in obtaining results in a timely fashion.
-As available
-Speed the review process for more timely reports.
-Final report publication should follow draft document as quickly as possible.
-Very high quality standards
-Comprehensive; accurate; reliable
-As soon as possible.
-Time
-As long as we have access to provisional data and reports, timing is okay. The wait for the approved report is excruciatingly long.
-Within 2 to 3 months of study completion; a quality document that can be understood.
-Monthly--high
-1 year
-More timely review; excellent quality already.
-Shorten time of review; receive first "drafts" sooner.
-Quality is excellent, time is always late.
-In general, the turn-around time and quality standards which were in place 15 to 20 years ago.
-More ungaged analyses and interpretation.
-Within 6 months of completion of special studies.
-Reduced turn around time.
-Faster completion of the written portion of interpretative reports.
-Report available within 6 months of study completion.
-Reports take too long; need annual interpretative reports.
-6 months.

-Within 1 year after data collection.
-We would like access to preliminary data and able to discuss methodologies and results early in time process for projects that impact our programs, even if we are not a sponsor.
-Accurate, concise, available close to time when info was collected.
-Timely and high quality.
-Depends on project. Project reports annually are useful, but full analysis/reporting every 3-5 years.
-Two types: 1) Non-technical users--weeks to a few months; 2) Technical--6 months to 1-2 years.
-Quality control subsequent to colleague review and prior to publication has been problematic; time lag before publication has been excessive.
-Must shorten time frame for final reports. Draft reports have met cooperative agreements (time frame).
-Accuracy, timeliness.
-Less (significantly) publishing delays.
-Set times for completion of project case by case. Meet the set times.
-High quality and much faster reporting.
-One month approval for final reports.
-Within 6 months of completion.
-Reasonable turn around (which is one of USGS's major faults).
-One year turn around time.
-Reduce lag between end of contract period and delivery of final products.
-Commitment to publish within 1 month following final approval; use outside contractors if necessary.
-More timely reports.
-High.
-Your current quality standards are excellent but the time required for completed reports is too long.
-Reports should be made available to the general public or drafts of reports before it is approved by USGS Reston office.
-More timely delivery.
-More timely to meet customers needs.
-The time standard must be shortened.
-On time--well reviewed and high quality.

7. IN ALMOST ALL STATES, USGS AND ITS CUSTOMERS HAVE A COOPERATIVE PROGRAM WHICH CONTAINS AN INVESTIGATIVE PROGRAM WITH WRITTEN INTERPRETATIVE REPORTS AS PRODUCTS. WHAT CUSTOMER SERVICE STANDARDS DO YOU THINK SHOULD APPLY TO THESE INTERPRETATIVE REPORTS?

- Who are the reports for? Why are they needed? Does the State already do the same thing?
- Shorter review time
- The report review procedure is too long
- On the work according to scope of services in contract and under schedule set in contract; do not invoice for work not done.
- Use best engineering principles, State-of-the-art presentation media and currently accepted practices. Get it right the first time, accuracy is important, quality products yields customer trust. Quality not quantity is the key element.

- More timely submittal of reports with acceptable quality within 1 year.
- Reports should be thoroughly peer reviewed, answer pertinent questions, indicate follow-up work, make recommendations, and promptly be published.
- Faster publications; less internal USGS review.
- We have in-house staff for data interpretation.
- If there is a sole entity for which the research is being done provide a one-on-one presentation and review of the report.
- Faster response time in providing results.
- Opinions should be clearly identified as such. Degree of confidence in opinions or interpretations should be identified.
- The reports should be produced in a timely manner.
- Summation (easily understandable) and direct answer of questions.
- Standards acceptable to the State Geological Survey or set by the Association of American State Geologists.
- Anything but the present bureaucratic standards which require 4 to 5 layers (District, sub-region, region, HQ, etc.) of approval before a report can reach the cooperator and the public.
- Communication with customer(s); Mission/Goals; Customer requirements.
- Reports should be available within 3-6 months of project completion.
- Work is professional, on time, and accurate.
- These reports should be developed using a mutually agreed upon format and should be published in a timely fashion.
- Quality of the data is of utmost importance. It's what separates USGS from all the others.
- Given the mission of USGS, reports should be comprehensive or possibly better Stated studies/reports, etc., should be of a "broader" scope than those conducted by a private engineering firm.
- Shorter timeframe for publication (printing).
- Coop agreement with GS is O.K.
- State all assumptions, facts, and variables. Different techniques of hydrology result in different conclusions. Be careful.
- Adherence to study goals and deliverables arrived at jointly by USGS and customer. Tailored studies with sufficient interaction with customer during study.
- I assume that publishing those reports requires an internal peer review process--keep this of high quality.
- The issue of long turnaround and multiple reviews within USGS is overdone. Most of the interpretative info is non-controversial or not revealing, anyway. Publish reports in 1 year or less after completion of data compilation.
- We have had some difficulty getting technical reports completed within a reasonable time period, apparently due somewhat to the review process within USGS. Reports are usually well done but sometimes technically difficult to read and understand.
- I feel that USGS is respected for their quality control and scientific base.
- Objective, unbiased, solid science at reaching conclusions.
- Direction of projects should accommodate needs for agencies to make management and regulatory decisions.
- USGS should meet their agreed to deadlines. A report takes too long!
- Product should be finished within a usable time frame. Analysis should be thorough, meeting the requirements of good science. Adequate project management so that there are no surprises/misunderstandings.

- Your present standards are very high and quality is excellent.
- I presently do not know existing standards for customer service.
- Timeliness within 1 year of completion of study. Continued quality control reviews but speed up authorized approval.
- Quality is seen as good to excellent, but prefer quicker turn around and improved funding for cooperative programs.
- Need to have a faster delivery of the final products once your internal editorial process begins.
- Report available within 6 months of study completion.
- Timely publication.
- USGS reports for cooperative studies are high quality products; maintaining this high quality should be the first priority. The delay in publication of the final reports is the area that could stand the most improvement. This could be addressed in part by a more rapid dissemination of draft results, either in printed form or via computer.
- Quality remains excellent. Timeliness needs to be improved.
- Need more rapid turnaround on report preparation and release. Lengthy review process does not seem to do anything but delay release of reports.
- Timeliness, data customer needs, DQO's of customer.
- Interpretative reports should have a high standard for accurate and clear reporting of data.
- Closer cooperation by early review of methodologies and draft products.
- Report must be concise, understandable, and available shortly after data are collected.
- Timely and high quality.
- This would depend on the project and needs of the customer. For this agency, annual progress reports are useful; however, full analysis/reporting should be done on a reasonable (3-5 years?) interval.
- Designed for geologists and engineers not trained as hydrologists; also portions for non-technical persons [such] as planners.
- Rigorous quality control is essential but a means of expediting publication and delivery of consistent products is badly needed.
- As Stated above, draft reports are available for review within timeframe of agreement, final report should be produced faster.
- Accuracy, timeliness, cost-effective.
- As a cooperator, we have found that USGS worked closely with us to develop a product that closely meets our needs. Getting the reports out ASAP after submittal to Reston would help a lot.
- Provisional issuance followed by peer review, final issuance.
- 50 percent visual in the reports. Produce public outreach reports. More timely in completion/publication.
- The time frame between finishing the data collection and final report needs to be significantly shortened.
- Scientifically correct; results presented in a user friendly format; recommendations easily implemented by sponsors.
- Continue to maintain high product standards in quality and time management.
- Service standards may vary from customer to customer or report to report. The USGS representatives need to listen to the customer and provide reports to the standards asked for.
- Your standards are excellent.
- USGS needs to improve on time to final report.

- It would be helpful to receive the reports in a more timely manner.
- Support peer review. Also need customer review. Need glossary; improved readability. Faster turn-around of final reports.
- Upon approval for publication, give presentation of final results and discussion of how results can be applied. Quicker turn around of reviews and final publications. More realistic completion schedules; majority of projects run much longer than initially planned.
- Reports should meet the needs that were agreed upon.
- High.
- Timeliness of reports--less USGS national review time.
- Should be customer driven; i.e. specifically address management issues/questions.
- Meet customer needs and quicker; common QA/QC or understanding of procedure.
- Fulfill interpretative objectives; stay on schedule and within budget.
- They have to stand the test of time and court.

8. IF YOU HAD TO SET CUSTOMER SERVICE STANDARDS FOR THE USGS FOR THE ABOVE PRODUCTS (4 AND 6 A, B, C), WHAT WOULD BE THE MOST IMPORTANT COMPONENTS?

- Collecting data, providing data, interpretation of data
- 4-months review, print and distribute within 6 months
- Timeliness, accuracy, objectivity
- Schedule, deadlines, progress reports, due dates.
- All three elements are important, we depend on a total service.
- Timely submittal.
- Pertinence; answers should be to the point, answering direct questions in a timely manner.
- Timely response.
- Accuracy; timeliness; data format
- To provide data and information that was user friendly to the majority of users.
- Accurate basic data plus recognition of real-time data needs for system operation.
- Faster response time--data, rating curves.
- Timeliness and accuracy.
- Timeliness
- Accuracy, time
- Completion on time and direct answer of questions
- Accuracy of data.
- Reasonable accuracy, reasonable cost, reasonable turn-around time
- Quality team approach to problem solving and continuous improvement of services.
- Accurate data, presented timely, in a user-friendly format.
- Is the information accurate, timely, and is this work product of immediate use to meet a specific need.
- Timeliness of delivery; flexibility in format; follow-up service.
- Quality of data.
- Comprehensive; accurate; reliable
- Timeliness
- 4 and 6 are not relevant to customer service; the USGS is mixed up (?).
- Accurate basic data (within a tolerance).

- Minimize regional and national overhead. Set priorities among gages to increase visitations at high priority sites. Increase access to studies by interested parties. Eliminate "proforma" liaison meetings (NAWQA) to concentrate limited resources. Interact with policy groups. C_____(?) to avoid advocacy. Improve ADAPS procedures.
- Improve the time it takes to get hydrologic data to report form.
- Timing, cooperation.
- Timeliness, accuracy, technical quality.
- Maintain your present standards.
- Quality and reliability, time to complete product.
- Timeliness, and objective quality.
- Solid data bases for models; expeditious reviews.
- Time
- Reliability, accuracy, timeliness, value (cost)
- Maintain quality of basic data (QA/QC is critical). Timely release of data in "finalized" form. Interpretative analyses should have the highest quality.
- Quicker review process; report sooner.
- More assistance, more gage sites.
- National standards; QA and QC; and timeliness of product.
- More timely release of products.
- Mark 6c for improvement. Mark 6a and 6b as a high standard.
- Timeliness. Accuracy.
- Accuracy and timeliness.
- The most important component in setting customer service standards is assuring a consistently high quality of the product, whether it be basic data, consultation, or interpretative reports. Again, easier and more rapid access to data via computer and an easier way to reformat the data to meet our needs is something we would like to see. In summary, quality followed by timeliness and ease of access.
- Timeliness and accuracy.
- Streamlined review needed to get reports out to meet customer needs.
- Accuracy, timeliness, more layman's terms.
- More feedback early in process. Consult with us when considering program changes.
- Data quality, timeliness, clarity.
- Timeliness and high quality.
- Excellent quality in a timely manner.
- Communication among involved parties/agencies; timely analysis/reporting; high quality products.
- Report clarity written in direct user format.
- Consistent quality and timely delivery.
- Completion of final reports in an agreed upon time frame. High technical standards. Technical consultation (formal and informal).
- Accuracy, timeliness.
- Accuracy.
- Setting and maintaining timeliness.
- Very high quality and timely data.
- Scientifically correct; results presented in a user friendly format; recommendations easily implemented by sponsors.
- Quality.
- Quality of data and analysis.
- Timely response and greater interaction of personnel with customers.
- Quality and expediency.

- Timeliness and technical quality.
- Accuracy.
- Support peer review. Also need customer review. Need glossary; improved readability. Faster turn-around of final reports.
- Regular communication by supervisor and project chief (to cooperator).
- Good technical quality, more readable.
- Meet customer needs; quality work; timely reports.
- Timeliness--less national review time.
- Overkill on quality; timeliness is more important.
- Fulfill interpretative objectives; stay on schedule and within budget.
- Accuracy and On time.

9. WHAT COULD WE DO TO IMPROVE OUR CUSTOMER SERVICE?

- Coordinate Federal programs with State instead of embarking with a sole program irregardless of current State programs.
- Try to work on the coop programs where local agencies can do in kind services and not have to pay all cash.
- Streamline report reviews
- Do what you say you'll do and do it on time.
- Provide electronic media as the standard, and provide easy access to the databases.
- More timely submittal of products. More person to person contact with principal (Project Chiefs) involved.
- Prepare and update long-term visions for particular projects instead of sitting down each year and talking about modification. More quality feedback.
- Need more interim summary reports of data collection, rather than be asked for this information; i.e. Flood summaries for recent events.
- Don't wait until end of water year to compile/crunch data.
- Utilities is pleased with the service provided by the Carson City USGS Office.
- Increase communication with system operator and increased measurement frequency at selected sites.
- Provide complete accounting of expenditures in joint-funded activities; justify and explain reasons for increases from year to year.
- Currently satisfactory. Workshops describing available services or data would be useful.
- Provide a faster turnaround time for sample analysis.
- Improve turn-around time for annual report and interpretive reports.
- Communication with _____(?)
- Availability of publications, many older publications are hard to get, but very reliable.
- Eliminate unnecessary layers of bureaucracy. Provide meaningful authority to your District Chiefs with appropriate accountability so that the jobs could get done in a timely and cost-efficient manner.
- Training on quality-related topics.
- Reduce time required for review of draft data/reports. Improve data management and access to information using P.C. windows systems.
- Provide for in-kind services and speed report generation.
- Streamline the internal review process so that documents are published in a reasonable amount of time. Consider the needs of the customer together with agency requirements.

- It's getting better but more timely review and publication of final reports.
- City of Cedar Rapids has received excellent service (personal and professional) from USGS-Iowa City. All individuals in this office have been both extremely professional, dedicated, and cooperative.
- Provide earlier notice on projects with other cooperators.
- Improve time from start to finish.
- Mobile telephones in all field vehicles.
- Listen to customer needs; disaggregate protocol and costs from Reston; empower District to improvise data and research tasks.
- Review the USGS rate requirements. They are not competitive with private consultants even with the 50/50 local cost sharing.
- Lower costs, reduce number and duration of samples for water quality. Too much emphasis on "scientific" methodology which is in turn used to justify the costs. Studies take too long.
- Reduce the time it takes to publish a technical report.
- Speed up the review of publications and data release.
- District newsletter with status of all activities; joint studies; make costs more representative of a competitive market; make data more readily available to cooperators and the general public.
- Speed up review process, but maintain quality.
- Quicker review; retain quality of review.
- Set realistic time standards, increase Direct Credit.
- Quicker review and production of annual water supply papers.
- Look to the past when the USGS collected the highest quality basic data--how did they do it? More rapid release of final reports/basic data. Improve project management and communication with cooperators. Staff members with experience should lead project teams.
- More timely information.
- Fund your staff better and pay for more gage sites.
- Quicker turn around of completed published product.
- Increased cooperative funding, more timely release of products.
- Overall, it is very good now.
- Closer coordination with customer. Reduce cost of service.
- Have regular update and coordination meetings with consultation clients.
- See 8 above. Develop better and more user friendly front-ends to access basic data and draft results of cooperative studies.
- Improve timeliness on some products.
- Streamlined review needed to get reports out to meet customer needs.
- Lower overhead rates; co-location of investigations sites; more regulator meetings. Quarterly status meeting with cooperator.
- Continue to strive for timely report of data.
- More feedback early in process. Consult with us when considering program changes.
- Listen more closely to what the customer needs and then respond more directly to those needs.
- Streamline report processing and review.
- Replace the standard annual agreements with a single agreement for the total project.
- Your Rolla office is superb. I can offer no suggestions for improving the high quality of products and service we have received.
- Speed up report reviews and ___(?).
- Develop a flexible protocol which allows for the release of draft

interpretative products or interim reports; periodically distribute a comprehensive summary of all ongoing and upcoming District projects (on an annual basis).
- Only area that there is major concern is production of final report.
- Shorten time between end of studies and final publication of results.
- I'm not really sure. I can't say that we've been satisfied customer. Things come quickly in the mail from Denver (lab analysis) and our District/Subdistrict office have been very helpful.
- Technology transfer of products/use.
- Develop more specific project tracking tools and put them in mutually accessible space (for cooperator and USGS) for reference and management of the project activities.
- Expedite the reporting process.
- Faster internal review and approval of reports. Do not change report titles during review.
- Provide training or training opportunities.
- Shorten report titles and publication time.
- Structure projects to meet more mileposts, and information dissemination.
- Suggest that you thoroughly review your in-house review process--it's too long and cumbersome.
- Become more timely.
- Continue efforts to improve communication/coordination with cooperators throughout project, but especially at project inception.
- More formal presentations by project staff; train staff in delivering presentations. More attention to project schedules.
- Report review and publication should be performed in a more timely manner.
- Faster report turn around.
- Service with the Jackson, Miss., office is excellent but faster reporting and easier access to computer based hydrologic data.
- More involvement at local, Rio Grande, and Clean Rivers Program steering committees.
- Timeliness; reduce overhead cost.
- Improve communication and understanding of end product before beginning studies also. Timeliness; less review.
- Grant authors more interpretative latitude; establish a better balance between data quality and timeliness.
- Quit changing organizational structure.

10. WHAT HAVE YOU DONE TO IMPROVE YOUR CUSTOMER SERVICE THAT WE SHOULD DO?

- Develop priorities to fund first, provide a service that is what the customers expect.
- Improve timeliness of internal review process to meet project completion schedules.
- Freeze rates (automatic annual increases are not justified and actually fuel inflation); be more responsive to customers.
- Provide significant funding and more information on proposed work to keep the program going.
- Long-term programming, improved communication, turn inquiries around immediately, more feedback.

- Familiarize with available personnel and their specialties.
- Input monthly water-level and water-quality data into database quickly so it is readily available.
- Carson City Utilities continues to seek-out customer input and complaints of our operation so that change can continue.
- Increased measurement frequency from normal standards and improved flexibility of measurement scheduling, allowing for measurement following significant changes in flow rate.
- We are modernizing our computer/data system.
- Anticipate customer needs in planning for future.
- Make publications available for use to the public through our agency library.
- Minimize unnecessary bureaucracy and paper shuffling. Stay in touch with your customers needs and change procedures/standards as needed. Establish reasonable charges for services provided.
- Total Quality Management with emphasis on quality teams to solve specific problems.
- TQM/Service excellence--work teams for problem solving/efficiency improvements.
- Other ideas to improve customer service: Provide quarterly status reports for all projects. Meet with customers regularly to discuss products are used and efficiency.
- We have sought more input from the users of our facilities of services.
- Update mailing list and focus on particular users.
- No major suggestions or complaints. We are pleased with the services provided by USGS-Iowa City.
- We currently are dealing with the same issue.
- Attempt to follow the private sector practice of the customer being right.
- Frequent meetings with interested parties, evolve policy and programs to reflect changing priorities and clientele.
- The Water District is closer to its customers and can provide service more quickly and "locally". This may or may not be possible for the USGS.
- Be more flexible, cooperative with other agencies in conducting field studies and addressing water-quality needs. NAWQA seems to be inflexible and an end unto itself.
- First, recognize that we are customers, then provide quality services and products as if you depended upon them to stay in business.
- Communicate and transmit data through internet (some do--some don't).
- Don't use voice mail, it's a put-off.
- We always respond quickly to requests; this is a high priority in our agency.
- Provide more than the minimum. Treat customer with enthusiasm (USGS doing well in this regard).
- Implement "Total Quality Management".
- We have established our own basic data collection services since the USGS no longer seemed to provide the same level of service. The key may be to provide services which are needed as opposed to trying to generate a need for services. We have instituted aggressive customer service training priorities with staff to emphasize that we work for clients/customers who require a service.
- We have defined our work and what we are going to do so all parties know. In some way, it's "PR".
- Fight hard for funding and legislation to be able to provide support to

other agencies and the public.
- Data management using GIS for spatial and attribute appraisal; upgrading physical facility for direct customer contact (new publication file facility and new retail map and publication outlet). Greater access to Staff for technical assistance.
- I am not so sure we have improved our customer service over the past several years very much. I believe the USGS does a better job regarding this issue than we do.
- Upgraded hydrologic data quality control.
- Try to improve response time for information requests.
- We are also involved in publishing maps/reports, in some cases the results of cooperative studies with the USGS. We have integrated geographic information systems (GIS) technology into our programs, which has significantly reduced the time required for the final stages of map and report preparation. This also provides for the coincidental development of GIS databases containing the basic data. The USGS should look towards more fully integrating GIS technology into its programs. Note, however, this will require an initial investment in monies and staff time to develop the expertise.
- Poll customers on focus or products provided and how to improve them.
- We have more flexibility in production of technical products. Decisions can be made at the local office level.
- Have held more informal status meetings.
- We are working hard to improve communications with our customers.
- COE--don't operate like this governmental agency.
- Listen and respond to the concerns of your customer to the maximum extent possible.
- You are already doing it.
- We have citizen-user advisory groups. They critique our proposed work and we adjust accordingly.
- Different organization. We are a regulatory vs. a technical/information. We have done a great deal of information dissemination to educate the regulated community and the public officials. Taken part in meetings, seminars, etc., to bring our program to regulated community or public officials.
- Meeting with cooperators on a regular basis.
- Our policy is that phones are answered in all program areas 8:00 am through 5:00 PM by staff that can answer most questions.
- We have initiated a Strategic Planning process involving all employees to establish goals and values for the Division of Water including customer service standards.
- Expanded our outreach to the private and public sectors regarding environmental and resource services/information.
- We are primarily a regulatory agency.
- Accessibility/response to customers--must be easy/timely. Work to improve readability of publications.
- Gave more attention to public inquiries; log-in and follow-up for all complaints; TQM training for staff.
- More timely and shorter publications.
- YMD customers are generally individual water users. There do not appear to be many similarities with YMD and USGS customer service.
- Voice mail--phones do not roll to a secretary; also, receptionist shouldn't respond, "I don't know a _____"--especially when he

is an Assistant District Chief.
- Identifying customers and their needs.
- Better defining product and customer expectations.
- Giver higher priority to customer service in relation to internal activities. Early communication with customers when project schedules cannot be met.

11. IN YOUR EXPERIENCE, WHAT BUSINESS OR ORGANIZATION MIGHT THE USGS USE AS A BENCHMARK FOR COMPARING CUSTOMER SERVICE STANDARDS?

- IBM, United Parcel Service
- Consultant firms, State Geologic surveys, i.e. University of Texas Bureau of Economic Geology
- Corps of Engineers. The State Engineer Office looks at them most of the time for benchmarking.
- CH2M Hill--they show good responsiveness (CH2M Hill would always ask if the USGS was giving the city good service). Bureau of Reclamation would be a poor benchmark.
- Really none come to mind, other than to try and improve on existing services.
- Banks, phone companies.
- Smaller, more flexible private companies.
- Geological Survey of Alabama
- Other scientific government agencies within the State that the USGS serves.
- CDM. Geraghty Miller Inc. KPMG Peat Marwick.
- Unknown
- Engineering consultants.
- As far as quality of data, other organizations should be looking to you.
- Given the unique nature of USGS and its mission, my best suggestion would be the University of Iowa Hygienic Lab (Basic research/ Environmental monitoring/Testing for private and public organization).
- Large geotechnical consulting firms.
- NWS, State Geological Surveys.
- Can't help you here.
- For water-quality monitoring and interpretative services--Western Environmental Analysts--Dr. Bill Lewis at Univ. of Colorado.
- Federal Express.
- For timeliness, consultants are a benchmark; but weighed against the need for objectivity and quality, timeliness is secondary; USGS sets benchmark for quality work.
- The USGS of +20 years ago set the standard. Look to industries which have recovered from economic downturns.
- Consultants provide more timely information but at the costs of accuracy. The question may be: How accurate does the USGS need to be?
- Nordstrom, BLM Library in Anchorage.
- Regarding interpretative reports, use universities as a standard. They seem to complete reviews of interpretative reports much quicker than does the USGS.
- Private consulting companies.
- The mission of the USGS-WRD is fundamentally different from the profit-oriented mission of a private company; as a result, you cannot

wholesale adopt many of the methods employed by private companies, which are free to eliminate non-profitable products. The USGS-WRD should have as its first priority maintaining the high quality of its products--whether it is basic data, consultation/expertise, or reports. Look at other public sector agencies with similar missions (data collection, dissemination) for ideas; these could include the Census Bureau, NOAA, the National Weather Service, etc.
- National Weather Service.
- I am not aware of any appropriate standards. USGS should develop its own.
- DOE Haz. Waste (Martin-Marietta); General Physics; Wal-Mart
- McDonald's--quality control reasonable good, employee training reasonably good, efficient, have not stagnated with success, mix older and younger employees. Whether you like the food you know what you will receive and delivered in a pleasant manner.
- Canada Post Corporation
- ? USGS has been as responsive to our needs as any organization.
- In many ways, USGS is similar to a news organization that investigates, analyzes, and reports on news events and circumstances. Perhaps comparing yourself to a news magazine or journal would increase timeliness of reporting.
- Look at other USGS Regions. USGS is unique entity.
- Use CCIW (Canadian Centre for Inland Waters). Use more lay reader, consumable reports (Reader's Digest format with graphics). Catalogue your services with costs (market your tools).
- Federal Express.
- Saturn.
- Hershey Foods.
- U.S. auto industry in general (over past 5 years). (i.e., quality products at competitive prices)
- Considering the quality of the product, no other organization is comparable.
- USGS should be more like a private corporation than a government agency given the nature of the work--they should be comparable to a consulting firm like Arthur Andersen.
- Private industry.

NOTES:

- In recent meetings with the District Chief the cooperator stated that the reduction in Federal matching funds, and cuts in CBR Program, if continued, will result in customers going to less expensive alternatives for operation of gages.
- I have a couple of very general comments that may not be of much help to your effort: It seems that USGS documents take a very long time to get through the review and approval process. USGS overhead costs seem high.
- Alaska has 1 gage per 7,000 square miles. Lower 48 has 1 gage per 400 square miles. ALASKA NEEDS GAGES!
- Overall, we find USGS-WRD product quality very good; we would like to see easier and more timely access to the data, and easier ways to format the data to our needs.
- We are generally very pleased with our working relationship with USGS,

Michigan District. The cooperation on the basic hydrologic data is excellent! There have been a few occasions where we would have liked a closer working relationship on projects. We are very concerned that USGS is not fully supporting the basic hydrologic data program. This is of great importance to us, and we would rather see you do fewer studies than cut data collection.

USGS Federal - STATE COOPERATIVE WATER PROGRAM
CUSTOMER SERVICE INTERVIEW GUIDE

1. Is your business primarily? a) Regulatory _____, b) Scientific _____, c) Water Management _____, d) Other _____

2. What is the most significant effect of the USGS on your operations?

3. How do you access USGS products/services?

a) Mail	Easy? _____	Difficult? _____
b) Telephone	Easy? _____	Difficult? _____
c) Fax	Easy? _____	Difficult? _____
d) Computer Access	Easy? _____	Difficult? _____
e) CD-ROM	Easy? _____	Difficult? _____

4. On a broad scale, we see our major projects [products] for our customers to be a) basic hydrologic data, b) hydrologic consultation, and c) interpretative reports of hydrologic investigations. Which of the above do you use?

   a) basic hydrologic data _____
   b) hydrologic consultation _____
   c) interpretative reports of hydrologic investigations _____

5. What other products/services would you like to receive from USGS?

(INQUIRIES FOR SETTING CUSTOMER SERVICE STANDARDS):

6. For 4 a, b, c (above), what time and quality standards would you like to see for dissemination of those products?

   a) basic hydrologic data _____
   b) hydrologic consultation _____
   c) interpretative reports of hydrologic investigations _____

7. In almost all States, USGS and its customers have a cooperative program which contains an investigative program with written interpretative reports as products. What customer service standards do you think should apply to these interpretative reports?

8. If you had to set customer service standards for the USGS for the above products (4 and 6 a, b, c), what would be the most important components?

9. What could we do to improve our customer service?

10. What have you done to improve your customer service that we should do?

11. In your experience, what business or organization might the USGS use as a benchmark for comparing customer service standards?

Appendix D – The 1999 Verbal Survey of Cooperators

1. Verbal Survey Questionnaire
2. Results of Verbal Survey

TASK FORCE TO REVIEW THE COOPERATIVE WATER PROGRAM

Verbal Cooperator Survey

A. General Introductory Questions

1. What is the primary role of your organization (for example, regulatory, water management, scientific, etc.)?

2. What is your position in the organization and how does it relate to the USGS Federal-State Cooperative Water Program (Coop Program)?

3. Has your organization participated in the Coop Program for more than 5-years?

4. What is your organization's current level of financial participation? How has it changed over time?

5. What types of programs/projects are you involved in with the USGS under the Coop Program?

6. Does your organization foresee a change in the programs/projects it requests of the Coop Program in the future? Do you see the need increasing or decreasing?

B. **Mission** - Historically, the Coop Program has been designed to develop hydrologic data and technical analysis needed to assist in meeting the USGS mission of continuously assessing the Nation's water resources, and to provide technical assistance to State, tribal, and local water management agencies in seeking solutions to water-resource issues of national concern through a matched funding arrangement.

7. Explain how the Coop Program assists your organization in accomplishing its activities, goals, and responsibilities?

8. Is cost sharing a necessary element in your organization's participation in a cooperative agreement with the USGS? Please explain.

9. What is the minimum USGS cost share acceptable to your organization?

10. Explain whether your coop program is meeting your needs in the areas of ground-water and surface-water quality, quantity, and use data, and analytical tools, etc.?

C. **Prioritization** - In Fiscal Year 1997, the Congress appropriated $64.5 million for the Coop Program. State and local agencies provided an equal amount of matching funds plus an additional $28.5 million of unmatched funding.

11. Is there adequate funding in the Coop Program to meet your short and long term needs? If no, please explain the needs that are not being met.

12. Do you have any suggestions for the appropriate level of funding for the Coop Program?

13. What is the proper balance between routine long-term data collection and interpretive studies?

14. How do changes in the Coop Program, such as losing long-term data collection stations, affect the mission of your organization?

15. How does your organization involve other parties in your Coop Program activity to improve study results and lower costs?

D. **Conduct of Work** - Nearly all of the work performed in the Coop Program is done by USGS scientists and technicians. This arrangement is designed to enhance quality control, provide national consistency in data collection and methods of analysis, and provide a stable core of experienced water scientists nationwide.

16. If appropriate USGS quality assurance were made available, would your organization be able to and/or want to perform the data collection portion of a coop project? Please explain.

17. How do you believe the quality and credibility of the Coop Program would be impacted if data collection and analysis were not performed entirely by the USGS staff?

18. Why does your organization use the USGS for assistance rather than other sources (for example, consulting firms, academia, etc.)?

19. What does the USGS offer through the Coop Program that you cannot obtain elsewhere?

20. What is your opinion of the Coop Program contracting out parts or all of the work you have asked them to perform?

E. **Products** - The products developed in the Coop Program need to be useful to cooperators and other users. These users include representatives of governments, the scientific community, the private sector, and the general public. The products also fulfill national needs by building long term national data bases, augmenting activities in other USGS programs, and providing a national picture of water resources through synthesis of information from individual projects across the country. In addition, the Coop Program advances the development and application of new approaches and methodologies relevant to water resources issues.

21. Is the Coop Program using the appropriate, applicable, and most cost effective level of technology to satisfy your needs?

22. What suggestions do you have for the Coop Program to improve approaches, methods, and technologies to enhance the usability and effectiveness of products?

23. Is the Coop Program conscious of and sensitive to the needs of the cooperator in areas such as:
    a) types of data collected,
    b) documentation of data,
    c) timeliness of products,
    d) value of products, and
    e) other?

24. Do you have timely access to the data you need?

25. In what form will you want Coop Project output delivered in the future?

F. General Closing Question

26. Do you have any recommendations for improving or changing the Coop Program?

2/2/99

TASK FORCE TO REVIEW THE COOPERATIVE WATER PROGRAM

Results of the Verbal Survey of Cooperator

A. General Introductory Questions

1. What is the primary role of your organization (i.e., regulatory, water management, scientific, etc.)?

Cooperator-1	Water Resources Department; water management, regulatory; Water Provider
Cooperator-2	Water Resources Department (WRD) & Department of Environmental Quality (DEQ); water management and water quality management, respectively
Cooperator-3	County Natural Resources Division; provides irrigation water; water planning at the county level; flood control and warning
Cooperator-4	Scientific; primarily geologic and mineral resource information agency in State government
Cooperator-5	Water supply and sewer utility with surface water reservoir.
Cooperator-6	Regulatory state water management agency.
Cooperator – 7	Water planning and management, small regulatory function with regard to county flood-hazard programs.
Cooperator – 8	Regulatory
Cooperator – 9	Regulatory and water management.
Cooperator – 10	Scientific/Geology
Cooperator – 11	Regulatory/Water Management (City/County)
Cooperator – 12	Regulatory
Cooperator – 13	Regulatory (State Agency)
Cooperator – 14	Water resource management and water quantity regulatory agency of state government.
Cooperator – 15	Regulatory.
Cooperator – 16	Planning, monitoring of water resource condition and evaluation.
Cooperator – 17	We have water treatment plants and distribute treated and raw water supplies for irrigation, municipal, and industrial water purposes.
Cooperator – 18	Department of Water Resources. Responsible for the administration of water management and planning activities.
Cooperator – 19	Established for flood control. Owns dams. Recently involved in ground water monitoring in accordance with a "regional plan". Entity established in 1915.
Cooperator – 20	State water resources management & water quality management.
Cooperator – 21	Agency for abatement of water pollution. Has regulatory, river management responsibility. Applied science is also part of activities.
Cooperator – 22	We are responsible for water management – particularly from the supply point of view.
Cooperator – 23	Water supplier
Cooperator – 24	Regulatory
Cooperator – 25	Water planning, water management and scientific (and interpretive studies)
Cooperator – 26	Regulatory
Cooperator – 27	The primary role is Scientific

Cooperator – 28	For the _____ River its regulatory and water management to the extent that reservoir levels are water management. They have one rather large reservoir that has had some scientific studies over the years, but they are few and far between, and they are done through either the State Health Department or the Department of Environmental Conservation. The involvement that the district has is largely in kind support.
Cooperator – 29	The Department of Environmental Protection is responsible for maintaining and delivering the drinking water supply for approximately ____ million people in _____ City and those upstate communities that tap into this system. We enforce regulations and perform scientific research in our watersheds that assist us in our water management decisions.
Cooperator – 30	Technical Assistance to landowners on natural resource concerns and conservation practices.
Cooperator – 31	Power production & reservoir operation
Cooperator – 32	Water Improvement District is a public water provider serving _____ customers in the metropolitan area and is concerned about meeting safe-yield goals through effective water management
Cooperator – 33	Municipal Water District was organized in 1954. The District includes an area of about 328 square miles. The District contracted with the State to annually supplemental water resources. The District is obligated under a stipulated judgment to maintain the safe yield of the area.
Cooperator – 34	My organization is engaged in water management.
Cooperator – 35	This office is responsible for regulating construction in the floodway, water allocation, statewide flood control planning, and other associated water resource issues .

2. **What is your position in the organization and how does it relate to the USGS Federal-State Cooperative Water Program (Coop Program)?**

Cooperator-1	4 interviewees: 1 hydrographer, 2 hydrogeologists (prepresenting 2 separate coop projects), 1 administrator (Field and Technical Services Div.)
Cooperator-2	Chief Tech. Svc's. Bur., Hydrogeologist, Hydrologist, Manager of GW Monitoring Section, NPS Monitoring Coordinator
Cooperator-3	Division Manager—Manages Coop agreements; Hydrologist—Assists Coop program with data collection
Cooperator-4	Director; AGC has 3 cooperative water programs with USGS
Cooperator - 5	Water Services Engineer; Assistant Director. Working level coordinator and agency-level cooperator with USGS.
Cooperator – 6	Chief of Surface Water Section; Branch, Office Chief (relationships to GS same as (1) above)
Cooperator – 7	Head of Division of Water Planning. I would be responsible for signing coop agreements.
Cooperator – 8	Head of the organization. I sign the cooperative agreements.
Cooperator – 9	Cabinet-level director. Supervisor of individuals who sign cooperative agreements, but I did, in the past, negotiate agreements with the USGS.
Cooperator – 10	As head of an organization that has cooperative agreements with the USGS, I negotiate the scope of work and sign the agreements.
Cooperator – 11	Branch Manager, Technical Services, Air and Water. Has been contact and project manager for COOP program for many years
Cooperator – 12	Middle Management; I have managed many coop contracts over the years.
Cooperator – 14	Director, Division of Water, Department of Natural Resources; Assistant Director, Division of Water, Department of Natural resources (Manages the Coop Program for the State Agency)

Cooperator – 15	Chief of Planning - Main Cooperator.
Cooperator – 16	Administrator of the Office's USGS stream gaging and research/data contracts. Use gaging information often and get priority water research and data studies State Water Plan funded.
Cooperator –17	Assistant Manager responsible for portions of the Project which have been constructed and are operational. Also have responsibilities for engineering (O&M and engineering support), finances and budget, and human resources.
Cooperator – 18	Administer contracts/coordinate with GS on cooperative program work
Cooperator – 19	General engineering program management; General engineering program management; Project execution; Ground water project execution.
Cooperator – 20	General program management; coop project management.
Cooperator – 21	Deputy Executive Director, general oversight of all Technical Programs including USGS cooperative projects; Water Quality Monitoring & Assessment Program Manager; Project Manager of Coop Projects. Also manages other technical initiatives that, in part, have included coop efforts.
Cooperator – 22	I am the Superintendent of Production and Pumping for the city. I am in charge of water supply and treatment for all the areas the city furnishes water to. We use USGS data to monitor water elevations both ground and surface. We also use USGS data for quality monitoring.
Cooperator – 23	Chief Operating Officer; Have responsibility for the contract
Cooperator – 24	Division Director, Water Utilities Division. Provides oversight and guidance on Joint Funding Agreement
Cooperator – 25	Deputy Executive Administrator
Cooperator – 26	Division Director, Water Utilities Division. Provides oversight and guidance on Joint Funding Agreement.
Cooperator – 27	Director
Cooperator – 28	The District's Chief Engineer sets the scope of work on an annual basis and the budget to be approved by an appointed board; the board oversees the District. At DEC, the manager of the USGS contract connects to the various divisions and other departments that are part of the agreement and has responsibility for administering that coordinated effort. A third person is primarily involved in water quality needs and is somewhat focused on groundwater.
Cooperator – 29	I am the Section Chief of Project Management and Budget for Drinking Water Quality. My Division of Drinking Water Quality has had several contracts with the USGS through the years, several of which are on going at this time, and involve cost sharing between our two agencies. I serve as Contract Administrator for these contracts.
Cooperator – 30	District Administrator responsible to coordinate with the USGS on a gage monitoring program.
Cooperator – 31	Power Manager-supervisor of all GS Coop activities, primarily FERC related and 100% cooperator funding.
Cooperator – 32	My position is District Hydrologist. I am the District's project manager for the Aquifer Storage Change Monitoring Project with the USGS. Also, the District's designated technical representative for other USGS Cooperative projects of interest within the Active Management Area.
Cooperator – 33	I am the Assistant General Manager and Assistant Chief Engineer for the District. I participate in implementation of the projects the Board of Directors advocates for the District.
Cooperator – 34	I am the Assistant General Manager in this organization. My primary responsibility is for water resources planning and management functions. I also manage the cooperative programs with USGS.

Cooperator – 35 My position is Division Manager of the Division of Planning. This Division administers the Federal-State Cooperative program for the Office of Water Resources.

Cooperator – 36 Watershed Monitoring Coordinator; Resource Protection Manager - Contract with USGS to do surface water quality study.

3. Has your organization participated in the Coop Program for more than 5-years?

Cooperator – 1 Yes

Cooperator – 2 Yes

Cooperator – 3 Yes

Cooperator – 4 Longest standing State agency with Coop Programs over 40 years

Cooperator – 5 Since 1990

Cooperator – 6 Since 1956+/-

Cooperator – 7 No, but we would like to do so, and we do use USGS data collected through the Coop Program but funded by others.

Cooperator – 8 Yes, since about 1905.

Cooperator – 9 Yes

Cooperator – 10 Yes, for decades.

Cooperator – 11 Yes (More than 24 years and probably from at least 1966.

Cooperator – 12 Yes

Cooperator – 13 Yes

Cooperator – 14 Yes, we have participated for approximately 50 years.

Cooperator – 15 Yes

Cooperator – 16 Yes. We have been a cooperator since 1895.

Cooperator – 17 We have been an active participant for a long-time; much longer than 5 years.

Cooperator – 18 Our Department has been involved with the Coop Program for about 34 years.

Cooperator – 19 Yes. Have participated beginning in 1931.

Cooperator – 20 Yes (many years of coop program participation)

Cooperator – 22 We have participated in some form of cooperator program with the USGS since 1940. I, personally, have been involved with the USGS cooperator program since 1990.

Cooperator – 23 8 years

Cooperator – 24 No. (Entered into on March 5, 1998)

Cooperator – 25 For at least 50 years.

Cooperator – 27 Maryland has been with the Coop Program since 1945Cooperator – 26 No. (Entered into on March 5, 1998.

Cooperator – 28 The District has a long history of involvement dating to their formation in 1919, and there was probably some association of the same interested parties before. The District is unique in the State, as the downstream beneficiaries of their activities pay heir cost for operations. There is no state or federal money involved. Another part of the organization is pretty sure that they have been involved for seventy years or more.

Cooperator – 29 Yes

Cooperator – 30 No - 3 or 4 years.

Cooperator – 31 Yes 25+

Cooperator – 32 The District has only participated in the USGS Cooperative Program, since the project began in September 1995. The District became a public water provider in October 1992 and became active in long-term water resources management in November 1993.

Cooperator – 33 The District first contracted with the USGS in the cooperative program some time in the late 1960's or early 1970's. The District has contracted in the

cooperative program every year since then for numerous surface water and groundwater data collection programs as well as numerous special studies.

Cooperator – 34 Yes

Cooperator – 35 Yes, the Office of Water Resources has maintained a strong cooperative gaging and studies program with the USGS for several decade

Cooperator –36 Yes

4. What is your organizations current level of financial participation? How has it changed over time?

Cooperator – 1 $400,000; $367,000 matched, balance unmatched.
Increased significantly beginning approx. 10 years ago.

Cooperator – 2 WRD: $697,000; State $100,000

Cooperator – 3 $90,000. Program is steady with time, often not keeping up with inflation.

Cooperator – 4 Stream gaging $38,300; Water Quality $31,855; Ground Water $54,456; Decreasing over time

Cooperator – 5 $200,000 Stable at present.

Cooperator – 6 $487,730. Has increased but now stable

Cooperator – 7 Zero, but we hope to get $8,000 for fiscal year 2000.

Cooperator – 8 A total of about $316,000 per year, of which about half is passed through from other organizations, including the mining industry, local governments, tribes, and the Federal Water Master). The total amount fluctuates.

Cooperator – 9 Roughly $500,000 to $1,000,000 per year, but variable.

Cooperator – 10 $5,000 per year, and steady for several years, but down from prior to 1988.

Cooperator – 11 Currently $97,154; Amount has been fairly steady, increasing slowly due to inflation, with occasional spikes when special projects were done

Cooperator – 12 It ranges between $200,000 and $300,000 annually. It has remained steady over time.

Cooperator – 13 About $245,000 split between two departments. Amount has occasionally increased substantially to accommodate special studies

Cooperator – 14 $900,000 currently. In 1991, it was $680,000. In 2001, it is anticipated to rise to $950,000. In 1991, only $80,000 was unmatched. $283,000 is currently unmatched.

Cooperator – 15 $175,000. Diminished over time.

Cooperator – 16 Total $500,000. Has generally declined over time.

Cooperator – 17 Approximately $40-45,000. We also have a portion that goes unmatched, but I am not real sure what that level is. Our level of participation has remained steady for several years now. We sometimes have the GS install gauges for us during the year as an expense to us. But before the new year begins, we discuss our upcoming year's needs with GS under the COOP Program and include those gauges installed during the mid-year as part of the upcoming cost share program. So over time, I guess, there is a gradual increase in our program participation.

Cooperator – 18 Our level of participation in the Coop Program has been $600 - $800K for last few years and in the same types services. The amount/quantity of work has been decreasing, however because of inflation.

Cooperator – 19 Current program cash match approximately $50k. Has not changed dramatically. Program is continuous in nature, but has eroded due to increased program costs without commensurate additional USGS match funds.

Cooperator – 20 Current fiscal year: $170k cash match plus $69k in-kind.
Changes have been plus & minus, driven by availability of state funding.

Cooperator – 21 Current level $80k. Changed our time – last year (calendar year 98) $35k. Recent previous project ± $30k.

Cooperator – 22 The City participates at a level of around $500,000.00 annually. That includes a demonstration project and another project in a Reservoir Watershed. The USGS participates with us at about a 50% partnership.

Cooperator – 23 $85,000 Steady last 3 years

Cooperator – 24 The Water Utilities Division joint funding agreement with the USGS is 2.25 million with a match by USGS of $250,000.

Cooperator – 25 We are participating on the Data side only now. The level of participation is $500K from the Coop Program and $800K from the state. The state found that interpretive studies could be more efficiently and more cheaply contracted out to the private sector and no longer looks to the Survey for participation in this area.

Cooperator – 26 The Water Utilities Division joint funding agreement with the USGS is $2.25 million with a match by USGS of $250.000.

Cooperator – 27 FY 98 $597,000, FY 99 $441,000. The level changes year to year, with the big change 3 to 4 years ago.

Cooperator – 28 When state made gage reductions, the district did pick-up some of the critical stations in their area of interest in the watershed area. They currently have a total project value of $120,000 which they pay $64,000 in cash and evaluated services.

Cooperator – 29 The following contracts are ongoing:
Project 1: State cost: $3,806,127; USGS cost: $1,703,514;
Contract Term: July 1, 1995-June 30, 2001

Project 2
State cost: $2,779,1132; USGS cost: $186,404;
Contract Term: July 1, 1994-June 30, 2000

Operation and Maintenance of Hydrologic Gages
State cost: $735,812; USGS Cost: 0
Contract Term: September 3, 1998-September 2, 1999
Since 1992 the another Division has had larger contracts with USGS than before that time.

Cooperator – 30 Approximately $2500/year----no change

Cooperator – 31 18,990 in Coop Program, $60K total----very steady

Cooperator – 32 Year 1 50% USGS-$53,500, 50% State Grant (DWR) - $53,500
Year 2 25% USGS-$15,000, 50% District - $30,000, 25% Municipal - $15,000
Year 3 33% USGS - $15,000, 33% District - $15,000, 33% Municipal- $15,000

Cooperator – 33 The District's financial participation for recent years is tabulated below. Generally, the District's contribution to the cooperative program has increased over time.

Fiscal Year	Total Cost	USGS Funds	State Funds
1998-1999	$1,087,450	$351,400	$736,050
1997-1998	$1,066,915	$344,225	$722,690
1996-1997	$1,289,950	$399,610	$890,340
1995-1996	$ 669,815	$270,225	$399,590
1994-1995	$ 593,850	$283,825	$310,025
1993-1994	$ 683,300	$249,250	$434.050

Cooperator – 34	Current level of financial participation is $600,000 + per year. It has increased from roughly $50,000 to this level since 1990
Cooperator – 35	The state presently funds $285,000 toward stream gaging in the state. Additional funds are provided for studies, currently approximately $65,000. Funding for the Cooperative Program has remained the same for the past several years with no growth.
Cooperator – 36	$85,000 (cooperator share), steady

5. What types of programs/projects are you involved in with the USGS under the Coop Program?

Cooperator – 1	Surface water gaging; ground water interpretive studies
Cooperator – 2	WRD: $215,000—GW Quality Mostly basic data collection, WRD has coop'ed in $482,000—GW Supplies interpretive studies in the past. DEQ: SW Quality; principally data collection program.
Cooperator – 3	Mostly stream gaging and 2 or 3 water quality monitoring stations. SW quality study with GS & BLM
Cooperator – 4	See #4
Cooperator – 5	Primarily surface water data (quantity and quality) collection.
Cooperator – 6	Mostly surface water stream gages. 25% interpretive studies
Cooperator – 7	We particularly need the data from the annual and five-year water-use surveys.
Cooperator – 8	Stream gages, ground-water level measurements, and interpretive studies.
Cooperator – 9	Stream gages, ground-water level measurements, and interpretive studies
Cooperator – 10	Mostly collecting data, particularly chemical compositions of ground waters. We have focused on what appear to be emerging issues rather than routine analyses.
Cooperator – 11	Data collection, reports and technical services and isotope modeling. Salt water Intrusion monitoring is done about every 5 years. Next year, an Aquifer Storage and Recovery (ASR) feasibility project is contemplated. In the past we also obtained a data report which has been discontinued but which we are now reinstating.
Cooperator – 12	Data collection and investigative reports
Cooperator – 13	Salt water intrusion monitoring, ground water level monitoring. Streamflow measurements with Acoustic Velocity Meters in two canals. At present there are no interpretive studies
Cooperator – 14	Stream gage network (01), Ground water network (02); Previously had large interpretive studies funding, but no interpretive studies are being funded now.
Cooperator – 15	Hydrologic support of water quality studies.
Cooperator – 16	Gages, partial gages, channel migration, sediment studies. Data collection and specialized research studies.
Cooperator – 17	All streamgaging. We had the GS complete a sediment transport study for us a few years ago, but I don't know if we had that completed through the COOP Program.
Cooperator – 18	Our Department's primary interest is in surface and ground water monitoring and ground water quality data collection. We do very little Coop work related to interpretive studies.
Cooperator – 19	Continuous program is stream gauges. In this case, we maintains gauges ourselves with data sent to GS. QA/QC is to GS standards. GS visits/audits. Twenty-two gauges are maintained with coop funds. Total of 46 gauges in overall system. Also has ground water wells. GS does sampling and lab analysis. Recently completed multi-year study to characterize ground water

near in a region as well as understand ground water budget and uses. MODFLOW was used.

Cooperator – 20 Stream gauging; match funding of a basin coordinator (USGS staff) for states' watershed management approach (TMDL's is important component).

Cooperator – 21 Currently doing monitoring (high volume Dioxin sampling) and river flow management (acoustic Doppler). Historically projects involved cross-section river water quality sampling (for QC/QA) routine nutrient sampling and laboratory services.

Cooperator – 22 See above response.

Cooperator – 23 Water quality monitoring, special project of water quality modeling and sedimentation measurements in water supply lake

Cooperator –24 Source Water Assessment and Protection Program development consisting of several tasks: Development of computer software which will be used by our staff to perform source water assessments for all public surface-and ground-water supplies in the state; conduct surface water susceptibility assessments according to general project workplan; conduct surface water runoff determinations according to general project workplan. These determinations will complement the approach for assessing the degree of susceptibility of public surface-water supplies to contamination; and, conduct groundwater susceptibility assessments according to general project workplan.

Cooperator – 25 Long-term data collection from stream-, lake- and well gages.

Cooperator – 26 Source Water Assessment and Protection Program development consisting of several tasks: Development of computer software which will be used by our staff to perform source water assessments for all public surface-and ground-water supplies in the state; conduct surface water susceptibility assessments according to general project workplan; conduct surface water runoff determinations according to general project workplan. These determinations will complement the approach for assessing the degree of susceptibility of public surface-water supplies to contamination; and, conduct groundwater susceptibility assessments according to general project workplan.

Cooperator – 27 Ground water assessment, basic data collection, stream gage networks, water quality studies and well water levels. The state and USGS are cooperating in the same project with good cooperation with each staff. In some cases the state has the lead and in other cases the USGS has the lead. The state has developed their own geology staff, because of the transfer policy of USGS. The state wants long term experience with in the geology projects in the state.

Cooperator – 28 The District has stage/discharge sites for a number of stream locations and make daily decisions on how to manage the reservoir system with that data.

Cooperator – 29 Under our two current cooperative contracts, work is on-going in the following areas: The contract covers the following:

- Nitrogen Movement in Soils Project (Nitrogen Enhancement)--This work is an enhancement of an existing effort in which temporal data is being assessed for the effects of logging on nutrient flux in the mountains and will provide additional scope of sampling and monitoring information that will lead to better understanding of hydrologically sensitive areas.

- Extension of the _____ Watershed Study--USGS will continue stream flow gaging at one location and discharge related sampling for chemical analysis at selected locations upstream of the stream flow gaging site. The project will be directly linked with an atmospheric deposition study in a sub-basin within the watershed.

- The hydrological monitoring contract covers the following:

a) Ground Water Monitoring Network--The USGS collected water quality samples at 5 randomly distributed wells within each of the 16 designated groundwater areas throughout the Watershed. Based on the results of the water quality analyses, one of the five wells in each area was chosen as an index site and water level instrumentation was installed at that site. The USGS is continuing to collect water quality data at the index sites.

b) Headwater Gage Construction--Headwater streamflow gages were constructed at 44 sites at a rate of approximately 9 sites per year for fiscal years 1996-2000. Eight of the gages are located in the headwaters of the watershed as had been determined by a previously completed USGS GIS analysis. The remaining 36 gages will be located at headwater sites within another watersheds as proposed by the city.

c) The following types of data will be collected:

1. 51 stream flow sites
   i. 7 reservoir outflow sites
   ii. 8 headwater gages
   iii. 36 headwater gages
2. 15 goundwater observation wells
3. 30 water quality sites
   i. 7 reservoir outflow sites
   ii. 8 headwater sites
   iii. 15 groundwater sites

In the third on-going contract, Operation and Maintenance of Gages, a match from USGS is not part of this contract, although we believe it should be. This contract required USGS to operate and maintain a network of 51 streamflow gages that they installed under contract with the city. The gages measure streamflow at sites in the watershed, both East and West of the main river. The operation and Maintenance of the gages involves retrieving the data, insuring the integrity of the data, preparing the data for use, and preparing data reports.

Cooperator – 30 Operation and Maintenance of a river gage

Cooperator – 31 All gaging operations

Cooperator – 32 Natural recharge investigation of the basin. Long-term monitoring of aquifer storage changes using gravity methods at stations along and across the Wash and basin periphery. Information will be used to access contribution of natural recharge on water budget, impacts from groundwater withdrawals and identify favorable and non-favorable areas of stream recharge. This cooperative project has been a joint effort with the USGS and the two water providers in the lower basin.

Cooperator – 33 The District is involved in Surface Water data collection programs including flow and quality, ground water level monitoring programs, groundwater water quality monitoring programs and various special studies. The special studies have included mapping, subsidence, ground water quality studies, ground water basin modeling.

Cooperator – 34 Basic data program (Stream gaging, ground water level and quality monitoring), groundwater basin modeling, water quality and age-dating to determine source and movement, water quality problem assessment (nitrate source and movement modeling), subsidence quantification and monitoring, mapping of surface geology, assessment, mapping and monitoring of riparian habitation extent, viability and sources of water supply, development of

ground water monitoring systems (nested wells), ground water contour mapping, ground water quality mapping.

Cooperator – 35 Stream gaging, regional regression equations, runoff parameters, n-values, trends, etc.

Cooperator – 36 Water quality study in the _____Watershed, principally data collection

6. Does your organization foresee a change in the programs/projects it requests of the Coop Program in the future? Do you see the need increasing or decreasing?

Cooperator – 1 Would like to see increases in Surface Gaging. Would like to see increased effort in ground water interpretive studies—currently not keeping up with emerging issues, esp. gw/sw interrelationships Would like to see increased water chemistry emphasis
HOWEVER, cannot see necessary increases in budget to fund same.

Cooperator – 2 Maintenance

Cooperator – 3 May have to reduce the number of SW gaging stations due to funding cuts.

Cooperator – 4

Cooperator – 5 Policy changes within the USGS will cause a decrease in data collected
Expect to do background WQ characterization in areas of sewer overflows/ water quality modeling in future.

Cooperator – 6 Stable at present. Don't foresee change up or down

Cooperator – 7 We see the need increasing, because there is more demand for better water-use data.

Cooperator – 8 We see the need for more studies increasing, particularly with regard to the impact of mining a major river. State funding is likely to be about the same.

Cooperator – 9 We see an increasing need.

Cooperator – 10 We do not anticipate major changes. Needs are increasing, but funding is level. We are losing ground with inflation.

Cooperator – 11 Expect a general gradual increase. However several new initiatives are contemplated by City Government which could benefit from COOP program. These include: Water supply investigations based on Water Management District declaration of area as a Critical Water Supply Area; Aquifer storage; City is currently seeking $60,000 in funds to match available COOP funds for this project.

Cooperator – 12 No, I don't see many changes in the future. However, the need may increase.

Cooperator – 13 Yes. I foresee increases in surface water monitoring.

Cooperator – 14 May need to discontinue more gages to have enough money to keep network funded. The increasing cost of program has caused this agency of state government to cut its own travel budgets and related activities to fund the gaging network. Decreasing.

Cooperator – 15 Maybe slight increase.

Cooperator – 16 I think we need more gages. Also more flood forecasting. We will move somewhat in the direction of data collection for evaluation and monitoring purposes and similarly with special studies.

Cooperator – 17 I don't foresee any significant changes in the future. As I said earlier, our level of participation has seen a gradual increase in our need for more streamgaging services. I do believe that trend will continue. From time to time we have GS install and monitor short-term stations (3-5 years) for us so that we can do some correlation studies, and that increases the need for GS services for a short period.

Cooperator – 18 We see a greater need for data collection, especially in ground water monitoring and water quality to assist us in providing definitive answers to surface water, ground water, and water quality interactions. We have about

	$100K in the program that goes unmatched, however state funding is decreasing and our requirements for more data are increasing.
Cooperator – 19	Recently received a USEPA grant to develop river index, GS being used as a consultant to the project. As this is specific project, does not represent a program shift. Regarding needs increasing/decreasing; Needs roughly constant. Problem is erosion of program due to inflation against constant levels of funding.
Cooperator – 20	Want to investigate low flows in streams (via spot measurements) to gain better database & understanding) Need is unmet (paucity of current data) due to lack of state funding plus other agency cutbacks (eg. Corps of Engineers)
Cooperator – 21	Currently requests are project specific & thus difficult to predict; particularly interested in flow measurement.
Cooperator – 22	After the demonstration project in the ____ Beds is complete, we will move into the regular phase of the project. During that time, I think our need for USGS Coop Program partnership will increase.
Cooperator – 23	Yes, will study the results of studies and make adjustment (may include organics). Possibly decrease or change studies.
Cooperator – 24	Possible expansion of project and funding to include sampling, data gathering, etc. We foresee an increasing need for such coop programs.
Cooperator – 25	We see the level of participation remaining about the same, and if anything, the Coop participation decreasing with time as more gaging stations are taken out of the program. The Texas legislature has approved a large budget increase for the our agency to fund these types of water projects.
Cooperator – 26	Possible expansion of project and funding to include sampling, data gathering, etc. We foresee an increasing need for such coop programs.
Cooperator – 27	The State foresees a problem in the future when in some cases there may be a conflict between state and nation objects. There should be more effort to provide matching money. USGS is subject to specific objectives of the Coop Program and may not be able to match the state needs. There must be a match between science and data collection needs. In our state, the state staff may do more of the work and the water quality lab do more of the water quality analysis. There is no need to move toward small specific project; the need is for area wide efforts. The state would like to see more integrated projects, with a combination of staffs doing the work.
Cooperator – 28	The state agency is trying to infuse a little more money into the USGS agreement for necessary program improvements. Their first priority would be to add some critical groundwater monitoring wells. After that they would upgrade their surface water network, that has many stations that are fairly old and not very modern. They also are in the process of developing a program that they expect to cost about $300,000 to do primary aquifer mapping. They also indicated that there were some changes occurring with other cooperators in the State, and mentioned one County as one that is experiencing change.
Cooperator – 29	We see a need to maintain our current programs. Research projects may decrease in the future.
Cooperator – 31	Possibility of increased gaging if funds are available.
Cooperator – 31	No
Cooperator – 32	The District would like to see a change in the local development of other Cooperative projects that have regional benefit to all water users. For example, the Subsidence Study focused on the needs of one large water provider, yet geographically encompassed many other smaller water providers, however; those water providers were not involved in the development or financing of the project. These water providers are projected to experience future water level declines and possible subsidence.

Technically, the project benefits the water provider with the largest water supply problems, but from a regional water management perspective ignores the needs of the other water providers.

Cooperator – 33 The district is interested in continued and increasing participation with the USGS. Reactivation of abandoned surface water stations and additional surface water monitoring stations would be helpful to the District for water resource management. The District also has need for additional groundwater management investigations. Further, the USGS should expand its programs to include climatologic data accumulation.

Cooperator – 35 The Office of Water Resources is only one agency under the State Department of Natural Resources. The DNR has needs for greatly expanded data collection efforts, but remains unfunded to obtain the data. Current budget levels are likely to continue for a number of years, keeping our requests similar to past requests, even though a greater need exists.

Cooperator - 36 Some increase. Would like to explore whether down cutting and surface erosion are factors in water quality.

B. Mission - Historically, the Coop Program has been designed to develop hydrologic data and technical analysis needed to assist in meeting the USGS mission of continuously assessing the Nation's water resources, and to provide technical assistance to state, tribal, and local water management agencies in seeking solutions to water-resource issues of national concern through a matched funding arrangement.

7. Explain how the Coop Program assists your organization in accomplishing its activities, goals, and responsibilities?

Cooperator – 1 Surface Water: Data collection; 1. All data are made available regardless of funding source or state of origin. GS is very cooperative in disseminating data. 2. Data used in water availability analyses, in water management, in water allocation. Ground Water: Data interpretation; 1. Expands agency expertise in evaluating ground water resources. 2. Provides improved understanding of resource enabling better management, allocation and development decisions. 3. Provides basis for improved protection for senior water rights. Training: Access to national training facility and other USGS programs enhances agency staff competence. Credibility: Independence of GS interpretive studies provides credible support for agency management decisions.

Cooperator – 2 DEQ: Surface water gaging and water quality data collection WRD: Provides long term data for interpretive studies and for water management. Characterizes statewide GW quality and quality trends—worked well because GS has lab and trained staff and could help develop QA/QC procedures. Through time participation in coop program has been cyclical: As GS is more interested in data collection, participation grows; as GS is more interested in interpretive studies, participation wanes. GS provide defensibility, warranty, continuity.

Cooperator – 3 Provides raw data for: flood warning, Fulfillment of permit and license conditions water distribution, site investigations.

Cooperator – 4 Provides baseline data of the water resources of the state that aids in research projects, environmental issues, et

Cooperator – 5 USGS provides data to enable watershed management.

Cooperator – 6 Real time data for managing water withdrawals under state law.

Cooperator – 7 NOT APPLICABLE.

Cooperator – 8	USGS studies provide us with credible estimates of perennial yield from ground-water basins. These estimates hold up well in court.
Cooperator – 9	The scientific analysis of perennial yields from ground-water basins is particularly useful. The USGS studies have high credibility in court.
Cooperator – 10	The USGS has provided useful ground-water quality data and ground-water level data. We have two prime examples of these data aiding major efforts by us, in studying radon hazards and land subsidence due to ground-water withdrawal.
Cooperator – 11	Allows us to obtain necessary data without adding staff (the City is under pressure to reduce staff). Provides us with added technical expertise, which the City does not have. The COOP program adds credibility. It improves our professional capability through association, networking and synergism. Opportunity for on the job and formal training
Cooperator – 12	The coop program collects essential data and conducts important, water related interpretative studies for the Department.
Cooperator – 13	The COOP assists us in data collection, database management, in making data available to the public, providing technical expertise, including serving on committees, giving technical support as well as hydrologic interpretations and technical data and opinions.
Cooperator – 14	Baseline data collection and verification. The program provides valuable date used for water planning and flood hydraulics studies.
Cooperator – 15	Provides flow data to supplement water quality analysis for TMDL development.
Cooperator – 16	Keep track of the state water quantity planning in areas where quantity and quality problems arise.
Cooperator – 17	From an independent standpoint, the COOP Program provides us with streamflow information so that we can get the right flows, to right place, at the right time. With water administrative responsibilities that the District has in cooperation with the State Engineer's Office, this is vital information we use every day.
Cooperator – 18	Our Department relies on GS for data collection. GS also participates on Techincal Advisory Committees led by our Department. They offer to us advice and guidance on our special studies.
Cooperator – 19	Data from gauges used to maintain rating curves; thus flood forecasting. Stage forecasting important to decisions by sewer collection system managers to shut off overflow points to keep river from surcharging (by-passing raw sewage). Ground water data gives long term trends. Information from coop program essential to our mission.
Cooperator – 20	Program is crucial to ability of agency to carry out responsibilities. Data establishes 7Q10 flow, calculates return frequency for floods & droughts. These and other uses of data are core to the agency's mission.
Cooperator – 21	Provide field monitoring resources (people & technologies) not available otherwise
Cooperator – 22	The main thing the USGS provides for us is impartial science. I can't stress that enough.
Cooperator – 23	Develop baseline water quality data for trend analysis, special programs, etc.
Cooperator – 24	Working with the USGS has provided our program with both the technical expertise and solid science needed to develop technically defensible assessments of all public water supplies in the state. We have been given the opportunity to evaluate all possible technical approaches for assessing susceptibility and to recommend technically defensible alternatives that could be accomplished statewide with the best available data within the time frame outlined in the plan.

Cooperator – 25	Long term surface water and aquifer gaging is extremely important in assessing the water resources of the State and potential interbasin transfers that may be required in the future. Interpretive studies will be bid out to the Survey as well as the private sector.
Cooperator – 26	Working with the USGS has provided our program with both the technical expertise and solid science needed to develop technically defensible assessments of all public water supplies in the State. We have been given the opportunity to evaluate all possible technical approaches for assessing susceptibility and to recommend technically defensible alternatives that could be accomplished statewide with the best available data within the timeframe outlines in the plan.
Cooperator - 27	The USGS provide expertise in modeling and model development a specific model. They also provide expertise in the analysis of the data collected and water quality problems.
Cooperator – 28	The District finds the cooperative program to be essential to their daily operation. It provides Critical information that they use to make day to day decisions.
Cooperator – 29	The enhancement of the USGS gage network has provided critical data for use in water quality models (a Filtration Avoidance Deliverable) and provided information to assist in the interpretation of water quality data collected by the department. Other Coop interpretive projects have provided information for the department to better evaluate proposed projects in these areas.
Cooperator –30	Provides vital river flow data used in planning and managing water conservation programs.
Cooperator – 31	Meeting FERC requirements and to collect additional water resources data
Cooperator – 32	Personally, I do not believe the Coop Program is not as locally effective as it should be in accomplishing its mission. Water management and institutions in the area have drastically changed in the last 5 years. Three new public water providers have emerged in response to interest for public management of water supplies in growing urban areas. Additionally, private water providers in the area just south of here have organized together to assess water management options. The majority of Cooperative projects started more than five years ago were solely for one public water. Future cooperative projects that have regional goals need to be inclusive and discussed in an open process for all beneficiaries.
Cooperator – 33	Data accumulated and studies performed by USGS are used by the District to insure compliance with various judgments and insure adequate long term water supplies to the residents within the District. The groundwater models presently under study through the cooperative program should assist the District in managing water supplies to prevent hazardous conditions of liquefaction.
Cooperator – 34	Basic data (stream gage information, well levels and water quality) are fundamental to management of ground and surface water resources. This data is routinely used to monitor overdraft conditions and perform basic hydrologic inventory. USGS stream gage data in particular is essential to implementing specific features of a court judgment affecting basin management. The special studies underway or completed are needed to clarify the manner in which the ground and surface water system interrelate and to characterize the ground water basins in general. The basins are complex and much remains to be determined. This was acknowledged by the referenced court judgment. Therefore, data developed by the USGS could be fundamental to future modification and implementation of the court judgment physical solution and resolution of several controversial issues.

Cooperator – 35 We rely upon collected data, historical and real-time, to manage the water resources of the state. Long term record is needed to determine accurate estimates of flow and frequency, trends, and regional changes. Real-time data is needed to assess high and low flow problems, recreational needs, and to help quantify water quality issues.

Cooperator – 36 Identification and management of contaminant sources.

8. Is cost sharing a necessary element in your organization's participation in a cooperative agreement with the USGS? Please explain.

Cooperator - 1 Absolutely; couldn't afford studies w/o GS cost participation

Cooperator - 3 Partly: necessary in investigations. However, permit driven work must be done whether there is a cost share or not. GS adds integrity and credibility the county might not have.

Cooperator - 4 Cost sharing is very important. In-kind service on projects is also important, but USGS-WRD doesn't recognize it in the Cooperative program.

Cooperator – 5 Would prefer to work with USGS in spite of any cost share reduction but might have to consider cuts in work done.

Cooperator – 6 Yes, it will be.

Cooperator – 8 Yes, but only for some studies.

Cooperator – 9 No

Cooperator – 10 Yes

Cooperator – 11 Total absence of cost share would probably result in a serious reconsideration of the program, including possible reduction or elimination. Some reduction in cost share could probably be acceptable. At present there is some unmatched portion of the program and this has not caused any flack. Cooperator – 12It is not always necessary. However, the fact that the federal government shares the cost is very important in the final decision as to whether the projects are funded.

Cooperator – 13 Yes. If we had to pay the full cost for the program we would seriously consider doing it ourselves.

Cooperator – 14 Yes, it is typically very important. If the agency had funds available, they might be willing to pay full cost – if USGS would do the study the way the state wanted it done.

Cooperator – 15 Absolutely. It provides enhanced direction in ongoing studies.

Cooperator – 16 Yes. Our level of participation with USGS in cooperative agreements would likely decrease significantly if USGS didn't cost share.

Cooperator – 17 Cost sharing is a necessary in order for us to get the coverage we need to monitor and administer water. Without the Program we would have to drop some stations and without that data, we would be inviting more argument/uncertainty and would be hampering our ability to operate the project effectively.

Cooperator – 18 Yes. Without cost-sharing our data collection needs would be too expensive for us to go it alone.

Cooperator – 19 Yes. Couldn't afford otherwise. Without cost sharing, would not have benefit of GS expertise and cooperative problem solving.

Cooperator – 20 Program is crucial to ability of agency to carry out responsibilities. Data establishes 7Q10 flow, calculates return frequency for floods & droughts. These and other uses of data are core to the agency's mission.

Cooperator – 21 On the basis of 50/50 answer is yes. Without such cost share ratio, more cost effective for us to go elsewhere or do in-house.

Cooperator – 22 The cost share is necessary. If we had to supply the entire financial backing for the project, the City wouldn't look at doing it. For example, the _____ project would be greatly scaled down. We wouldn't be looking at the pure science end of the project so much as the bare minimum necessary to meet our political needs.

Cooperator – 23 Yes, USGS cost would have to compete with others. Would requests proposals on projects.

Cooperator – 24 Yes, cost sharing provides us with the opportunity to do more for less money. This provides a "win-win" situation for both parties.

Cooperator – 25 Cost sharing is an important element of participation, but the quality of service provided by the Survey is equally important.

Cooperator – 26 Yes, cost sharing provides us with the opportunity to do more for less money. This provides a "win-win" situation for both parties.

Cooperator – 27 YES, in MD it is hard to obtain all the funds needed to do the entire job. Matching funds allow the state money to go farther.

Cooperator – 28 The District feels that the answer is yes and no. It is critical data, and if the USGS Coop Program stopped or reduced its effort the district would have to figure out how to continue the work. They see a lot of negatives. The cost would be a small problem compared to the credibility issues that they would face if they were the sole provider of information

D.E.C says that it is essential that coop support stay at 50/50. If they had a reduction, they would probably have to reduce expectations for groundwater mapping and other activities that are currently planned and considered to be very important. There is no interest in State government in substituting a State program for the current cooperative program.

Cooperator – 29 Yes, cost sharing is important to our agency. It keeps the cost of the overall project down and allows us to do more of the research that is helpful in understanding our watershed systems, which assists us in making water management decisions.

Cooperator – 30 Yes - district is currently putting 10% of its budget (operating) into this gage.

Cooperator – 31 Not if the data is necessary

Cooperator – 32 Cost sharing is the standard for which the District uses for any regional investigation that benefits multiple entities. The district believes the federal and State government have a duty and societal role in financially contributing to the better scientific understanding of regional water resource issues.

Cooperator – 33 The District would be delighted if the USGS would "match funds" on all the programs the District desires to cooperate with the USGS.

Cooperator – 34 Cost sharing is fundamental. The USGS programs are a significant budget line item each year. The cost sharing component allows managers to demonstrate significant value from the dollars that are allocated to the programs.

Cooperator – 35 Yes, to continue funding the USGS for stream gaging and water resource studies, a cost sharing arrangement is necessary with the USGS to make it financially beneficial. Only if the USGS were willing to fund a study or gage by themselves would cost sharing not be required. The administrative costs of the USGS make it necessary for them to pay these costs and a portion of the program cost to make it worthwhile for us to participate.

Cooperator – 36 No. Need and want access to expertise.

9. What is the minimum USGS cost share acceptable to your organization?

Cooperator – 1 50/50. Arguments against greater cooperator share:

	-becomes less of a truly cooperative effort -becomes more attractive to do in-house -already go beyond 50/50 by supplying direct effort -Requiring greater than 50% from cooperator would cause cooperator to explore cost use of consultants. Cost share should go the other way—federal share should increase to reflect extent to which federal government controls the watersheds.
Cooperator – 2	50:50 because of flat budgets, and because assessments against coop dollars are used to fund activities/programs not of interest to the cooperators.
Cooperator – 3	50:50, A greater share of the total costs would result in county backing out of some or all of the work because of flat funding at the county level.
Cooperator – 4	50-50
Cooperator – 5	Would not like to see 50-50 reduced but would probably use USGS if it were zero federal share.
Cooperator – 6	Would have to cut somewhere if GS funding reduced.
Cooperator – 7	50%
Cooperator – 8	0% when funds are passed through from other organizations.
Cooperator – 9	We prefer 50:50, but we can go with less, as low as 0%.
Cooperator – 10	50%. We are required by State Law to not put more than 50% of the money we have in one category into cooperative agreements with the USGS. Somewhat in jest, because most of the land in the state is managed by the federal government, and because the Coop Program matches on a 50:50 basis on projects on non-federal land in many other states, we feel that a good match for us should be 93.5:6.5, wherein the state is matching 50:50 on the non-federal portion, and the federal government (USGS plus other agencies) is covering 93.5% of the total cost.
Cooperator – 11	I would estimate about 30% COOP match to be the minimum, but the size of the program would depend on the amount of cost share. Reduction in USGS cost share would most likely result in reduction in the program.
Cooperator – 12	I am not sure.
Cooperator – 13	At present the ratio COOP/Agency is about 40/60 and this is acceptable but beginning to be too costly. The ratio has gradually changed from 50/50 due to the fact that the COOP costs have increased while COOP dollars have remained the same.
Cooperator – 14	50/50 is appropriate, but could accept 60/40 if given more control on end results.
Cooperator – 15	50%
Cooperator – 16	Unknown. It would depend upon the specific data collection program and research study.
Cooperator – 17	50/50 cost share works good for us. Any more participation by a cooperator would seem to create a perception that the information may be biased toward those cooperators that contribute more. The GS to us offers an independent and unbiased source of data that other groups, particularly outsiders looking in, accept and acknowledge as good information.
Cooperator – 18	We are at a 50-50 cost share right now for the most part. We do have a portion that goes unmatched as stated above. It is difficult for me to say what is the minimum USGS share we could go because there is the issue of how competent/competitive we could be to GS.
Cooperator – 19	If much lower than 50/50 would question benefit. This is an economic issue.
Cooperator – 20	50/50 is minimum.
Cooperator – 21	60/40 split would be borderline at best.
Cooperator – 22	Below a 60/40 share, we would have to greatly re-think whether it would be a cooperator on projects or not.

Cooperator – 23 50-50

Cooperator – 24 There is no minimum cost share. However, the larger the match or share, the greater and more encompassing the project can be for both agencies.

Cooperator – 25 No funding at all would be acceptable to the board as more money is made available by the state legislature.

Cooperator – 26 There is no minimum cost share. However, the larger the match or share, the greater and more encompassing the project can be for both agencies.

Cooperator – 27 50%

Cooperator – 28 Covered in #8.

Cooperator – 29 This is flexible, depending upon the project. If a project has great national interest, we would expect to have a significant part of this project paid for by the Federal government. Generally, we believe the cost share should be 50/50.

Cooperator – 30 50%

Cooperator – 31 Doubt they would drop the gages even in 0%

Cooperator – 32 The District has had limited experience with the USGS Cooperative program, but we believe the maximum Federal contribution should be 75% and the minimum contribution should be 25%

Cooperator – 33 The District prefers the 50% cost share, "matched funds arrangement" that prevailed in past years. The District has agreed to different cost sharing agreements when the data or study is of vital interest to the District. The District has also purchased and supplied instrumentation equipment for installation in USGS facilities.

Cooperator – 34 50/50 is preferred, 60/40 (agency/USGS) is acceptable for the final mix within a cooperative program containing several components.

Cooperator – 35 The USGS should continue to fund a minimum of 50% of the total program cost.

Cooperator – 36 Could bear 100% of cost

10. Explain whether your coop program is meeting your needs in the areas of groundwater and surface-water quality, quantity, and use data, and analytical tools, etc.?

Cooperator – 1 Water Surface Water: Good Stuff: Meeting needs adequately, timely.
Improvements needed: Want funding maintained for gaging—esp. for long term index stations
Value of data is reduced as time goes on because calibrations are stretched out in time to reduce costs.
Data collection suffers in favor of interpretive work
Ground water: Good Stuff:Generally working well because of cooperators contribution of unmatched staff to the projects. Data readily shared
Improvements Needed: Technology transfer needs improvement
Finished product needs to be available on cooperators computer.
GW use data program highly generalized, not sophisticated, information not very useable.
GW Site Inventory not adequately maintained, not easily usable, not efficiently updated
Scope of work needs better definition in agreements.

Cooperator – 2 Meets needs OK. However, due to the phenomenon of flat budgets and rising costs, periodically some long term SW gages are dropped. There is some disappointment that long-term gages aren't ranked as highly as others that are used for management or flood frequency determination and are terminated as a result. Very satisfied with interpretive studies.

Cooperator – 3	50:50, A greater share of the total costs would result in county backing out of some or all of the work because of flat funding at the county level.
Cooperator – 4	Policy changes on how money is used and USGS cost increases are causing a reduction in baseline data.
Cooperator – 5	Very satisfied with USGS science and professional reputation. Needs well met.
Cooperator – 6	Yes
Cooperator – 7	We need better water-use data.
Cooperator – 8	Yes. We use the water quantity data frequently in court.
Cooperator – 9	Yes. We would be lost without the USGS.
Cooperator – 10	It is meeting our ground-water quality data needs nicely
Cooperator – 11	Yes. The COOP program has met our needs in the areas in which assistance was requested.
Cooperator – 12	Yes barely- However, additional funds are needed.
Cooperator – 13	The COOP program is used for a limited set of needs and meets the needs in these areas. If more COOP funds were available, the program could be used in other areas of need.
Cooperator – 14	It is meeting only the basic data collection needs (gages and observation wells). Water use data is gathered by the state agency, but compiled into USGS Water Use reports.
Cooperator – 15	Yes, but cost is constraining use of program.
Cooperator – 16	The USGS is well tooled to keep tract of water quantity and it is the same nationwide. They have done an excellent job in basin studies that do not terminate at state line.
Cooperator – 17	The District is very satisfied with the service the GS provides to us. Again our need is for streamgaging and surface water measurements, so our view is a narrow one. We have are own water quality capability (labs at the treatment plants), so we don't need that service. And water use information for billing purposes is something we collect routinely in our daily course of business since we are wholesale distributor to customers.
Cooperator – 18	We feel that GS is doing the best they can afford to do to get the data to us. Of course we would like to see more and better gw data come to us for the money, but we feel good about how much is being accomplished with the budget and the care that is taken to watch expenditures.
Cooperator – 19	Yes
Cooperator – 20	Not entirely, but this is due to limitations in resources for the program. What GS does they do well.
Cooperator – 20	For most part, uses USGS for water quantity (vs water quality) data.
Cooperator – 21	Projects are producing what we need (sp. Surface water quality, quality & analytical tools). No use of program for groundwater & water use.
Cooperator – 22	We have an EPA-certified laboratory. It is also certified by the USGS. As a result, we cooperate with the USGS in splitting analysis of samples.
Cooperator – 23	Yes, program is meeting needs.
Cooperator – 24	Yes, this project is meeting all of our needs in all areas. Without the assistance of the USGS we simply would not have had the staff or financial resources to complete this work by the Congressionally mandated deadline. We would also not have the solid science built into the program that needs to be there to be accepted by the public.
Cooperator - 25	The Coop program is meeting the long-term needs of the board but there is a concern over the decommissioning of some of the stream gaging stations.
Cooperator – 26	Without the assistance of the USGS, we simply would not have had the staff or financial resources to complete this work by the Congressionally mandated

deadline. We would also not have the solid science built into the program that needs to be there to be accepted by the public

Cooperator – 27 The Coop Program is basically meeting their needs. Perhaps there should be more flexibility in how the matching funds are obtained. The state would like more work in model development effort. The state feels they can obtain the basic data but need the USGS expertise to develop and calibrate the models in the state. The state is developing a stream gaging strategy, which should provide a better idea of what is needed and where the gages are needed. This effort is not complete at this time. The state believes every station is important, but is working toward funding from other local funding sources.

Cooperator – 28 The District is a surface water quantity program using some interpretive tools. They feel their needs are very well met by the cooperative program. D.E.C. feels that needs are generally met, and when they are not being met is a function of them not having the money to use the tools and not the availability of tools. D.E.C. did comment with regard to the TMDL that they understood that an adjacent state was actually using USGS to generate the permit criteria. At this point, D.E.C. does not intent to use USGS in that way.

Cooperator – 29 USGS is doing an excellent job in meeting our needs. It would be helpful, however, if data and reports could be available in a more timely fashion. In addition, more information on nutrient levels, including analyzing at lower detection limits, may be desirable.

Cooperator – 30 Yes - provides necessary flow data as well as water quality

Cooperator – 31 Currently doing a good job at meeting needs

Cooperator – 32 See #7. The District has been satisfied with its joint Cooperative Project with the USGS and the Town. The District believes basic data collection work is needed in the northwest and southern of our area. These areas are experiencing rapid urban growth rates and are expected to have future subsidence problems from past USGS modeling predictions.

The USGS needs to have annual outreach efforts to inform local water providers on existing Cooperative Projects, such as at workshops or at a regular Groundwater Users Advisory Council meeting. Annual outreach meetings should also be used as the first phase for public input on potential new cooperative projects.

Cooperator – 33 The District has been working with the USGS for many years because the USGS has been willing to supply adequate information or enter into investigative studies under a cooperative agreement to develop the information/tools needed by the District to manage water supplies within its territory.

Cooperator – 34 The basic data programs have met our needs generally, although it is sometimes difficult to acquire the data once collected. We do perceive concerted effort to enhance our capability to acquire the basic data as needed and find the staff responsive to our requests within their capability (i.e. within the limitations of releasing peer reviewed or approved data or analyses). The reports produced to date have done a good job of addressing the scope of the issue being studied. The USGS staff has done a good job of identifying the tools that should be developed and the analyses that need to be performed to address our issues. The problem has been timely delivery of analyses and tools as specified in cooperator program agreement letters. In that respect the USGS has failed about 60% of the time. Additionally, we perceive this trend to be worsening.

Cooperator – 35 The State EPA is responsible for the water quality issues, but currently the State EPA does not cooperate with the USGS on data collection. Adequate

data is being collected to handle existing water resources issues. Expanded needs are developing as new programs, like Smart Growth, begin to gain momentum.

Cooperator –36 Program is meeting cooperator's needs, except that they have not been able to begin the long range erosion study based on water quality data. (Cooperator did not specify if the fault was theirs for not having the funding for the study, or GS's)

C. Prioritization - In Fiscal Year 1997, the Congress appropriated $66.2 million dollars for the Coop Program. State and local agencies provided an equal amount of matching funds plus an additional $33 million dollars of unmatched funding.

11. Is there adequate funding in the Coop Program to meet your short and long term needs? If no, please explain the needs that are not being met.

Cooperator – 1 Ground Water:Federal funding seems adequate, Inadequate funding to match direct effort
Surface Water: Inadequate: losing stations through time

Cooperator – 2 WRD: Short-term, maybe. Long-term, no. There is a need for basic data collection, but emphasis on interpretive studies will cause funding shortfall for data collection.
DEQ: Long-term outlook poor. Flat budget plus cost creep means reduced data collection at a time when need for data is increasing.

Cooperator – 3 Currently adequate. Always able to meet basic needs, GS always cooperates. On large scale projects may have to wait a year for the GS to schedule their part of the funding.

Cooperator – 4 No, USGS-WRD does not have enough money to match projected state match

Cooperator – 5 Funding has been adequate.

Cooperator – 6 Yes, but would like 50-50 cost sharing on all sites

Cooperator – 7 No. There needs to be more federal money available.

Cooperator – 8 Congress should appropriate more for the Coop Program.

Cooperator – 9 No. There should be more. We could do more with the USGS if there were more funding to be matched 50:50.

Cooperator – 10 Yes

Cooperator – 11 No. Coop dollars have not increased to keep up with inflation. Currently the COOP program does not fully match available City/County dollars. In the future there are several planned or prospective programs which could be candidates for COOP projects if additional funds were available. These include: Environmental Land Acquisition; American River Heritage Initiative; Pollution prevention (private initiative); EPA EMPACT grant for air, surface water and ground water monitoring (including an ecotourism center).

Cooperator – 12 No. Inflation drives the cost of projects upward. The cost of inflation is not being met

Cooperator – 13 No. We would like to see a coordinated ground water level monitoring program across three southeastern counties by the USGS so that consistency can be maintained. We would also like to have the data analyzed by the USGS and ground water level contour maps produced annually, as was the case in the past.

Cooperator – 14 No, the agency has not been able to get significant new dollars and has been forced to reduce its own internal spending to maintain the gaging program. There were 140 stream gaging stations in 1984, and only 112 stations today. The increasing cost of the gaging network has eliminated funds for interpretive studies.

Cooperator – 15 No, funds are unbalanced in terms of match, none for new initiatives.

Cooperator – 16 We could likely use more funds. Specific amount is unknown at this time. We need to more carefully consider our new joint emphasis in planning, monitoring and evaluation.

Cooperator – 17 Because there is a portion of the Program we have with GS that goes unmatched, I would have to respond that an increase in GS matching participation would be appreciated. We are able to meet most of our needs with the present funding levels. So if GS was to increase funding levels in response to inflation and the increase cost of doing business, we would be satisfied.

Cooperator – 18 Right now, we have more needs than we have funding for. Again we have unmatched funds in the Coop Program and if GS had more matching dollars we would be able to do more. GW data and water quality information, especially long-term stations for analyzing trends is important to us.

Cooperator – 19 Over past few years GS match has remained constant while program costs have increased. Thus, some gauging stations reconfigured from continuous to "peak" analyses. This is a need that has been sacrificed.

Cooperator – 20 No, but in the State's case it's a matter of availability of local match dollars. There is a critical need for more stream flow data and stations to look at an entire range of flows, particularly the "low flow" network.

Cooperator – 21 For us to participate, need to maintain 50/50 at minimum.

Cooperator – 22 The _____ project is a perfect example. After the demonstration phase of the project is done, the USGS needs to continue its participation. If the USGS isn't able to take part in this program as a cooperator, it will be scaled back greatly. It's possible the scale-back would be such that the project would no longer meet the broad-based needs of science, just the needs of the city.

Cooperator – 23 Yes

Cooperator – 24 No, additional funding should be provided. Should we have had additional matching funds, we could have developed a larger data base to conduct more comprehensive statewide assessments.

Cooperator – 25 The Coop program is meeting the long-term needs of the board but there is a concern over the decommissioning of some of the stream gaging stations.

Cooperator – 26 No. additional funding should be provided. Should we have had additional matching funds, we could have developed a larger data base to conduct more comprehensive statewide assessments.

Cooperator – 27 The present funding is adequate for basic data collection activities, there needs to be more money from the state and local sources.

Cooperator – 28 No response

Cooperator – 29 Our basic needs are being met; however we would prefer a greater match on the part of the Federal government, as mentioned earlier.

Cooperator – 30 Yes

Cooperator – 31 Yes

Cooperator – 32 The District does not know what the Coop Program budget is annually to make a determination if it is adequate to meet the our short and long-term needs. This information has never been provided to the District.

Cooperator – 33 No there is not adequate funding in the Cooperative Program to meet short term or long term needs. The District has funded greater than the 50% share, "matching funds" on many occasions to preserve the records of various surface water sites. The district also pays a larger share on numerous groundwater data acquisition programs and special studies to insure that the USGS will be the agency performing the work.

Cooperator – 34 There is not sufficient funding, from our perspective. Since our program with USGS has been accelerated (beginning in 1991), we have observed an

increase in the contribution in funding from our agency to offset increases in overhead costs charged by USGS (in excess of the CPI changes) to fund funding shortfalls within the USGS. At the same time, we have observed a reduction in the staff available for some functions. In other words, we have had to fund significantly more of the costs that had been funded by the USGS, and experienced a reduction in the ability of USGS personnel to respond (i.e. paying more and getting less). It is our perception that it is compounded by a thinly stretched staff trying to meet the needs of too many cooperator programs given the staff available and the structure of the USGS programs.

Cooperator – 35 Short term needs are being met. Long term needs are not well identified, but likely will grow significantly.

Cooperator – 36 Long term: Short term: OK, especially if they are able to put together their planned turbidity project. No, Concerned about anticipated Cooperative Program budget reductions.

12. Do you have any suggestions for the appropriate level of funding for the Coop Program?

Cooperator – 1 Need adequate funding for data collection so data collection doesn't have to compete with interpretive studies for dollars. Need budget increase to allow match for all cooperator dollars:
-All water projects have a federal interest
-Without Federal participation in the costs, the GS is less of a cooperator and more of a consultant.

Cooperator – 2 Idaho is mostly federally owned. Each state's share of Coop dollars should be proportional to the Federal interest in each state, whether that is gaged by Federal ownership or some other criteria. The share of Coop dollars going to each state should not be based on the degree of aggressiveness of the District Chief. There should be dollars put into the Coop program by users of the information, e.g. Weather Service and Forest Service. States pay for development of the data and those users benefit at state expense.

Cooperator – 3 No

Cooperator – 4 50-50

Cooperator – 5 No, want to keep 50-50

Cooperator – 6 No

Cooperator – 7 Increase the federal match, because much of Nevada is land managed by the federal government.

Cooperator – 8 No.

Cooperator – 9 NOT ADDRESSED.

Cooperator – 10 It seems about right to us.

Cooperator – 11 No. Overall it does not appear that COOP funds will be adequate in the future to match the available funds.

Cooperator – 12 Because the state does not have enough funds to finance all of the necessary projects a possible way to assist the state would be for the USGS to contribute 60%, instead of 50% to the coop program.

Cooperator – 13 To start, I would like to see the COOP match brought up to 50/50.

Cooperator – 14 50/50; The USGS needs to find federal dollars to match unmatched funds.

Cooperator – 15 Base of $80M for gages and boxline-ongoing studies. Supplement of $20M to address short term or arising issues.

Cooperator – 16 Coop funding needs to increase at least to the extent of matching inflation to stop the decline in coop data collection and special studies.

Cooperator – 17 I don't have any idea. I don't keep close to the national outlook.

Cooperator – 18	I can not speak on a national perspective, but I do find the GS's most recent public announcement about a $20M decrease in Coop funding to be quite disturbing.
Cooperator – 19	50/50 match is good (equal commitment).
Cooperator – 20	A lot more than is available at present. At peak funding Cooperator - 20 had 2x stations they now have, and that wasn't adequate.
Cooperator – 21	Both types of work important. However, USGS mission to "continually assess the nations water resources" is mandate for continuous (uninterrupted) long term data collection. USGS relied on in this regard. State funding too volatile to do this.
Cooperator – 22	I would really like to see sufficient funding placed in the program to allow the USGS to assume 80% of the cost of any cooperator projects.
Cooperator – 23	The current level is adequate.
Cooperator – 24	No. Preferably a 50-50 match.
Cooperator – 26	No. Preferably a 50/50 match.
Cooperator – 27	MD would like to see more funds available from congress for basic data collection. There should be a better public relation effort by USGS and the other cooperators. It may help for USGS to develop a strong coop support groups base and stop playing games with the funding bases. MD finds that determining the funding base from year to year is hard. It would be helpful to know what the base will be and how help the local support groups could provide.
Cooperator – 28	The District would say that the answer is yes. They do have some unmatched dollars and would certainly advocate for 50/50 sharing. D.E.C. lacks funds on their side. D.E.C. has a concern about what is going on with the Cooperative Program at the Federal level in 1999, and the likelihood that there would be less matching money than expected.
Cooperator – 29	We believe it should be 50/50, as stated earlier, particularly when the work being performed under a contract is beneficial to other s in the nation. It is worth noting that the work performed using Safe Drinking Water Act funds provide a 50/50 match between the local government entity and the US EPA.
Cooperator – 30	No
Cooperator – 31	No
Cooperator – 32	See #11.
Cooperator – 33	USGS should be funded at levels which allow the USGS to actually match funds furnished by cooperators.
Cooperator – 34	We are not familiar enough with your internal structures to make such a specific recommendation. However, the USGS needs to strike a balance between the commitment to cooperative programs and the funding for staff to meet those commitments. In other words, the utility of the USGS to the Cooperator is diminishing with the reduced ability to respond in a timely manner and provide the product specified in the Cooperator's program letter. The Cooperator has to view the USGS as they would a consultant. If the product cannot be delivered, the service is questionable. For basic data collection a minimum 50% match is appropriate because the data will benefit a greater populace than the Cooperator. Special Studies should be considered for a greater % contribution by the cooperator, but only if the product can be delivered timely.
Cooperator – 35	The USGS and other federal agencies should supply enough resources to measure and assess the water resource issues of significance and priority to the federal government. This is not currently being met in our state, particularly in the area of water quality.

Cooperator – 36 Would like to see a modest increase to assure their turbidity study can be funded.

13. What is the proper balance between routine long-term data collection and interpretive studies?

Cooperator –1 Balance should be cooperator driven, not GS driven. Need re-emphasis on data collection, but not at expense of interpretive studies.
-basic data necessary in future to do interpretive studies
-Need to reduce overhead to make more data collection feasible.

Cooperator – 2 Data collection should be higher priority than interpretive studies, perhaps 60:30 with 10% going toward research and technology advancement. Proposed projects must compete for funding within regions. Given today's priorities, interpretive studies compete more successfully for funding which sacrifices basic data collection. Need to retain basic data collection.

Cooperator – 3 Not an issue with the county. However, the county sees where good long term data are necessary to do interpretive work. Public respects real data. Therefore, data collection should be higher priority. Data programs should be kept in times of flat budgets. In times of flat budgets the 50:50 ratio might be changed to a larger proportionate share for the cooperator for interpretive studies in order to save the data collection.

Cooperator – 4 More interpretive studies could be accomplished on in-kind service

Cooperator – 5 No opinion

Cooperator – 6 60% data 40% studies

Cooperator – 7 Both need to be done. It is hard to say what a ratio of the two should be.

Cooperator – 8 This is hard to say. Data are necessary to draw the conclusions from interpretive studies of perennial yield.

Cooperator – 9 This is hard to say. Because credibility of the data is important to credibility of the interpretations, both are important.

Cooperator – 10 We mostly need the USGS for long-term data collection and maintenance of the data. Scientists on our staff participate in the interpretation of the data. It is important, however, that a certain level of data interpretation be part of the quality assurance and quality control of the data itself. It is often only through looking at trends in data (over time or related to the geology and history of the area) that one is able to figure out whether the data are good.

Cooperator – 11 A balance of 50/50 appears appropriate but would depend on the circumstances. The balance has fluctuated in the past. In the future we anticipate that data collection needs could increase based on a current study by the _____District evaluating the ground water network.

Cooperator – 12 About 50-50

Cooperator – 13 For us the COOP is 100% data collection. We would like to see some interpretation of the data and ground water contour maps produced as they were in the past.

Cooperator – 14 The state has done only minimal interpretive studies in the past few years because dollars have been used to maintain gaging program. USGS mindset on how studies are to be done limits state's interest.

Cooperator – 15 2/3 - 1/3 (data and study)

Cooperator – 16 Long term quantity and quality information on both surface and groundwater is important. Perhaps 70% data and 30% special studies.

Cooperator – 17 From our perspective, it is long-term data collection we are interested in. It is the independent nature of data and studies that should be emphasized in the COOP Program. We currently use our staff and contractors to do most of our

studies, and that sometimes presents a problem for us in that those who scrutinize the way we operate the project often argue that the results are biased towards us. But from where we sit, streamflow data collection is much more valuable to us as far as being unbiased information than the studies we do internally.

Cooperator – 18 Our need is for data collection and dissemination. We can best serve our own needs from within our Department for special studies.

Cooperator – 19 Long term data collection needs to be on high end (70/30). There are other sources of funding for interpretive work (federal) but not for stream gauging. However, data is needed in order to do interpretive work.

Cooperator – 20 Wish to see 60-75% of programs in data collection. Consultants capable of doing interpretive work. Problem is data collection not "sexy".

Cooperator – 21 Compromises ability to do long trend field assessment & ability to interpret our water quality monitoring data. We rely on USGS for flow data. Long-term data collection means long term uninterrupted collection. If there is going to be interruptions, may as well not do at all (ie, data set becomes not useful). If lost NASQAN sites, for the state to pick up, would need to use same procedures. Can the state afford this?

Cooperator – 22 Our opinion is there is currently a good balance between the two. Cooperator - 23 75% data collection.

Cooperator – 23 Uncertain. However, it would seem that each is dependent upon the other.

Cooperator - 26 90 - 95% long-term data collection would be the appropriate balance in the Coop Program for the Board. The Board outsources all interpretive studies and has been in the long-term data collection business for over 50 years.

Cooperator – 26 Uncertain. However, it would seem that each is dependent upon the other.

Cooperator – 27 There should be more money available for obtaining and maintaining long term data collections sites, both surface and ground water.

Cooperator – 28 The District has no plans for interpretive studies. They do basic data collection, and use the data immediately; it is of less interest to them the next day. If there were new reservoirs proposed, which is not likely, the expectation is that there would be a need for some interpretative studies. D.E.C. says that their current program has evolved to a 1/3 basic data, 2/3 interpretative, and that they think it ought to be about 50/50. They have plans to increase the basic data, not back to where it was, but in that direction, and if that happens it would bring the current budget close to 50/50.

Cooperator – 29 Both are necessary; however, I'm not sure what the appropriate ratio should be.

Cooperator – 30 No knowledge

Cooperator – 31 Focus should be on data collection

Cooperator – 32 The District believes that initial funding for long-term data collection and interpretive studies should be 50/50. Regional data on natural recharge, groundwater, surface waters flows and quality are insufficient. Interpretive studies may be easier by directing a higher percentage of the cooperative funds to basic data collection. Regional data collection should require a small local match (20 to 25 percent), while interpretive regional studies would require a larger match (50 to 75 percent). See #8, #9, and 1#4.

Cooperator – 33 "Balance" is not a consideration. Long-term data collection is a necessity. USGS must continue to accumulate water resource data to support current and future interpretive studies.

Cooperator – 34 Data collection necessarily precedes interpretive studies of any significance. Basic data collection and quality assurance is of paramount consideration in a cooperator program, and must be maintained as the principal component. The value of the interpretive studies by the USGS is the proper use of that data,

and the character of the interpretive studies can help define the need for additional basic data. There is a significant overlap in the development of new basic data gathering and interpretive techniques that are driven by creativity stemming from interpretive studies to address specific technical problems. This symbiosis is what will, in my opinion, keep the USGS moving forward. One of the key elements of staff development for your organization should be the further development of meaning relationships between personnel involved in the basic data programs and those doing interpretive work. A better understanding of the mission and the evolution of better data collection will inevitably result. For an organization starting a relationship with the USGS, the basic data collection effort should be close to 100% but someone familiar with the potential issues to be addressed should be incorporated to the basic data network design. A mature relationship (dependent on funding) would probably see basic data to interpretive study relationships of about 25% basic data/interpretive work.

Cooperator – 35 Long-term data collection should always remain a priority. Without this information, interpretive studies are constrained by inadequate data. Some interpretive studies are needed to measure the benefits of the long-term data collection effort.

Cooperator – 36 Increase interpretive studies without cutting back on basic data collection

14. How do changes in the Coop Program, such as loosing long-term data collection stations, affect the mission of your organization ?

Cooperator – 1 Decreases water management ability in time of population growth. Increases reliance on statistical simulations rather than real data. Reduces defensibility of management decisions.

Cooperator – 2 We would lose data continuity and perhaps the whole SW quality program, because we're not prepared to do it. May have to develop ability in-house to do the project; or may have to contract the work out.

Cooperator – 3 County would have to reduce the amount of data collected or reduce the quality of data collected. The focus of the County's effort would have to be on fulfilling permit conditions that require monitoring. The County's water management, planning and flood forecasting would be based on an inferior data set.

Cooperator – 4 Lose of data. Added expense to re-install at a later date

Cooperator – 5 Would find way to collect data in absence of USGS being able to do it.

Cooperator – 6 Very adversely

Cooperator – 7 Water-use data tend not to be as consistent (in terms of documentation of assumptions from year to year) as some of the other data, such as stage and flow rates from stream gages.

Cooperator – 8 It hurts, and it forces us to look for other cooperators to help cover costs.

Cooperator – 9 These cause problems, because it is difficult to make good decisions with incomplete information.

Cooperator – 10 It helps us to relate our state results directly to results in other states.

Cooperator – 11 There has been some elimination of streamflow stations in the area and this has affected data availability.

Cooperator – 12 Changes such as loosing long-term data collection stations have meant that the Department cannot meet its long-term mission.

Cooperator – 13 Stations discontinued by the USGS need to be picked up by local or regional agencies. The data are still needed for modeling and other purposes to address the many problems in our area.

Cooperator – 14 Loss of gages inhibits flood hydraulics studies.

Cooperator – 15 Loss of a station is loss of information to relate water quality to flow onditions, especially TMDL.

Cooperator – 16 There is a gap in data base that cannot be replaced. It cripples our ability to monitor resource conditions and make decisions based on facts.

Cooperator – 17 If we were to lose stations, we would have a very definite problem in managing and administering water in our district. A lack of streamgaging would severely hamper the State Engineer's ability to monitor and administer water also.

Cooperator – 18 We have a continual dialogue with GS on this issue. We have tried to emphasize how important long-term data is to the type of work we have responsibility for. Decreases in streamflows attributed to ground water development, as an example, can not be thoroughly examined without long-term information.

Cooperator – 19 Stations & network we now have is vital. Any loss of a station would have to be picked up by the District. Less data means more risk.

Cooperator – 20 Losses in coop program (losses in data) makes agency very vulnerable to challenges to regulatory decisions. There is more uncertainty in decisions & risk of bad decisions.

Cooperator – 21 Currently using USGS for Dioxin sampling & private lab for analysis. We feel this lowers cost & improves study results. Understanding is USGS doesn't have capability to analyze high volume samples.

Cooperator – 22 This is a very important area. The City has identified those data collection stations that are critical to it, and are supporting them in partnership with USGS.

Cooperator – 23 Will not affect our mission

Cooperator – 24 Loosing long-term data collection stations would drastically affect our program. This valuable and historical data is critical to conducting assessments on all surface-and groundwater supplies throughout the state. Factoring historical data into our program is critical in conducting a defensible and comprehensive assessment of the water supply.

Cooperator – 25 Losing long-term water level data impacts the mission of the Board in important ways - especially if the drought conditions in the state continue. Issues are measurement of baseflow, sole source aquifer usage, water level mandated under court orders from the Endagered Species Act, etc.

Cooperator – 26 Losing long-term data collection stations would drastically affect our program. This valuable and historical data is critical to conducting assessments on all surface-and groundwater supplies throughout the State. Factoring historical data into our program is critical in conducting a defensible and comprehensive assessment of the water supply.

Cooperator – 27 The change in the Coop program can cause a loss of long-term data collection sites.

Cooperator – 28 The District is an operating entity with a clear mission. If long term data stations are lost they would have to pick them up because they can not operate without that information. If the Cooperative program, either through other cooperators or through the District, diminished support would have to come from District funds.

D.E.C. is quite concerned about having long-term stations so that they can do trend analysis which is a big part of their watershed management planning. They do get a lot of noise from flood prone areas when stations are lost, and there is some pressure to reinstate stations on two large rivers.

Cooperator – 29 Consistent long term data collection is necessary in order to examine trends in water quality and quantity.

Cooperator – 30 Long term data is necessary to show trends and to help in establishing instream base flow goals.

Cooperator – 31 Would probably not allow the gages to be lost.

Cooperator – 32 Past Federal funding decisions has caused the elimination of too many long-term data collection stations. Restoration of Federal funding for basic data collection is needed and a Federal/State responsibility. The responsibility should not be passed wholly into the locals, but the locals' financial contribution should be minimal. Basic data collection by the USGS benefits all private, local, and State entities. It reduces duplication of costs, provides standardization, centralizes data and eliminates interjurisdictional issues.

Cooperator – 33 Changes in the Cooperative program seriously affect the mission of the District. As noted earlier, the District has undertaken a larger share of numerous stations in order to preserve the long-term record.

Cooperator – 34 The loss of long-term data collection stations would fundamentally affect the mission of our organization. Without this data, we cannot effectively characterize the success or failure of our management programs.

Cooperator – 35 Long-term data collection stations are necessary to maintain the integrity of the data collection program. These long-term stations help to assess the impacts of watershed changes over time, the importance of additional gages, and the ability to manage the water resources of the state. Loss of these stations diminish the credibility of other short-record stations by not providing a regional long-term record for qualitative and quantitative assessment.

Cooperator – 36 Cooperator would substitute their own funding to maintain program.

15. How does your organization involve other parties in your Coop Program activity to improve study results and lower costs?

Cooperator – 1 Stop issuing permits, "Launder" non-GS federal funds to attract federal cooperators; Position ourself as a central authority to do the work of defining project scope, work plans, and contract conditions. Position ourself as a central information disseminator.

Cooperator – 2 Threats: data will be discontinued without the party's financial participation. Condition permits to require monitoring. Highlight the shared mutual need.

Cooperator – 3 Threats of loss of stations. Forest Svc., BLM, and the state exchange stations to maximize efficiency. Those agencies also assist each other with site installation and in establishing priorities when gages must be dropped. However, in general users of the data (e.g. consultants, academia, environmental groups) do not pay their share of the costs.

Cooperator – 4 State agencies work together in selecting sites and placing priorities on data collection

Cooperator – 5 No.

Cooperator – 6 Don't know of any but there are other state agency cooperators.

Cooperator – 7 So far we do not, but we are benefiting from Coop projects funded by other state and local agencies.

Cooperator – 8 We have encouraged local governments and others to participate.

Cooperator – 9 We contact local governments and utilities to assist, as needed and as appropriate

Cooperator – 10 We have engaged local governments, other federal agencies, and other state agencies in some projects with the USGS.

Cooperator – 11 An adjacent city has partnered with the us in some COOP programs. Some other governmental units also have COOP. However, coordination on COOP programs could be better. Lack of coordination is due mainly to not having the time to do it. There are some opportunities with local universities and public

works agencies. The current Year 2020 planning process should offer opportunities for better coordination and partnering on COOP programs.

Cooperator – 12 In order to lower cost, the Department encourages other government encourages entities to participate in funding coop projects.

Cooperator – 13 We have worked with the a water management district to share the costs of monitoring in the county.

Cooperator – 14 The "Transfer Program" is currently passing $112,000 per year to USGS. There has been little done to include these outside funding sources involved in details of program.

Cooperator – 15 Interact with other agencies on overall network, share in cost support. Studies are unilateral efforts.

Cooperator – 16 We don't do much of this and probably should consider this approach. We do coordinate with other affected agencies that also rely on data or studies.

Cooperator – 17 We coordinate with the State Engineer's Office. There are some gauges that are cost-shared 3-ways. I don't recall that we ever approached others about cost-sharing in some gauges. That may take more time and cost us more money to find others.

Cooperator – 18 Water Districts understand the importance of streamflow data and ground water monitoring, so some districts provide us with funding to cooperate with the GS. This type of arrangement is working fine and if the need exists, we ask for districts to participate on a case-by-case basis if their service area included.

Cooperator – 19 Yes. Area ground water study involved about 30 local cooperators. Our agency brokered this. Our agency has also served as pass-thru for local cooperators that were not government entities.

Cooperator – 20 Our agency has not brought in local partners. GS office had brokered multiple local coop partnerships.

Cooperator – 21 Currently using USGS for Dioxin sampling & private lab for analysis. We feel this lowers cost & improves study results. Understanding is USGS doesn't have capability to analyze high volume samples. Answer is project dependent. Current projects we believe must rely on USGS personnel. However, can be and have been earlier projects when we would desire to do the work.

Cooperator – 22 The city does some of that, now. For example, we involve another federal agency on the _____ demonstration project.

Cooperator – 23 Other parties not involved.

Cooperator – 24 It is critical we involve as many non-governmental organizations, local communities, as well as other state and Federal agencies in our program. We have done so through the creation of a public forum and technical advisory committee. Doing this has provided us information and data we would not have normally known about. Through this partnership process, data sharing decreases our costs as well as providing our partners with data they may not have had access to.

Cooperator – 25 The Board outsources all of its interpretive studies.

Cooperator – 26 It is critical we involve as many non-governmental organizations, local communities, as well as other state and federal agencies in our program. We have done so through the creation of a public forum and technical advisory committee. Doing this has provided us information and data we would not have normally known about. Through this partnership process, data sharing decreases our costs as well as providing our partners with data they may not have had access to.

Cooperator – 27 Our state agency works closely with local agencies to obtain additional funding sources and in kind work. They will coordinate the local in kind work contribution from the local sources.

Cooperator – 28 For the District all the funds come from the downstream beneficiaries; there are no other parties involved.

For D.E.C. it is a little more complicated. The cost of the program is distributed over a number of projects with nearly full participation of these other parties with to the federal program. Some parties use the data extensively; but have been very reluctant to contribute to the cost.

Cooperator – 29 No response

Cooperator – 30 The District partners with the USFS, Department of Ecology and USGS in operating this gage.

Cooperator – 31 Non involved

Cooperator – 32 See answers to #4, #5, #7, and #8.

Cooperator – 33 Several other water districts contribute portions of the our District's contract costs in the Cooperative Program with the USGS. The District provides a cost breakdown to the other agencies each year, the other agencies pay the District in accordance with previously agreed distribution of the costs. This lowers the USGS administrative costs by avoiding multiple contracts/billing activities.

Cooperator – 34 We routinely share data from our cooperator program with other entities, and request their analytical results, if any. We frequently involve USGS personnel in public meetings to provide their technical expertise and to allow them to understand the issues so that they can help us develop the data and technology needed to address the issue. We try to coordinate these programs with others to take advantage of their efforts in concert with our programs (i.e. coordinate new well locations, seek water quality, water production and well level data from them to augment our programs, etc.). We also involve our consultants in data gathering efforts to offset USGS personnel costs.

Cooperator – 35 Cooperator - 35 has for a number of years sponsored Cooperator meetings to share ideas, to trade gaging responsibilities, to debate water resource issues, and to mediate conflict.

Cooperator –36 No longer involve other parties. As they have run into financial difficulties and dropped out, cooperator has picked up their share

D. Conduct of Work - Nearly all of the work performed in the Coop Program is done by USGS scientists and technicians. This arrangement is designed to enhance quality control, provide national consistency in data collection and methods of analysis, and provide a stable core of experienced water scientists nationwide.

16. If appropriate USGS quality assurance were made available, would your organization be able to and/or want to perform the data collection portion of a coop project? Please explain.

Cooperator – 1 Yes, already do that in both data collection and analysis. This materially aids in getting the product we contracted for and in understanding that product.

Cooperator – 2 We do some data collection now. We prefer not to do additional data collection—GS is better equipped, and state legislature is unwilling to adding staff necessary for us to take on that function.

Cooperator – 3 Could become able to do it (have done it in the past) and would want to if doing so could be used as match for the federal dollars.

Cooperator – 4	Yes, we already complies with many USGS standards
Cooperator – 5	Have assisted USGS in the past. Would probably prefer to do in-house if USGS capabilities reduced.
Cooperator – 6	Would rather leave with USGS.
Cooperator – 7	NOT ADDRESSED.
Cooperator – 8	Yes. This would be no problem, if we have the people.
Cooperator – 9	Maybe, but we are not likely to get funding for the strictly scientific studies that fit the USGS mission.
Cooperator – 10	Yes. We have chemical analytical capabilities, but they are limited and designed mostly for research rather than production-level work.
Cooperator – 11	Currently would not want to, or be able to, due to manpower constraints. However would be open to the concept and would be willing to do it if resources were available.
Cooperator – 12	Yes, we would be able. However, we would not always want to because some projects are political. Under these conditions, we prefer to have the USGS collect the data because of its reputation for being neutral.
Cooperator – 13	The USGS often uses specialized equipment and techniques for some monitoring and this would make it difficult for our agency to do. In other cases where the equipment or technology is not a factor, it could be more costly to take these programs over if the cost of data management and overhead are included.
Cooperator – 14	Would consider contracting out such work to others. Water use data currently collected by state agency.
Cooperator – 15	Interact with other agencies on overall network, share in cost support. Studies are unilateral efforts.
Cooperator – 16	We have made low flow, temperature and conductance measurements in the past. We would be willing to consider such an option. However, staff and equipment limitations would have to be provided.
Cooperator – 17	Yes. The District would in a position to assist the GS. We visit many of the stations on a daily basis and we can perform operation, maintenance, and repair if needed. Our engineers in the office are very capable and would be able download and reduce data for analysis.
Cooperator – 18	We are doing some of that already, but we question why it so important that GS do high-level quality assurance on some data collection work. We are very careful in the manner we collect data such as ground water levels and they adding a cost to review what we have collected does not seem like a value-added activity. We understand that GS brings a great deal of credibility to the data, but for some data it does not seem necessary. We have internal checks of the data we collect which identifies inconsistent data and we are careful in what we do, so having GS add another layer of assurance seems redundant.
Cooperator – 19	We are currently doing this (see question #5).
Cooperator – 20	Not for stream gauging. Not certain we could afford to do QA/QC. We don't have staff expertise for continuous gauging.
Cooperator – 21	Currently using USGS for Dioxin sampling & private lab for analysis. We feel this lowers cost & improves study results. Understanding is USGS doesn't have capability to analyze high volume samples.
Cooperator – 22	We do some of that now. Our lab participates in the _____ project by actually doing the ground water levels. The USGS then uses our data, collected to their specification, to generate maps and circles.
Cooperator – 23	Would prefer USGS to handle the entire project.
Cooperator – 24	No. We simply do not have the resources to perform the data collection. However, we would be happy to share what data collection we have done with

the USGS. It is imperative that the work continue to be provided by USGS scientists and technicians. It provides quality control and consistency in data collection and methods of analysis that are so very important.

Cooperator – 25 The Board would be concerned about data quality but would entertain the idea of outsourcing the data collection function, rather than performing in-house.

Cooperator – 26 No. We simply do not have the resources to perform the data collection. However, we would be happy to share what data collection we have done with the USGS. It is imperative that the work continue to be provided by USGS scientists and technicians. It provides quality control and consistency in data collection and methods of analysis that are so very important.

Cooperator – 27 The state would do the QA for ground water collection projects.

Cooperator – 28 The District feels that they do a fair amount of the field work now as they visit stations regularly, read gages, and change tapes. They do a lot of things that USGS usually does. They worry about credibility if there were changes that resulted in the QA being done by USGS and the regular work being done by the District. Downstream people would tend to be less assured of the credibility of the information and its unbiased nature. They feel the biggest problem with a shared program would be to present convincing arguments that the quality is there and that the data is complete and unbiased.

D.E.C. says that they have recently started to seriously consider the development of an increased involvement by their staff in an effort to manage the program cost. That would probably mean that some of the basic collection activities would be assumed by existing field staff. Credibility is a major concern here also.

Cooperator – 29 No, We do not have the staff to perform these duties. It is very difficult to get additional staff approved to the Division's current headcount.

Cooperator – 30 Yes, if adequate training were provided.

Cooperator – 31 Prefer not to--rather have GS do the work

Cooperator – 32 The District has insufficient staff and expertise to complete data collection on natural recharge, and for surface water flows and quality inside and outside of its service area. Liability issues would also be a concern for the District on accessing private property.

Groundwater levels at District wells and some non-District wells are measured annually by District personnel. This information is annually transferred to the water company for the region's annual static water level report. Additionally, district staff collect drinking water compliance samples at its wells and allows outside research entities (the university) to collect samples, such as isotopes. Water quality samples could be possibly collected by District staff at District wells on the behalf of the USGS, but samples would have to be analyzed by the USGS. Actual sampling by District personnel would be dependent upon District work commitments and sampling equipment required.

Cooperator – 33 We would not be able to perform all of the data collection portion for most projects. We do assist with data we have available.

Cooperator – 34 We are willing, and have the relationship to some extent currently. USGS personnel have trained our staff to measure wells from USGS installed monitoring sites to control costs and maintain in-house expertise. Data gathered is sent to USGS for quality control and data input. We periodically have USGS personnel check our monitoring sites and methodology in the field to maintain quality. This has been a positive influence on our organization and controlled cost significantly.

Cooperator – 35 It remains the responsibility of the USGS and other federal agencies to measure and assess the water resources which are of significance to the federal government. Water resources which are of local and state interests only do provide incentives for non-federal data collection, however, a standard and routine method of data collection can only be maintained when one agency is responsible for data collection. Our agency supports continuation of the USGS as the primary data collection agency for federal and state interests.

Cooperator – 36 Yes

17. How do you believe the quality and credibility of the Coop Program would be impacted if data collection and analysis were not performed entirely by the USGS staff?

Cooperator – 1 Quality and credibility may improve--some cooperator staff are very capable and proficient and have first hand knowledge of gage peculiarities and project sites. As long as quality controls can be assured, cost becomes the defining issue as to who should do the work. Need to establish trust through communication.

Cooperator – 2 Some concern for quality control if consultants are used. WRD staff believe GS would be concerned about data quality and whether to include the data in GS's data bases. GS is perceived as neutral.

Cooperator – 3 Use of county staff would not cause a problem. Use of academics and consultants would be acceptable if there were adequate quality control procedures were followed.

Cooperator – 4 No. Some state agencies have professional staffs that can work under USGS standards.

Cooperator – 5 No. Belief USGS could probably oversee to assure quality.

Cooperator – 6 Yes

Cooperator – 7 NOT ADDRESSED.

Cooperator – 8 No problem. In fact, we would like to see more involvement of researchers and M.S. and Ph.D. candidates (who's labor is cheap) from the University and Community College System in the interpretive studies.

Cooperator – 9 No problem, if the USGS maintains oversight, but we would not necessarily encourage the USGS to do this.

Cooperator – 10 No problem. Cost would probably drop, but the USGS or we would need to maintain quality assurance. We currently use outside labs for a number of analyses, and we check the quality of the data.

Cooperator – 11 Would defer to the judgement of the USGS. However would not want objectiveness and quality brought into question.

Cooperator – 12 The potential for lost credibility would exist.

Cooperator – 13 Some water quality parameters need special sampling techniques and private consultants may not give good results. An example is the state ambient water quality program where the data showed high variability between laboratories. The solution was to funnel most of the analyses to the state laboratory. Regular meetings and training did help some with the private laboratories but this was costly

Cooperator – 14 Would consider contracting out such work to others. Water use data currently collected by state agency.

Cooperator – 15 Fine, as long as QA/QC were followed.

Cooperator – 16 With careful training and instruction, it should not make a difference. It would depend upon the extent that standard data quality assurance procedures are followed. However, we do believe data collection (i.e. gages) that are

	used for interstate river compact administration should be USGS to maintain unbiased results.
Cooperator – 17	There is a long-standing reputation and solid performance of GS in stream flow data collection and production. It is the perception of independence that GS brings to this information that is very important.
Cooperator – 18	We are structured to do some of the things GS is doing and are OK with doing it. We have said in our discussions with GS that there are different levels of quality assurance needed with the types of data being collected. Not everything needs to be at a high level of credibility and we have suggested that standards need to created which takes into account how the date will be used.
Cooperator – 19	Data not compromised in our program. Important to have continuing contact & audit of field procedures.
Cooperator – 20	Depends on who does work. For gauging, the program would suffer (at least from perception standpoint). Would introduce bias concern. Consultants would eventually have conflict of interest or be accused thereof.
Cooperator – 21	So long as QA/QC procedures in place and proper oversight. We don't believe it matters to our agency. We will stand by the results.
Cooperator – 22	It may not impact or undermine the work per se, but I believe it would undermine the perception of quality associated with USGS performed work.
Cooperator – 23	Could be acceptable, provided USGS has oversight.
Cooperator – 24	Credibility would be totally lost. There would also be a decrease in quality assurance/quality control as well as consistency in analysis methodology. The perception would be that this work was being done by too many groups and that there was no consistency in the data or analysts.
Cooperator - 25	The quality assurance of the long-term data is a critical component of the Program, so outsourced data collection could be disputed if contested in court.
Cooperator – 26	Credibility would be totally lost. There would also be a decrease in quality assurance/quality control as well as consistency in analysis methodology. The perception would be that this work was being done by too many groups and that there was no consistency in the data or analysts.
Cooperator – 27	Already does part of the work in some cases.
Cooperator – 28	No Response
Cooperator – 29	We do not have the in-house expertise to install, operate, and maintain a large network of stream discharge stations nor do we have the staff to collect all of the data or perform the data analysis that USGS performs for us.
Cooperator – 30	Unknown
Cooperator – 31	Possibility would exist
Cooperator – 32	It would depend on the task and the entity's staff qualifications. For example, a flood control distict would most likely not have staff with experience to complete variably saturated groundwater modeling.
Cooperator – 33	Credibility would be reduced due to fact that USGS is only agency viewed as being impartial, i.e., will call things as they are, not just to match the view of the cooperator.
Cooperator – 34	It may lead to "chain of custody" problems, but could be used in less critical, time-sensitive study programs. I would proceed cautiously with the application of this program so that the integrity of the data and/or analysis is not questioned.
Cooperator – 35	Data would not be consistent, equipment maintenance would not remain up to standards, availability of data could no longer be assured, and the value of the data would diminish.
Cooperator – 36	Credibility is the issue, want the peer review that is entailed in the coop program.

18. Why does your organization use the USGS for assistance rather than other sources (e.g., consulting firms, academia, etc.)?

Cooperator – 1	Unbiased; Matching dollars; Institutional memory; More flexible than private sector (we can evolve a project with the GS); Uniform and high standards for data collection and analysis; Results are defensible; Comfortable with staff, staff are local, staff can be contacted immediately; Can bounce ideas around without it costing dollars and without having to guard responses; Access to national research personnel; Avoids academia's use of projects as learning exercises, and academia's positioning project work behind teaching in priority
Cooperator – 2	GS infrastructure is already in place; replacing GS would produce chaos. Cautious about grad students and consultants because they come and go—would lose continuity. Administration of contracts is easier with GS Have more flexibility with the GS. Concerned about quality control if consultants are used. In spite of these considerations, WRD is considering using other sources.
Cooperator – 3	Consistent quality; Objectivity; General acceptance by environmental groups, FERC and the public. Dollar for dollar expect better value from the GS.
Cooperator – 4	Cooperative efforts with 3 divisions of the USGS (Water, Geologic and Mapping)
Cooperator – 5	USGS is recognized expert in water data collection. Don't know of any consultants with comparable capability.
Cooperator – 6	Experience, expertise, & cost-effective.
Cooperator – 7	NOT ADDRESSED.
Cooperator – 8	The USGS has credibility before the judicial system. Consultants, no matter how good they are, do not have the same level of credibility. The USGS will lose its credibility if it follows a political agenda from Washington, D.C.
Cooperator – 9	The USGS has credibility that the consultants, particularly ones working for developers, do not.
Cooperator – 10	We have some legislative funds set aside for cooperation with the USGS. With these, we select work that we think the USGS can do better than other organizations or consultants.
Cooperator – 11	Credibility, quality.
Cooperator – 12	The USGS has a reputation for producing good quality products that are unbiased.
Cooperator – 13	Historical continuity, availability of technical expertise, access to top scientists from across the nation, data and investigations accepted by all parties as unbiased.
Cooperator – 14	Since program is pretty much all gages and wells now, there is no current alternative available.
Cooperator – 15	Areas of expertise.
Cooperator – 16	Nation-wide monitoring system for surface water flow. Also they have up-to-date instrumentation.
Cooperator – 17	If a water user organization were to take the measurements, the view from others would be that the data is not credible and unbiased. GS has highly skilled people and they have been doing measurements for years. Consultants come and go. Academia would use grad students to accomplish the work, and they too would not be reliable.
Cooperator – 18	Primarily because of the expert staff and quality data at competitive rates.
Cooperator – 19	Quality of data, products, credibility, on leading edge of techniques and equipment, unbiased.

Cooperator – 20	USGS is essentially a "sole source" as no one else can do some of their services. 50/50 match and unbiased nature also important. Also, GS has been & will be there for the long run
Cooperator – 21	Cost effective with 50/50 share. Reputation & credibility important. It is good to maintain relationships.
Cooperator – 22	The impartiality of the USGS is the reason we don't use others to provide the same services. We do utilize consultant,, but they work as true partners with us and with USGS on projects. The projects just wouldn't have the same impact without USGS participation.
Cooperator – 23	It has been cost effective to use USGS. They have also helped with education efforts.
Cooperator – 24	CREDIBILITY!!! We also get "more bang for the buck" financially.
Cooperator – 25	The Board does use other sources.
Cooperator – 26	CREDIBILITY!!! We also get "more bang for the buck" financially.
Cooperator – 27	Because of long history of cooperative effort that already that exist. They have problems involve academia because of the publication requirements. USGS is more responsive to their needs than the academia.
Cooperator – 28	There really are not any other choices for the District. They occasionally get involved with academia and consulting firms but it is a very rare event. Credibility is seen as the most important aspect of their program. D.E.C. frequently mentioned the need to have a calm neutral third party with a "mantle of neutrality." If they had to reduce their programming they would take the less controversial stuff into their operation and leave the hot stuff with USGS to maintain credibility. Regarding consultants there are concerns that data maybe massaged or certain critical data points excluded.
Cooperator – 29	USGS has more than one hundred years of national experience in collecting and analyzing streamflow and water quality data. The quality of the data is assured by reviews from the surface-water, water quality, and ground water specialists on staff. USGS is well respected for the integrity of their data and the quality of their work. Consulting firms often do not have the expertise required to perform the work that USGS does; in addition, the costs of consulting contracts would likely be more expensive than those with USGS, since consulting firms are for profit and USGS is a governmental not-for-profit entity. Academia often does not have the expertise that USGS provides.
Cooperator – 30	Established, long term data and results.
Cooperator – 31	Expertise in streamgaging and curve development
Cooperator – 32	See responses in B
Cooperator – 33	Very long term relationship with the USGS has provided many reports over the years which all agencies in the area are willing to accept as credible and done impartially.
Cooperator – 34	The USGS has the technical breadth to provide the resources required for just about any of the programs we might undertake, and has experience with real world applications needed to keep a study focused. With academia, the focus is sometimes lost and inexperienced persons can sometimes be involved in the work. Consultants are expensive and generally tend to rely on the data and analyses prepared by entities like USGS in preparation of their work, and their motivation is sometimes questioned.
Cooperator – 35	To sustain historical significance to the record, for consistency and accuracy, and reliability of the record. Only when these qualities of the record are unavailable through the USGS should other sources be used. One data source makes information management more productive and useful to water resource manages.

Cooperator – 36 Cost share; Expertise; Objectivity in the interpretive studies.

19. What does the USGS offer through the Coop Program that you cannot obtain elsewhere?

Cooperator – 1 See response to #18
Cooperator – 2 Nothing; WRD staff do good technical work and WRD doesn't have much problem with credibility. However, there are some pluses associated with the GS: Continuity, Expertise, Ease of contracting, Data are all available in one place, Consistency of training that provides some assurance of quality
Cooperator – 3 Highest expertise for least cost.
Cooperator – 4 Cooperative efforts with 3 divisions of the USGS (Water, Geologic and Mapping)
Cooperator – 5 Highest quality science and reputation for professionalism and impartiality.
Cooperator – 6 See answer to #18
Cooperator – 7 The USGS has maintained great credibility, which is particularly important in questions of perennial yield.
Cooperator – 8 Credibility.
Cooperator – 9 Credibility.
Cooperator – 10 Linkage to national databases and nationally consistent quality assurance procedures.
Cooperator – 11 Technical capability, quality, unbiasedness.
Cooperator – 12 Again, it is a combination of good quality that are unbiased.
Cooperator – 13 See above. In one case farmers would only agree to a water quality study if it were done by the USGS.
Cooperator – 14 Very little. "Old habits are hard to break."
Cooperator – 15 Ready access to expertise across nation, exposure to new ideas, a flexible work force to attack new problems.
Cooperator – 16 Good equipment, good instruments, good data quality assurance and availability on a consistent basis.
Cooperator – 17 Longevity and independence source of credible data.
Cooperator – 18 Credibility, quality, and continued support.
Cooperator – 19 Long record of experience, technical advice, and research.
Cooperator – 20 Level of expertise; nationwide credibility; unbiased work; agency has "been there".
Cooperator – 21 Stay abreast and employ latest field technologies. Also, see #18.
Cooperator – 22 Cost share is a major issue! Also, the intellectual impartiality of USGS is important. A consultant may give you the answer they think you want to hear. I also find it very helpful that the USGS also publishes reports and sends them through a peer review process.
Cooperator – 23 Expertise available in the organization. Available nationwide if not in District.
Cooperator – 24 Credibility, historical knowledge and expertise, solid science and reputation.
Cooperator – 25 The realtime, on-line water level data. The Board believes even this service could be privatized.
Cooperator – 26 Credibility, historical knowledge and expertise, solid science, and reputation
Cooperator – 27 Nationwide expertise in ground water model development and the stream gage modeling and training school for his staff as the needs and opportunity presents itself.
Cooperator – 28 The District feels that there is a great deal of credibility associated with doing work with USGS. Quality Control can be obtained elsewhere, but they are not sure that there is another entity that can provide the credibility. Public access

to and the availability of the quality assurance information with the data encourages a wide range of users.

The D.E.C. has the same response, but adds that with interstate compact they are a headwaters state with serious issues of interstate relations. The USGS Cooperative Program provides the necessary data and quality has never been an issue with the agency. Hydrological data collection, i.e., stream gage networks, on the scale that we need them cannot be obtained elsewhere.

Cooperator – 30 Long term stability

Cooperator – 31 Access to GEOS

Cooperator – 32 See responses in B.

Cooperator – 33 Expertise of the individuals involved in the program and the reputation of the USGS for accuracy and reliability. Credibility and impartiality.

Cooperator – 34 A pool of talent to address a multitude of technical issues important to our organization, generally through a single manager within the organization; and the expertise and staffing for the development and maintenance of data collection programs crucial to our mission.

Cooperator – 35 The capacity and expertise to operate a state-wide data collection and assessment program, consistency of data across the state and nation, public access to information in near real-time, and a unified effort by many organizations to support one data collection effort.

Cooperator – 36 Expertise, especially in gaging; neutrality

20. What is your opinion of the Coop Program contracting out parts or all of the work you have asked them to perform?

Cooperator – 1 Cooperator will be happy to be the contractor, collect the federal dollars, and do the work. Can't be cost effective to pay GS overhead and Contractor overhead. Cooperator likely can do the job cheaper without the GS if the work is to be contracted out to other than the cooperator.
If quality can be assured and a cost advantage can be realized, OK.
Easier to conceive of contracting out data collection than interpretation.
Concerns:
Cannot have as intimate oversight of work if done by consultant.
Won't know the product as well if done by consultant.
Difficult to defend consultant's work when it is applied to resource management decisions.
Data may not be as available
Quality may suffer, or be perceived to be inferior.
Many interpretive projects are difficult to precisely define until part way into the project. If contracted to a consultant, cooperator may lose flexibility to develop scope of work as project develops. (This is part of what makes the projects "cooperative".)
Lose flexibility to evolve a work plan.
Lose credibility with regulated public who have seen consultant be an advocate in the past.
Lose all the advantages itemized Question 18.

Cooperator – 2 Concerned that the contract might be managed by a contract officer rather than a technical person capable of critical evaluation of the product. It would be acceptable for GS to sub-contract pieces if the work is well supervised and a cost saving could be realized. Concerned with quality control if contractors/consultants are used. Cooperator currently contracts observation

	well measurement at 45% of GS's costs. Cooperator currently contracts gaging at 4 SW sites, for less than GS's costs, but needs supervision by someone with historical knowledge of the gage and appropriate standards. Cooperator build more program through contractors.
Cooperator – 3	County would seek to be recipient of such contract.
Cooperator – 4	Contracting out is a bad decision. Quality Control problems.
Cooperator – 5	If it had to be contracted utility would probably want to contract directly with service provider.
Cooperator – 6	Not in favor.
Cooperator – 7	NOT ADDRESSED.
Cooperator – 8	O.K.
Cooperator – 9	No problem, as long as the USGS maintains oversight and quality control
Cooperator – 10	No problem, as long as the USGS oversees quality control. In fact, I would encourage contracting for any routine, production-line type of work. Also, when it comes to research projects and interpretive studies, the USGS should engage the best and brightest individuals they can find, within reasonable costs. The USGS doesn't always have the best and brightest people on their staff; it is appropriate for the USGS to hire or collaborate with the experts, be they consultants, scientists from cooperating agencies, or university professors and their graduate students, for many of the research projects and interpretive studies. Nonetheless, the USGS should have its own experts oversee the projects to maintain quality control.
Cooperator – 11	Could potentially affect the quality and perception of unbiasedness. For example, I have seen poor work by local certified laboratories. Would prefer the USGS to do the work.
Cooperator – 12	It would potentially affect the "unbiasedness" which the USGS currently has.
Cooperator – 13	Some aspects of the work can be contracted, such as well drilling. In one case the our laboratory was used by the USGS rather than their laboratory, indicating their confidence in and willingness to use other resources.
Cooperator – 14	This would be fine if it were cheaper.
Cooperator – 15	We could contract out just the same for less. We want USGS to do the work, not out-source it.
Cooperator – 16	Some work would be ok. Possibly could use previous USGS employees. It is important to maintain the usual USGS data quality assurance procedures. Depends on nature of project and whether the needed expertise and credibility of USGS.
Cooperator – 17	We have not really tried to pursue this. GS could probably hire others to do the work but it would strongly be encouraged by us that GS provide oversight in what parts others are accomplishing. And providing oversight may be just as costly as doing all the work themselves.
Cooperator – 18	If GS would provide tight controls over a contractor, we would not have a real concern. Contracting-out is definitely an option if we could convince GS of establishing criteria/levels of oversight and review for different types of work.
Cooperator – 19	If GS had control and QA/QC assurances would be OK with them.
Cooperator – 20	If GS contracted work, then why not go directly to contractor (and save money by cutting out GS as the middle man!).
Cooperator – 21	Would have concerns regarding cost. We might as well go directly to third party itself. This presumes the QA/QC would be protected.
Cooperator – 22	I really don't like that idea. I believe the USGS remains impartial and sets standards based upon science. If this stuff were contracted out, it would go to the "low bidder."
Cooperator – 23	With sufficient oversight would be acceptable.

Cooperator – 24 We joined in partnership with the USGS for their work, not that of others. Contracting out small routine, simple tasks is fine, but not critical or major components.

Cooperator – 25 The Board would feel that it had lost a degree of control over the project and that the Board could effectively contract the work directly with the subcontractor.

Cooperator – 26 We joined in partnership with the USGS for their work, not that of others. Contracting out small routine, simple tasks is fine, but not critical or major components.

Cooperator – 27 NOWAY. We believe that outside groups have a higher overhead.

Cooperator – 28 Both prefer this not be done.

Cooperator – 29 Department 1 - We are opposed to this. When we contract with USGS, we are contracting to receive a certain level of expertise, which often cannot be supplied by any other entity.
Department 2 - OK as long as quality control is maintained and data collection is not compromised.

Cooperator – 30 OK as long as quality control is maintained and data collection is not compromised.

Cooperator – 31 No Problem as long as QA/QC is maintained and it might work better with their expertise providing oversight rather than the cooperator doing it.

Cooperator – 32 See answer to #14

Cooperator – 33 The District would be very concerned about the USGS "contracting out parts of all of the work." The District participates in the USGS cooperative program because the reputation of the USGS that any work they complete is accurate and reliable. Contracting work out of the USGS would leave the District concerned about the quality of all completed work.

Cooperator – 34 This could work, but only if the USGS is able to fully support and accredit the work performed and delivered, and if there is a specific advantage to the cooperator. The advantage should be reduced cost and timely product delivery. Should such a program result in shoddy or questionable work product, the USGS may suffer irrecoverably. Private consultants are sometimes questioned to their motivation or methods. The USGS is generally perceived as a scientific body available to assist organizations such as ours with data needs and resolution of technically complicated problems and issues. If this perception is altered through sub-contracting of work, it could be very limiting to the utility of the work done by the USGS. Basic data collection, because it provides the most reasonable opportunity for quality control, may also offer the best opportunity for this approach.

Cooperator – 35 Acceptable if it provides the same quality and standard of service provided by the USGS and if it serves the interests of the public.

Cooperator – 36 May be OK as long as GS doesn't contract out the project design or QA/QC and consultants can fund keeping up with, or creating, state-of-the-art technology.
-Cooperator skeptical that contractor can be objective at developing project design for financial reasons.
-Cooperator concerned that consultant apt to plan and do what he knows rather than what needs to be done.
-Cooperator not interested in paying consultant to do the work AND paying GS to develop technology.

D. Products - The products developed in the Coop Program need to be useful to cooperators and other users. These users include representatives of governments, the scientific community, the private sector, and the general public. The products also

fulfill national needs by building long term national data bases, augmenting activities in other USGS programs, and providing a national picture of water resources through synthesis of information from individual projects across the country. In addition, the Coop Program advances the development and application of new approaches and methodologies relevant to water resources issues.

21. Is the Coop Program using the appropriate, applicable, and most cost effective level of technology to satisfy your needs?

Cooperator – 1	Yes, now that cooperator works with GS staff on project. In SW gaging, real time data are expensive, but that cost and effort is appropriate. It is sometimes the case that the level of technology chosen is more dependent upon who is available to do the work than on what is appropriate to the task.
Cooperator – 2	Ground water work: On Target; but would like to see GPS be used as a standard practice in site-inventory work. Surface water data base: On Target, but data bases need maintenance and clean up to be more useful.
Cooperator – 3	Satisfied; OK level of sophistication.
Cooperator – 4	Technology is fine. Overhead cost is hurting the program
Cooperator – 5	Yes
Cooperator – 6	Yes
Cooperator – 7	NOT ADDRESSED.
Cooperator – 8	We're not convinced that the new, stream gages with telemetry are necessarily better technology than the old instruments. We are disappointed that some of these gages still are down for as much as 10 days. However, access to real-time data is a plus.
Cooperator – 9	We have always been envious of the USGS's having the latest computer technology, whereas our office isn't able to keep up. More than once, in the middle of a three- to five-year study, everything was put on hold while a new computer system came on line at the USGS, thereby delaying the report.
Cooperator – 10	Yes
Cooperator – 11	In general, yes, but have had some frustration in not seeing ground water data on the Internet. Also would like to have electronic link to the USGS data.
Cooperator – 12	Appropriate – yes; Applicable – yes; Cost effective - probably not; the USGS is expensive.
Cooperator – 13	I don't really know but I assume so. Sometimes the sophisticated equipment and technique is necessary, for example in sampling for trace organics to avoid false positives and give accurate quantification. One cannot predict the use of the data in the future, and therefore the extra effort may prove useful in the long term. One specific COOP monitoring project using Acoustic Velocity Meters has been criticized by some as being overdone and it was suggested that the number of instruments installed could be reduced, thus saving about $100,000. We have not yet been able to make a proper evaluation to arrive at a decision on this issue.
Cooperator – 14	Yes, with the exception of "most cost effective".
Cooperator – 15	Yes
Cooperator – 16	Yes
Cooperator – 17	I have always assumed they were using the latest technologies that best fit the job they were performing. There is one case we have where we are measuring flows with an acoustic flow meter on the outlet of one of our dams. And just 100 yards downstream, the GS is measuring flow with a continuous stage recorder. That particular measurement seems redundant and not cost effective.

Cooperator – 18	Yes, they seem to be doing a good job of that.
Cooperator – 19	Yes, but have been frustrated with inflexibility of GS (ie. deviation from GS standards to reflect customer needs).
Cooperator – 20	Yes. GS good at staying on technology cutting edge.
Cooperator – 21	Certainly appropriate & applicable. Cost effectiveness of technology is reasonable.
Cooperator – 22	The USGS and the cooperator work that out, in my opinion. When the USGS brings me a project, I negotiate with them as to what should be included and what shouldn't. And, that varies greatly according to the percentage of match they pitch to me.
Cooperator – 23	Yes
Cooperator – 24	Yes, absolutely
Cooperator - 25	There is concern at the Board that the same service can be procured more cheaply from the private sector.
Cooperator – 26	Yes, absolutely.
Cooperator – 27	Basically yes
Cooperator – 28	The Regulating District is a stream gaging activity that feels the Cooperative Program is very much up to date. For the last 10 years or so they, have had an annual review meeting with the District Office which has been an excellent opportunity for them to learn about newly available technologies and to continue to keep their program current. D.E.C. feels that the Cooperative Program is using appropriate, applicable and cost effective technologies and if there is a problem it is that they lack the funds to take advantage of these technologies.
Cooperator – 29	Yes
Cooperator – 30	Unsure
Cooperator – 31	Yes
Cooperator – 32	Yes, I believe the program is using appropriate technology, such as GIS, GPS, e-mail, and gravity instruments. Yes. The USGS keeps up with leading edge technological changes without venturing into "bleeding edge" technology which could provide unreliable data.
Cooperator – 35	We have led the nation in technological advances used to collect and display gage record.
Cooperator – 36	Generally right on the mark. Questions whether costs associated with higher tech approach are warranted.

22. What suggestions do you have for the Coop Program to improve approaches, methods, and technologies to enhance the usability and effectiveness of products?

Cooperator – 1	Involve the cooperator in the project to assist in day-to-day work and ad hoc decisions.
Cooperator – 2	Improve GW Site Inventory—Its hard to use. Make more data more available to the general public. Make data, reports, technology user friendly. Look at new stream gaging technologies and varying levels of quality control. Make reports available in PDF format beginning with the most recent reports and working backward through the entire GS library. Find a way to include data from other sources than GS in GS data bases. Improve the timeliness of access to data—should not have to wait for associated reports to be peer reviewed.
Cooperator – 3	None
Cooperator – 5	None
Cooperator – 6	None

Cooperator – 7	Improve documentation and data collection on water use.
Cooperator – 8	Not addressed.
Cooperator – 9	Make sure the products are not delayed when new technologies are introduced.
Cooperator – 10	Making more data accessible on the Web is a good direction for the USGS to go. The USGS Water Resources Division has little geological expertise and should acquire more geological framework information for many projects. Some of the younger hydrologists and hydrogeologists with the USGS lack field experience.
Cooperator – 11	Would like to see more consistent attendance of USGS representative at our monthly Technical Advisory Committee meetings.
Cooperator – 12	Possibly have the USGS increase its contribution from 50% to 60%.
Cooperator – 13	More finished work products available on the Internet
Cooperator – 14	Studies could be more practically oriented. Make reports more understandable to the general public.
Cooperator – 15	Continue use of internet and fact sheets to display information. Maintain access to provisional data.
Cooperator – 16	On technical studies, a fast turn around of information gathered and the final report. A well-written draft report would be acceptable for early use by our office.
Cooperator – 17	With respect to streamgaging activities we have with GS, there would be more meaning to the stream flow records if additional interpretive information were included with the data set. It appears to us that the focus is only on collecting the data, providing the analysis and quality control, and publishing the information but we think some interpretation/narrative would be appropriate especially in the case where gauges are in series on a particular stream. How the stream is impacted by accretions/depletions between the gauges would add more meaning.
Cooperator – 18	Our interest is in data collection, so we would like GS to define criteria for different levels of quality control. We look to them for being experts in data collection, so we would hope they stay-a-tune to state-of-the-art equipment for measurement and recording for cost-efficiency sake. When we did use GS for interpretive studies, we remember them taking forever and a day to get a report out.
Cooperator – 19	Stream gauge wise, they're right on.
Cooperator – 20	No suggestions; however, use of internet has been big plus. Use of electronics very good.
Cooperator – 21	USGS appears bound to do analysis; if they collect samples. Couldn't this be done elsewhere more cost effectively? Note that USGS's analytical methods can be different than USEPA's. This can be problematic.
Cooperator – 22	I really don't have any suggestions regarding this.
Cooperator – 23	USGS should be open to change due to new technology, etc.
Cooperator – 24	None
Cooperator - 25	Timeliness of reports and access to even preliminary data has been a major concern of the Board over the years.
Cooperator – 26	None
Cooperator – 27	Continue to improve the timeliness of the products
Cooperator – 28	The Districts response is that USGS, in their estimation, is on top of all of these important issues. They are confident that improvement is ongoing.

The D.E.C. feels the Cooperative Program helps them stay up with private and academic developments in terms of technologies and methods. A meeting of

their various divisions and other partners on the USGS agreements is scheduled soon, and will provide more information on where any specific Program area feels that the technologies are not up to date.

Cooperator – 29 As previously stated, data and reports need to be available in a more timely fashion. We find the fact sheet format very useful for sharing information with non-technical staff and the public. These should be a part of every project.

Cooperator – 30 None

Cooperator – 31 Nothing at present. Internet access has been a great improvement.

Cooperator – 32 Outreach presentations are needed with water users and the public.

Cooperator – 33 Allow qualified cooperators to participate in drafting and review process in special studies. This is already done on some projects but should be expanded to all reports/products.

Cooperator – 35 Real-time data collection offers improved opportunities to monitor and maintain a data collection network. Service routes can be streamlined, or adjusted to meet immediate needs, and to provide assurances of data availability.

Cooperator –36 Decrease time necessary to release reports; however, cooperator appreciates the QA/QC and peer review and realizes they take time. Timeliness seems to be improving

23. Is the Coop Program conscious of and sensitive to the needs of the cooperator in areas such as:

Cooperator – 1

a) types of data collected, Yes, if cooperator has time / ability to participate in project.
b) documentation of data, " " " " " "
c) timeliness of products, " " " " " "
d) value of products, and " " " " " "
e) other?

Cooperator – 2

a) types of data collected, Data collection is a compromise between what the cooperator wants and the federal interest. (But that's not all bad; the GS provides a valuable perspective. However, more flexibility would be appreciated.
b) documentation of data, Some difficulty getting documentation from the GS lab, e.g. can't get holding time for samples. GPS data not used in Site Inventory.
c) timeliness of products, GW and SW data collection OK. Reports slow (makes cooperator reluctant to use GS for interpretive study. Speed up analysis time and the peer review.
d) value of products, and GS can be too scientific, not practical enough. GS seems to struggle in its understanding of water management and allocation issues of the cooperator. Connection of the coop product to management options must be obvious. Attitude of the District Chief seems to make a difference.
e) other?

Cooperator – 3

a) types of data collected, Yes, because it is done jointly
b) documentation of data,
c) timeliness of products, Late reports
d) value of products, and
e) other?

Cooperator – 4

a) types of data collected, yes
b) documentation of data, yes

c) timeliness of products, fair
d) value of products, and no
e) other?

Cooperator – 5 Very responsive to needs. USGS meets with Board whenever requested.

Cooperator – 6 Yes on all points.

Cooperator – 7

a) types of data collected, - Yes.
b) documentation of data, - The water-use data need to be better documented. There are wide variations, from year to year, and from agency to agency, particularly in terms of agricultural use. Better documentation needs to be given on how the estimates are made.
c) timeliness of products, - We would prefer to have annual water-use data, rather than wait for a five-year report.
d) value of products, and - Yes.
e) other?

Cooperator – 8

a) types of data collected, - Yes.
b) timeliness of products, - Timeliness is poor. This and cost are our biggest complaints.
d) value of products, - Yes.
e) other? - Cost is high. Some states have pulled out of the stream gaging program because costs have risen so high that it is cheaper for the state to do it themselves. Nevada hasn't done this yet, in part because we don't have many satellite offices within the state.

Cooperator – 9

a) types of data collected, - Yes.
b) documentation of data, - There have been a few problems here , but nothing serious.
c) timeliness of products, - This is a constant problem. No matter what we do, we can't seem to light a fire under the USGS to get products out on time. Their review process seems to be way too long. Sometimes final reports take years to come out. The USGS seems immune to criticism.
d) value of products, - Yes.
e) other?

Cooperator – 10

a) types of data collected, - Yes
b) documentation of data, - Yes
c) timeliness of products, - Mostly, but there have been problems on some project.
d) value of products, - Yes
e) other? - Cost is reasonable for the quality of data we receive.

Reports should be reviewed externally, by experts outside the USGS. Also, press releases should be reviewed externally. There is sometimes an appearance that the USGS is magnifying a problem, so that they can get additional funding. They also occasionally and inappropriately interject policy recommendations.

It is good to see scientists and engineers from cooperating agencies as co-authors on USGS reports.

Cooperator – 11 Yes in a), b), and d). With respect to c), this is a big weak area.

Cooperator – 12

a) yes
b) yes
c) Sometimes slow regarding the delivery of final project reports
d) yes

Cooperator – 13 Yes, but this depends on good feedback, and working closely with the COOP project manager to ensure that our needs are met.

Cooperator – 14

a) types of data collected, (Yes, USGS has been very helpful when special measurements are needed.)
b) documentation of data, (Yes, generally.)
c) timeliness of products, (Yes, for gaging data; no, for many of past interpretive studies.)
d) value of products, and (No, this is of continuing concern.)
e) other?

Cooperator – 15

a) types of data collected, - Yes.
b) documentation of data, - Yes.
c) timeliness of products, - Better.
d) value of products, and - Yes.
e) other? - Tend to downplay accepted tried-and-true data for new techniques.

Cooperator – 16

a) types of data collected, - Yes.
b) documentation of data, - Yes.
c) timeliness of products, - Sometimes not on final report.
d) value of products, - Yes.
e) other?

Cooperator – 17 The thing that comes to mind here is: 1) telemetry data is available very quickly but is only on the internet for 14 days before it is lost. We suggest the data be on the internet for a longer period of time, 2) for data which is collected at continuous, "strip" recording devices, that data is not available for up to a period of 18 months; can access to this data be sooner?

Cooperator – 18 We have a good working relationship with GS. They are very sincere in their efforts to work with us. They listen attentively to our suggestions and our needs. And they provide us with interim progress reports as well as data when it becomes available.

Cooperator – 19

a) OK
b) Since we do documentation to GS standards, no problem.
c) Stream gauge data very timely. On ground water work timelines have been a problem us
d) has deadlines while USGS is locked into their protocols.

Cooperator – 20

a) Yes, have had annual meetings to discuss needs.
b) OK, but have had problems with interpretations of data (ie, timelines).
c) Is a problem, but seems to be driven by national policy/procedures vs. local constraints. On other hand, GS has attempted to be creative to minimize this (ex. open file reports). All in all, not bad.
d) OK.
Have found that $$'s speak. GS needs to keep their clients happy.

Cooperator – 21

a) Not to the extent USGS is inflexible in types of data collected and associated methodologies (ex. Cross-sectional sampling).
b) No problems.
c) No problems based on our recent experience.
d) No problems.
e) Not particularly sensitive to financial limitations of cooperation & identification of cost effective approaches for individual project tasks.

Cooperator – 22 Yes, across the board. For example, right now, we're using less water out of the _____ Beds than we were in 1943. The USGS makes that measurement data available over the Internet and provides very helpful displays for meetings. Again, it's because the science of the situation is neutral.

Cooperator – 23

a) types of data collected, yes
b) documentation of data, yes
c) timeliness of products, taking too long to complete reports
d) value of products, and yes
e) other?

Cooperator – 24 Yes, very sensitive to the quality and types of data collected, documentation of all data, the timeliness of all projects, and open to suggestions of various approaches to consider.

Cooperator – 25 The Board would say yes to all of the above, and has seen that the WRD has made major improvements in the area of timeliness of reports, especially with the near real-time access to data online.

Cooperator – 26 Yes, very sensitive to the quality and types of data collected, documentation of all data, the timeliness of all projects, and open to suggestions of various approaches to consider.

Cooperator – 27

a) types of data collected, yes
b) documentation of data, yes
c) timeliness of products, yes
d) value of products, yes
e) other? We would like to see a fixed cost for various parts of the program this would prevent the USGS from over running the completion data and hence the cost. We believe that with fixed cost of the project USGS would work to produce the product on time and within costs. There would be some encouragement for USGS to complete the project under costs. Fixed cost would prevent the USGS from taking on too many projects and help the USGS to sharpen their pencil on cost estimates. USGS should tailor their report to meet the needs of their cooperator and not always use a standard USGS format.

Cooperator – 28 The District feels that their annual meeting with the UsGS goes a long way towards improving the sensitivity and understanding of needs and issues. They think that the documentation of data is excellent, and that the timeliness problem has vanished with the new information systems. There is concern about the site averaging costs appreciate. There is a concern they are subsidizing other sites. There would be interest in a more direct relationship between the cost of the work and the local value of the work.

D.E.C comments that the review process is tedious. They are very happy with flood control with regard to all five categories and will explore whether other divisions have any problems regarding these issues.

Cooperator – 29

a) types of data collected, yes
b) documentation of data, yes
c) timeliness of products, This could be improved.
d) value of products yes

Cooperator – 30

a) types of data collected ok
b) documentation of data
c) timelinesss of products, great

Cooperator – 31

a) types of data collected, yes
b) documentation of data, yes
c) timeliness of products, yes
d) value of products, yes

Cooperator - 32

a) yes
b) yes
c) Project management not always efficient on meeting deadlines and updates
d) Yes
e) No other comment

Cooperator – 33 Yes to a through d. No other needs which are not being met come to mind.

Cooperator – 35

a) types of data collected, yes
b) documentation of data, yes
c) timeliness of products, mostly
d) value of products, and mostly
e) other The USGS is not sensitive to cooperator interests in changing gage operation protocol. It may not be necessary to service a gage today if the missing record is easily compiled, but it would be valuable to service the gage if an event were in progress.

Cooperator – 36

a) types of data collected, yes
b) documentation of data, recently yes; earlier work not well documented
c) timeliness of products, See response to #22, recent performance improving
d) value of products, and definitely

Cooperator – 37

a) types of data collected, Not always. An example (NWQA project in _____) was given in which the USGS ignored data available from other sources.
b) documentation of data, USGS use of proprietary data can be a problem.
c) timeliness of products, Timeliness is always a problem. I am aware of one report from 1983 that is still not published; the author has now retired. I also know of a modeling report that was started in 1978 but published in 1996. Most reports are a year or two behind schedule. Part of the problem is that every project seems to be underfunded.

24. Do you have timely access to the data you need?

Cooperator – 1 Yes, because cooperator is a part of the project.
Cooperator – 2 Sometimes; SW gage data readily available.
GW level data readily available.
When associated with interpretive reports, data are slow in being made available.
Cooperator – 3 Yes
Cooperator – 4 Ok
Cooperator – 5 Yes. Access via WEB page very effective
Cooperator – 6 Yes.
Cooperator – 7 Not addressed.
Cooperator – 8 Yes
Cooperator – 9 Yes
Cooperator – 10 Yes, but we haven't pressed very hard.

Cooperator – 11	Yes and no. Able to get preliminary data but use restricted. Published data sometimes not available in a timely manner to be used for decision making
Cooperator – 12	Most of the time the access of data is satisfactory.
Cooperator – 13	Yes. There is one case I know of where the scientist who used the data did not feel that it met his needs for modeling.
Cooperator – 14	Yes, internet availability of stream gaging network data has been a major improvement!
Cooperator – 15	Yes
Cooperator – 16	Yes
Cooperator – 17	See comment to #23.
Cooperator – 18	By and large, yes.
Cooperator – 19	Yes
Cooperator – 20	Yes
Cooperator - 21	Yes. Has improved tremendously in recent years.
Cooperator – 22	Yes – I think Internet access is great!
Cooperator – 23	Yes, get preliminary report
Cooperator - 24	Yes
Cooperator –25	This has been a major issue in the past for the Board but has improved with time.
Cooperator – 26	Yes
Cooperator – 27	Yes
Cooperator – 28	The District says yes. The D.E.C. says yes especially for flood data. Groundwater data has been slow at times, but is not bad and is being improved.
Cooperator – 29	Not always. The water quality data has taken several months before we receive preliminary results. Provisional stream discharge data can usually be accessed quickly, but it is often a year before the data are no longer considered provisional. While provisional data are adequate for operational decisions and can be used in preliminary data analysis. We are reluctant to use provisional data in reports.
Cooperator – 30	Would be better if they could get real time data via the internet
Cooperator – 31	With internet access there has been a huge improvement. Prior release of provisional data was a problem, but not any more.
Cooperator – 32	Yes, both hardcopy and electronic
Cooperator – 33	Generally, the data we need from the USGS is provided in a very timely manner. The surface water data is provided monthly. Water level data is provided as needed.
Cooperator – 35	Yes, WEB access has made access near real-time and accessable to the public.
Cooperator – 36	Yes, have real time data available on gages

25. In what form will you want Coop Project output delivered in the future?

Cooperator – 1	Needs to be accessible by the public. Electronic format.
Cooperator – 2	Electronic and in mainstream, up-to-date formats. Timely.
Cooperator – 3	Electronic format is good, but still want an official paper document.
Cooperator – 5	Internet good for data.
Cooperator – 6	Paper/electronic
Cooperator – 7	Not addressed.
Cooperator – 8	We see our needs for digital data rising.
Cooperator – 9	I still prefer paper reports, but some of our younger staff prefer digital products.
Cooperator – 10	Paper copy and electronically for now.
Cooperator – 11	Electronically, compatible with City equipment. CD ROM OK.

Cooperator – 12	Produce data in an electronic format that is easily transferable among agencies. Internet access and CDs are examples
Cooperator – 13	We would like to see more information on the Internet, in GIS format using ARCVIEW
Cooperator – 14	If interpretive studies were being done now, agency would like products to be more understandable to the general public.
Cooperator – 15	Data , interpretative analysis and results via fact sheets.
Cooperator – 16	No changes. Would be concerned if USGS went totally to electronic products because they may not meet all long term needs. In many cases a published hard copy report should be available.
Cooperator – 17	Without a doubt, use of the internet is highly recommended. Electronic, spreadsheet format is very useful to us.
Cooperator – 18	Electronic delivery is a convenient means to get the data to us.
Cooperator – 19	Electronics are good.
Cooperator – 20	Enhanced use of electronics good, but computers fail. Best not to totally abandon hard copy.
Cooperator – 21	Electronics are desirable.
Cooperator – 22	The form may be in both electronic and paper, but please don't do away with the paper copies.
Cooperator – 23	CD format
Cooperator – 24	This would vary by what the project was.
Cooperator – 25	The Board wants digital output of the longterm data collection function.
Cooperator – 26	This would very by what the project was
Cooperator – 27	The report should meet the Coop needs and not a stand format. Water Supply paper format is not always needed.
Cooperator – 28	The District uses CD and WEB access as their primary form. They have limited need for paper copies. D.E.C. prefers electronic delivery, especially for mapping, but for most of their Coop Program.
Cooperator – 29	Data should be delivered in digital format. Reports should be delivered as hard copy and in a digital format.
Cooperator – 30	No change
Cooperator – 31	Internet data delivery works very well
Cooperator – 32	No suggested changes.
Cooperator – 33	Electronic format is required in some instances and is very acceptable to the District for almost all work. Paper copies of the complete work must also be provided.
Cooperator – 35	??
Cooperator – 36	Gaging is available on internet now. Would like to see emphasis on GIS format for GW & SW data and reports using Arc Info & Arc View

F. General Closing Question

26. Do you have any recommendations for improving or changing the Coop Program?

Cooperator – 1	Involve the cooperator in the day-to-day conduct of interpretive studies. Involve the cooperator in QA/QC development. Data collection sometimes done by individuals as such a low pay grade, that they find other work and move on resulting in a loss of institutional memory. Consultants may be able to provide better long consistency and knowledge. Need better interaction amongst the cooperators within the district. Create cooperators advisory panel to meet periodically to identify and address issues.

	Need sharing of expertise between districts to get the best mix of talent for individual projects. GS needs to be constantly aware of, and sensitive to, the issues behind the projects, the cooperator's needs and how the product will be used. When surface stations need to be dropped, convene a meeting of cooperators to decide which gages to drop and to determine if someone else can pick up the expenses of the targeted stations so as to keep them operative.
Cooperator – 2	Don't move away from basic data collection. Assure District Chiefs are interested in cooperator's mission. Make the effort to understand the needs of the cooperator—be practical. Be creative in working with cooperator to maximize efficiency. Gaging costs seem to increase disproportionately. Need to control gaging costs and not use gage revenue to fund other activities or programs. Coop program is generally good, but it needs an annual evaluation with the cooperator. Cooperator should periodically accompany GS personnel during field data collection as a check on quality.
Cooperator – 3	Overall, coop program is a good one. Would like a closer working relationship with GS staff.
Cooperator – 4	Coop Program minimum of 50-50. All coop money to go for data collection. In-kind services allowed by state in coop program. More coordinated project between state and federal employees
Cooperator – 5	Time to get final reports too long.
Cooperator – 6	None.
Cooperator – 7	Improve the accuracy of water-use data.
Cooperator – 8	Develop more cooperative agreements with multiple parties, to help share the costs. One wonders why three different federal agencies are engaged in more or less the same activity. For example, the National Resources Conservation Service (Dept. of Agriculture) collects data on snow pack; the National Weather Service (NOAA) predicts stream runoff; and the USGS collects data from stream gages. It seems that there should be better coordination among the federal agencies.
Cooperator – 9	Be more timely and more cost conscious.
Cooperator – 10	Minimize competition with the private sector, universities, and state agencies. Putting more data on the Web is a good idea, but there need to be ways of telling whether and when these data have been corrected.

It would be good to have cooperators involved in setting USGS priorities for areas to work. It would be difficult to engage all cooperators, but perhaps a board of three or four, perhaps even recent retirees, could be formed to provide some external input into setting priorities. It appears that the USGS is playing funding games, wherein the USGS requires 100% from the cooperator if it thinks the cooperator really needs the project done, regardless of whether the project would otherwise be appropriate for federal matching funds.

Individual USGS state district offices should work more collaboratively with one another on projects that cross state lines.

The USGS mission should be changed to allow items that are not "in the national interest." This would allow the USGS to work more on projects of local interest. However, many projects of local interest also are in the national interest, including a commitment to long-term databases (stream gaging and water quality).

Cooperator – 11	Several years ago when the US Congress was looking into eliminating the USGS we wrote a letter of support. There is need to give the Congress and public a clear understanding of the mission of the COOP program and how it complements state and local agencies. The background statement about the legislation of the USGS makes it appear antiquated, need to have good communication with politicians and decision makers, stressing the uniqueness of the COOP program in meeting local needs. Perhaps some good pamphlets are needed. There is also need for better coordination between federal, State and local monitoring programs. As an example, EPA has been promoting the EMAP program for surface and ground water monitoring, while the state has been pursuing the Ambient Monitoring Program. The local Water Management District has opted out of the State program. I would like to see less duplication and more coordination.
Cooperator – 12	Overall, I believe that the USGS should increase its contribution to the coop program.
Cooperator – 13	No
Cooperator – 14	Provide accurate data on real cost of gaging network.; Greater match dollars; Project proposals need to better reflect cooperator needs instead of USGS interests; Federal fiscal year does not match state's, thus creating accounting nightmares; USGS needs to be able to "market" themselves better.
Cooperator – 15	Rebalance the internal USGS dollar allocations to bring it up to $80-100 million level, adhere to the 50% match policy.
Cooperator – 16	No
Cooperator – 17	Our working relationship with GS through the COOP Program has been very successful. The work they do is very professional and we appreciate their concern for quality. Stream gauging and data collection is very necessary to our needs and other water managers/administrators, so it is our hope the GS emphasizes this activity more heavily in the future. We are also appreciative of their efforts to offer us advice and guidance and to share their experiences on similar investigations the District is conducting. They are very cooperative us with, and very often without a cost to us on this type of request.
Cooperator – 18	Looking for ways to reduce costs while keeping in mind the data needs of the cooperator. Again we have a good working relationship with GS and we hope it lasts. The public announcement is disturbing to us, that is reducing matching funds does not equate to no difference in the program in our minds as the announcement says. This all seems like smoke and mirrors to us.
Cooperator – 19	Overall we are happy with flood control and stream gauging. Have had problems with inflexibility in ground water interpretive work.
Cooperator – 20	GS has a dreadful public relations program! Hurts them. GS needs to institutionalize a core network of gauges (ie, do not drop!)
Cooperator – 21	Wondering if there is a better way to inform cooperators of available dollars. Now it seems to be network based. (Ex. District offices can issue annual letter announcing availability of cooperative dollars).
Cooperator – 22	Yes, more money involved in the program, and available to be matched by cooperators. A 50/50 split is okay. A 60/40 split, with USGS taking the 60 would be even better. I always remember that "Science isn't cheap."
Cooperator – 23	Completing reports in a timely manner; There should be "in progress reviews" of projects. Perhaps on a quarterly basis
Cooperator – 24	Provide additional matching funds and keeping up the excellent quality of work being completed.

Cooperator – 25 The Board is concerned about the decreases in funding for the Coop program and that possibly the State may not be able to replace the lost budget, especially for the long term data collection function.

Cooperator – 26 Provide additional matching funds and keeping up the excellent quality of work being completed.

Cooperator – 27 No

Cooperator – 28 The River Regulating District, _____ is very happy with the relationship. He feels there is always room for improvement but feels that USGS is on tract. He has a very good working relationship with the USGS. He has some concerns about the future of sites that are important to him that may end up being discussed for discontinuance, and feels a couple of sites may need to be added to his network, more to help the weather service produce more reliable flood forecasts than for his program. If two or three new stations are needed, he would question why a new station has to be so expensive; why it can not be it's actual cost.

The D.E.C. feels that they have an excellent working relationship with the State office of the USGS and having that office in the state is important to them. Looking over the last 20 years or so, one significant change is access to USGS training facilities, which have been very important. They feel they learned a great deal of what they do from your training staff, and that there would be benefit to doing more of that sort of training.

Cooperator – 29 Quicker delivery of final products (including reports and data) and having a 50/50 match on most contract projects.

Cooperator – 30 No

Cooperator – 31 Maintain their focus

Cooperator – 32 See 6, 7, 8, 10, 13, 14, 22, and 23

Cooperator – 33 Expand the cooperative program to include climatic data, reactivate gages, and more studies.

Cooperator – 35 The Coop Program, while maintaining national data collection and delivery standards, needs to be flexible to accommodate cooperator needs and requests. Decisions on operating costs, particularly cooperator costs, need to be made jointly, not unilaterally. Cooperators feel that footing 50% of the costs should include the opportunity to help with 50% of the decision making with that program.

Cooperator – 36 Timeliness

Appendix E – The 1999 Numerical Survey of Cooperators

1. Transmittal letter for the survey
2. Blank Numerical Survey
3. Summary of Numerical Survey results
4. Written comments provided with the Numerical Survey

Transmittal letter for the survey

In Reply Refer To:
Mail Stop 409

March 30, 1999

Dear U.S Geological Survey Water Resources Division Cooperator:

As a participant in the U.S. Geological Survey's (USGS) Federal-State Cooperative Water Program (Co-op Program), we are asking that you provide feedback about the program by completing the enclosed survey. The survey was developed by and will serve as input to an external Task Force that is reviewing the Co-op Program.

The Task Force to Review the Federal-State Cooperative Water Program (Task Force) was established in August 1998 by the USGS's Advisory Committee on Water Information (ACWI) to conduct an external review of the Co-op Program. The Task Force was commissioned to review four critical aspects of the Co-op Program and report their results and recommendations to ACWI by July 1999. The areas for review are:

1) the Co-op Program's mission,
2) the way in which priorities are established for the Co-op Program,
3) the way in which work is conducted under the Co-op Program, and
4) the products resulting from the Co-op Program.

Copies of the Task Force's Terms of Reference (the charter given to the Task Force by ACWI) and the Task Force membership are enclosed for your information.

The Task Force is in the process of meeting with different Co-op Program stakeholders and gathering input and opinions from a wide range of organizations, like yours, which participate in or use information generated by the Co-op Program. This survey is intended to help the Task Force understand the importance of the Cooperative Program to your organization, your level of satisfaction with the program as it currently exists, and your ideas for improving the program.

Please take a few minutes to help us by filling out the enclosed survey. Your responses will be compiled anonymously and used to help the Task Force reach conclusions and make recommendations to ACWI on the Co-op Program. Please respond by April 16, 1999, if possible. If you are unable to respond by the due date, survey responses will still be accepted up through June 1999. A return envelope also is enclosed for your use.

The input of organizations, such as yours, is critical to the Task Force's success. Thank you for participating.

If you have any questions, please don't hesitate to contact either of us. If you would like to offer additional comments about the Co-op Program feel free to call us or to contact any of the Task Force members. If you would like to speak with someone in the USGS about the Task Force and/or the survey, you can contact Steve Blanchard, Assistant to the Chief Hydrologist (Executive Secretary to the Task Force) at 703-648-5629.

Sincerely yours,

Larry Rowe, Task Force Chair

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4 Enclosures

PAPERWORK REDUCTION ACT STATEMENT: A Federal agency may not conduct or sponsor and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Public burden for collection of this information is estimated to average 15 minutes per response. Comments regarding this collection of information should be directed to: Desk Officer for the Interior Department, Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503; and the Bureau Clearance Officer, U.S. Geological Survey, 807 National Center, Reston, Virginia 20192

OMB NO. 1028-0071; Expiration Date 2-28-2002

Blank Numerical Survey

Section 1: Introduction

This questionnaire relates to your **overall** experience with the United States Geological Survey (USGS) Water Resources Division (WRD) **Federal-State Cooperative Water Program (Coop Program).** For each Statement, please mark the appropriate box. If a Statement does not apply to your experience, please check the not applicable (NA) box.

The United States Geological Survey, through the Cooperative Water Program...

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	NA
• Provides products and services that are necessary for my organization to accomplish its mission.						
• Responds to the changing needs of my organization.						
• Keeps me informed of the types of products it offers.						
• Keeps me informed of the types of service it offers.						
• Coordinates with my organization on programs and activities that may be of interest to us.						
• Keeps my organization informed of programmatic and fiscal changes that affect us.						
• Responds to my requests in a timely manner.						
• Responds well to administrative needs (billing, agreements, etc).						
• Compared with other providers, the quality of products and services is worth the cost						
• Provider of unbiased scientific and technical support and products.						

Section 2: Proposals

Proposals from the Cooperative Water Program...

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	NA
• Address the needs of my organization.						
• Reflect work that is realistic in scope.						
• Are of appropriate content and length.						
• Are clear and understandable.						
• Present realistic work schedules.						
• Reflect reasonable pricing.						

Section 3: Data Collection

E=Excellent; AA=Above Average; A= Average; BA= Below Average; P=Poor; NA= Not Applicable

	Ground Water						Surface Water						Water Quality						Water Use					
	E	AA	A	BA	P	NA	E	AA	A	BA	P	NA	E	AA	A	BA	P	NA	E	AA	A	BA	P	NA
• Adequacy of geographic coverage.																								
• Length of data-collection period																								
• Frequency of data collection																								
• Field sampling techniques																								
• Use of the appropriate instrumentation																								
• Reliability of instrumentation																								
• Precision of instrumentation																								
• Instrumentation keeps pace with available technology																								
• Innovative use and application of instrumentation																								
• Overall data collection performance																								

Section 4: Data Analysis and Interpretation

E=Excellent; AA=Above Average; A= Average; BA= Below Average; P=Poor; NA= Not Applicable

	Ground Water						Surface Water						Water Quality						Water Use					
	E	AA	A	BA	P	NA	E	AA	A	P	BA	NA	E	AA	A	BA	P	NA	E	AA	A	BA	P	NA
• Technical approach selected																								
• Quality of the execution of the analysis and interpretation																								
• Timeliness																								
• Consideration of alternative interpretations																								
• Overall data analysis and interpretation performance																								

Section 5: Products

Requests for data, reports, and information...

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Not Applicable
• Are handled courteously						
• Are addressed promptly						
• Are answered accurately						

Reports (e.g., Water-Resources Investigations Reports, Open-File Reports, Data Reports)...

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Not Applicable
• Adequately address the objectives of the investigation						
• Include the appropriate level of detail						
• Are understandable						
• Are timely						
• Overall quality is excellent						

I have sufficient access to...

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Not Applicable
• Hydrologic data and reports in printed form						
• Hydrologic data and reports on the Internet						
• Hydrologic data and reports on-line by computer						
• Hydrologic data and reports on diskette, tape, or CD-ROM						
• USGS computers to access information						

Section 6: Summary

	Excellent	Above Average	Average	Below Average	Poor	NA
• Overall, I think the Cooperative Water Program is						

Section 7: Cooperator Information

The following questions will be used only to identify similarities and differences among groups of customers. Thank you for your cooperation in providing the following data.

Please indicate your affiliation: (please circle)

State Government	Tribal Government
County Government	Municipal Government
Other Local Government	Basin Commission
Water Management Districts	Interstate Commission / Compact / Agency

Other (specify)_____

Please indicate your area(s) of specific interest: (please circle any that apply)

Surface Water Ground Water Other (specify)_____

Water Quality Water Use

Please indicate your organization's involvement with the USGS: (please circle one for each column)

Duration of Participation	Annual Coop Budget (your agency contribution)
Less than 5 years	under $50,000
5-10 Years	$50,000- $150,000
10-20 Years	$150,000 - $250,000
More than 20 Years	More than $250,000

(Optional Information): Your Name: _____

Your Organization: _____

Section 8: Comments

Are there any other comments that you would like to make regarding the Federal-State Cooperative Water Program, or any clarifications of your responses? (Attach additional sheets as needed.)

Summary of Numerical Survey Results

SECTION 1: INTRODUCTION

1. Provides products and services that are necessary for my organization to accomplish its mission.
2. Responds to the changing needs of my organization.
3. Keeps me informed of the types of products it offers.
4. Keeps me informed of the types of service it offers
5. Coordinates with my organization on programs and activities that may affect us.
6. Keeps my organization informed of programmatic and fiscal changes that affect us.
7. Responds to my requests in a timely manner.
8. Responds well to administrative needs (billing, agreements, etc.).
9. Compared with other providers, the quality of products and services is worth the cost.
10. Providers of unbiased scientific and technical support and products.

Question		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
RAW:	Strongly Agree	76	25	17	16	28	23	52	39	42	77
	Agree	73	90	80	82	74	80	85	89	70	75
	Neutral	12	32	43	45	47	41	18	26	41	10
	Disagree	6	8	20	19	15	18	4	4	8	4
	Strongly Disagree	0	1	2	1	1	2	0	2	2	0
	Not Applicable	3	14	8	7	5	6	11	10	7	4
PCT:	Strongly Agree	44.7	14.7	10.0	9.4	16.5	13.5	30.6	22.9	24.7	45.3
	Agree	42.9	52.9	47.1	48.2	43.5	47.1	50.0	52.4	41.2	44.1
	Neutral	7.1	18.8	25.3	26.5	27.6	24.1	10.6	15.3	24.1	5.9
	Disagree	3.5	4.7	11.8	11.2	8.8	10.6	2.4	2.4	4.7	2.4
	Strongly Disagree	0.0	0.6	1.2	0.6	0.6	1.2	0.0	1.2	1.2	0.0
	Not Applicable	1.8	8.2	4.7	4.1	2.9	3.5	6.5	5.9	4.1	2.4

SECTION 2: PROPOSALS

1. Address the needs of my organization.
2. Reflect work that is realistic in scope.
3. Are of appropriate content and length.
4. Are clear and understandable.
5. Present realistic work schedules.
6. Reflect reasonable pricing.

Question		1	2	3	4	5	6
RAW:	Strongly Agree	37	30	25	29	22	23
	Agree	87	92	90	91	83	55
	Neutral	19	22	26	25	28	48
	Disagree	5	3	4	2	10	16
	Strongly Disagree	0	0	0	0	1	4
	Not Applicable	22	23	25	23	26	24
PCT:	Strongly Agree	21.8	17.6	14.7	17.1	12.9	13.5
	Agree	51.2	54.1	52.9	53.5	48.8	32.4
	Neutral	11.2	12.9	15.3	14.7	16.5	28.2
	Disagree	2.9	1.8	2.4	1.2	5.9	9.4
	Strongly Disagree	0.0	0.0	0.0	0.0	0.6	2.4
	Not Applicable	12.9	13.5	14.7	13.5	15.3	14.1

SECTION 3: DATA COLLECTION

1. Adequacy of geographic coverage
2. Length of data-collection period
3. Frequency of data collection
4. Field sampling techniques
5. Use of the appropriate instrumentation
6. Reliability of instrumentation
7. Precision of instrumentation
8. Instrumentation keeps pace with available technology
9. Innovative use and application of instrumentation
10. Overall data collection performance

Ground Water

Question		1	2	3	4	5	6	7	8	9	10
RAW:	Strongly Agree	11	11	10	26	27	20	22	22	14	18
	Agree	26	35	28	28	27	34	33	25	29	35
	Neutral	39	31	40	16	16	15	15	23	24	25
	Disagree	6	2	2	3	3	3	2	4	2	2
	Strongly Disagree	2	2	2	1	0	0	0	1	1	1
	Not Applicable	86	89	88	96	97	98	98	95	100	89
PCT:	Strongly Agree	6.5	6.5	5.9	15.3	15.9	11.8	12.9	12.9	8.2	10.6
	Agree	15.3	20.6	16.5	16.5	15.9	20.0	19.4	14.7	17.1	20.6
	Neutral	22.9	18.2	23.5	9.4	9.4	8.8	8.8	13.5	14.1	14.7
	Disagree	3.5	1.2	1.2	1.8	1.8	1.8	1.2	2.4	1.2	1.2
	Strongly Disagree	1.2	1.2	1.2	0.6	0.0	0.0	0.0	0.6	0.6	0.6
	Not Applicable	50.6	52.4	51.8	56.5	57.1	57.6	57.6	55.9	58.8	52.4

Surface Water

Question		1	2	3	4	5	6	7	8	9	10
RAW:	Strongly Agree	24	33	30	45	42	32	39	34	29	36
	Agree	48	64	47	43	49	51	48	46	39	64
	Neutral	43	29	49	28	34	37	31	42	47	33
	Disagree	14	5	6	2	1	2	3	5	5	1
	Strongly Disagree	0	0	0	0	0	0	0	0	1	0
	Not Applicable	41	39	38	52	44	48	49	43	49	36
PCT:	Strongly Agree	14.1	19.4	17.6	26.5	24.7	18.8	22.9	20.0	17.1	21.2
	Agree	28.2	37.6	27.6	25.3	28.8	30.0	28.2	27.1	22.9	37.6
	Neutral	25.3	17.1	28.8	16.5	20.0	21.8	18.2	24.7	27.6	19.4
	Disagree	8.2	2.9	3.5	1.2	0.6	1.2	1.8	2.9	2.9	0.6
	Strongly Disagree	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0
	Not Applicable	24.1	22.9	22.4	30.6	25.9	28.2	28.8	25.3	28.8	21.2

SECTION 3: DATA COLLECTION (Cont.)

1. Adequacy of geographic coverage
2. Length of data-collection period
3. Frequency of data collection
4. Field sampling techniques
5. Use of the appropriate instrumentation
6. Reliability of instrumentation
7. Precision of instrumentation
8. Instrumentation keeps pace with available technology
9. Innovative use and application of instrumentation
10. Overall data collection performance

Water Quality

Question		1	2	3	4	5	6	7	8	9	10
RAW:	Strongly Agree	12	14	12	27	20	16	19	18	14	17
	Agree	21	27	21	31	32	33	32	27	27	37
	Neutral	30	28	35	15	16	16	15	24	23	18
	Disagree	17	9	12	4	3	4	3	4	5	6
	Strongly Disagree	3	1	0	0	0	0	0	0	0	0
	Not Applicable	87	91	90	93	99	101	101	97	101	92
PCT:	Strongly Agree	7.1	8.2	7.1	15.9	11.8	9.4	11.2	10.6	8.2	10.0
	Agree	12.4	15.9	12.4	18.2	18.8	19.4	18.8	15.9	15.9	21.8
	Neutral	17.6	16.5	20.6	8.8	9.4	9.4	8.8	14.1	13.5	10.6
	Disagree	10.0	5.3	7.1	2.4	1.8	2.4	1.8	2.4	2.9	3.5
	Strongly Disagree	1.8	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Not Applicable	51.2	53.5	52.9	54.7	58.2	59.4	59.4	57.1	59.4	54.1

Water Use

Question		1	2	3	4	5	6	7	8	9	10
RAW:	Strongly Agree	6	4	6	10	8	7	6	5	6	6
	Agree	5	13	8	6	6	7	7	7	7	9
	Neutral	23	19	19	13	11	10	11	14	12	17
	Disagree	8	5	8	3	2	3	2	4	4	6
	Strongly Disagree	2	2	2	2	1	1	1	1	1	1
	Not Applicable	126	127	127	136	142	142	143	139	140	131
PCT:	Strongly Agree	3.5	2.4	3.5	5.9	4.7	4.1	3.5	2.9	3.5	3.5
	Agree	2.9	7.6	4.7	3.5	3.5	4.1	4.1	4.1	4.1	5.3
	Neutral	13.5	11.2	11.2	7.6	6.5	5.9	6.5	8.2	7.1	10.0
	Disagree	4.7	2.9	4.7	1.8	1.2	1.8	1.2	2.4	2.4	3.5
	Strongly Disagree	1.2	1.2	1.2	1.2	0.6	0.6	0.6	0.6	0.6	0.6
	Not Applicable	74.1	74.7	74.7	80.0	83.5	83.5	84.1	81.8	82.4	77.1

SECTION 4: DATA ANALYSIS AND INTERPRETATION

1. Technical approach selected
2. Quality of the execution of the analysis and interpretation
3. Timeliness
4. Consideration of alternative interpretations
5. Overall data analysis and interpretation performance

		Ground Water					Surface Water				
Question		**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**
RAW:	Strongly Agree	16	17	7	7	14	25	30	16	17	26
	Agree	35	37	17	29	37	60	57	39	39	58
	Neutral	19	19	35	28	21	33	28	51	47	37
	Disagree	3	1	15	4	2	0	3	8	3	2
	Strongly Disagree	0	1	1	1	1	1	1	8	3	1
	Not Applicable	97	95	95	101	95	51	51	48	61	45
PCT:	Strongly Agree	9.4	10.0	4.1	4.1	8.2	14.7	17.6	9.4	10.0	15.4
	Agree	20.6	21.8	10.0	17.1	21.8	35.3	33.5	22.9	22.9	34.3
	Neutral	11.2	11.2	20.6	16.5	12.4	19.4	16.5	30.0	27.6	21.9
	Disagree	1.8	0.6	8.8	2.4	1.2	0.0	1.8	4.7	1.8	1.2
	Strongly Disagree	0.0	0.6	0.6	0.6	0.6	0.6	0.6	4.7	1.8	0.6
	Not Applicable	57.1	55.9	55.9	59.4	55.9	30.0	30.0	28.2	35.9	26.6

		Water Quality					Water Use				
Question		**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**
RAW:	Strongly Agree	14	18	10	7	14	6	7	3	6	6
	Agree	37	33	20	24	35	10	8	7	7	9
	Neutral	18	18	31	28	22	11	15	17	10	15
	Disagree	1	2	10	4	1	4	2	5	6	4
	Strongly Disagree	0	0	1	0	0	0	0	1	0	0
	Not Applicable	100	98	98	107	98	139	138	137	141	136
PCT:	Strongly Agree	8.2	10.7	5.9	4.1	8.2	3.5	4.1	1.8	3.5	3.5
	Agree	21.8	19.5	11.8	14.1	20.6	5.9	4.7	4.1	4.1	5.3
	Neutral	10.6	10.7	18.2	16.5	12.9	6.5	8.8	10.0	5.9	8.8
	Disagree	0.6	1.2	5.9	2.4	0.6	2.4	1.2	2.9	3.5	2.4
	Strongly Disagree	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.6	0.0	0.0
	Not Applicable	58.8	58.0	57.6	62.9	57.6	81.8	81.2	80.6	82.9	80.0

SECTION 5: PRODUCTS

Requests for data, reports, and information:
1. Are handled courteously
2. Are addressed promptly
3. Are answered accurately

Question		1	2	3
RAW:	Strongly Agree	85	63	73
	Agree	66	72	77
	Neutral	6	17	7
	Disagree	0	2	0
	Strongly Disagree	0	3	0
	Not Applicable	13	13	13
PCT:	Strongly Agree	50.0	37.1	42.9
	Agree	38.8	42.4	45.3
	Neutral	3.5	10.0	4.1
	Disagree	0.0	1.2	0.0
	Strongly Disagree	0.0	1.8	0.0
	Not Applicable	7.6	7.6	7.6

Reports:
1. Adequately address the objectives of the investigation
2. Include the appropriate level of detail
3. Are understandable
4. Are timely
5. Overall quality is excellent

Question		1	2	3	4	5
RAW:	Strongly Agree	44	36	34	15	36
	Agree	90	92	100	75	93
	Neutral	10	15	11	36	14
	Disagree	2	4	3	13	4
	Strongly Disagree	0	0	0	7	0
	Not Applicable	24	23	22	24	23
PCT:	Strongly Agree	25.9	21.2	20.0	8.8	21.2
	Agree	52.9	54.1	58.8	44.1	54.7
	Neutral	5.9	8.8	6.5	21.2	8.2
	Disagree	1.2	2.4	1.8	7.6	2.4
	Strongly Disagree	0.0	0.0	0.0	4.1	0.0
	Not Applicable	14.1	13.5	12.9	14.1	13.5

I have sufficient access to:

1. Hydrologic data and reports in printed form
2. Hydrologic data and reports on the Internet
3. Hydrologic data and reports on-line by computer
4. Hydrologic data and reports on diskette, tape, or CD-ROM
5. USGS computers to access information

Question		1	2	3	4	5
RAW:	Strongly Agree	48	34	24	13	14
	Agree	81	62	45	54	35
	Neutral	19	36	50	45	44
	Disagree	5	8	10	8	15
	Strongly Disagree	1	1	2	1	1
	Not Applicable	16	28	39	48	60
PCT:	Strongly Agree	28.2	20.1	14.1	7.7	8.3
	Agree	47.6	36.7	26.5	32.0	20.7
	Neutral	11.2	21.3	29.4	26.6	26.0
	Disagree	2.9	4.7	5.9	4.7	8.9
	Strongly Disagree	0.6	0.6	1.2	0.6	0.6
	Not Applicable	9.4	16.6	22.9	28.4	35.5

SECTION 6: SUMMARY

- Overall, I think the Cooperative Water Program is

	RAW		PCT
Excellent	48		28.2
Above Average	84		49.4
Average	31		18.2
Below Average	4		2.4
Poor	1		0.6
Not Applicable	2		1.2

SECTION 7: COOPERATOR INFORMATION

Total number of respondents:	170
Affiliation:	
State	52
County	18
Other Local	7
Water Management District	17
Tribal	5
Municipal	32
Basin Commission	1
Interstate	2
Other	33
Interest:	
SW	140
WQ	106
GW	80
WU	50
Duration:	
Less than 5 years	23
5-10 years	31
10-20 years	40
More than 20 years	61
Unknown	14
Annual Cooperative Water Program Budget:	
under $50,000	81
$50,000-$150,000	32
$150,000-$250,000	11
More than $250,000	23
Unknown	20

Written Comments Provided With The Numerical Survey

Comment 1 – Too few gage sites in Alaska. Fairbanks office is understaffed. Growing mineral industry will require more gaging and water quality. Fairbanks office will not be able to meet this need without additional support.

Comment 2 - Work is contract – budget deficit driven. Not in the interest of national priorities. This change for the worst began some 10-15 years ago. Concurrent with declining State revenues.

Comment 3 - I would like for USGS personnel to come onto the Reservation for training purposes. Out tribe was involved in a similar program a few years ago; however, the personnel have changed for the Tribe. I think it would be helpful for our Tribe to participate in the co-op program again.

Comment 4 - Missing data and the timeliness of data return are the two major issues our agency encounters. Both issues are being worked on by both agencies for an agreeable resolution.

Comment 5 - The USGS is a great technical resource, capable of providing data and analysis that is very relevant to our mission. However, it is becoming increasingly difficult for the Water Resources Division to publish reports specified in the Cooperative Agreement in a timely manner. Special studies seem to require more time and Cooperator dollars than anticipated at program outset. Federal fiscal restraints also seem to result in steady increases to the "overhead" costs and reductions in cost-share funds available and decreased eligibility of items for cost-share. The net effect has been a steady increase in cost to the Cooperator and decreased ability of USGS personnel, stretched thin, to complete assignments in a timely manner.

Comment 6 - We have just begun a series of coop studies with the USGS on our groundwater basin and how we model it using USGS. I have been impressed by the technical support provided and the depth of knowledge of the USGS.

Comment 7 - I am distressed by the USGS position not to provide joint funding for new streamgage installations. Most local agencies cannot afford the full cost of a USGS-operated streamgage. Considering that your agency is charged with determining the quantity and quality of the US water supply, not operating any more stations or charging full price for new installations would be a conflict with your mission Statement.

Comment 8 - The District has benefited from the flow and stage data collected in the _____ River by the Ultrasonic Velocity Meter Data Collection Program. This program offers critical flow data that become available for the first time for myriad of technical analyses for the management and study of the river system.

Comment 9 - This is an important program for us that we hope has long-term stability.

Comment 10 - Yes, USGS does good work but they need to keep costs down. This can be accomplished by having more co-op funds available. Once programs are initiated the co-op % should not decrease.

Comment 11 - The survey's a splendid organization and very helpful. My dozens of specific recommendations were made a year ago in the five-year goal program out of Reston.

Comment 12 - Rainfall/Runoff Program: Some problems with rain gages and flow gages not followed through in a timely manner. Stormwater Quality: BOD test problems with contract lab in the past that District staff discovered and had to rectify with its own resources. Organics – adhered to high quality protocol; Fecal Coliform Test – done well in-house. Problem – missed some storms that our agency program didn't. NAWQA: Asked for input re/local needs in addition to national needs, but published only National.

Comment 13 - Our USGS collaborators have always been professional, reliable, and prompt. They are a great asset to our program.

Comment 14 – Our agency does not believe there is anything cooperative in its dealing with USGS on the "Cooperative Water Program", for the following reasons:

When our agency proposed to purchase a reservoir to augment its water supply, it was pressured by the State Department of Environmental Protection to use the services of USGS to operate and maintain a flow gaging station on the inflow river.

Our agency purchased and installed the station. It paid USGS personnel for installation supervision and start up.

Our agency pays USGS approximately $8,000 per year to operate and maintain the station. Our agency believes this fee is excessive. As the instrumentation associated with the station is no more complex than many others our agency has in its system, our agency believes it can perform USGS's tasks at significantly less cost by using its own staff. The State Department of Environmental Protection does not find this acceptable.

Other than insuring the minimum flow requirement is met, the station and all other information it gathers are of little relevance to our agency.

In summary, our agency believes it was forced into this "Cooperative Program" by the State, that it is bearing the full financial burden for USGS's effort and that it could perform the same task at a significantly lower cost than USGS.

Comment 15 - Our municipality, as a cooperator, is not of great consequence to the overall program and the system is apparently not set up to interact with a municipality on a watershed basis without special handling. The need for special handling is probably the source of our frustration since there is no "out-reach" effort to help the Town utilize the data acquired at our expense. We need to address land use development issues related to flooding, water quality, and consumptive use (diversions for water supply purposes). And these issues are apparently not of "critical mass" to justify program development at our level. It would be helpful if it did.

Comment 16 - Too involved in keeping themselves viable. Too little flexibility, too much competition for $, not enough discretionary funding to support good ideas at the office level, they very much need a clear Statement of the minimal Federal role in stream flow monitoring!

Comment 17 –

1. Our agency is, by statute, the only agency in the State authorized to conduct business with the USGS. I am the person who manages the Coop Program with the USGS and I have had this responsibility for many years. I think that we have a very good working relationship with the USGS. During the past several years the management (District Chief) as well as others who I deal with in the USGS District have been very cooperative. We work well together. As you may be aware, the relationship between organizations often reflects the abilities and willingness of those involved in management to work together and to keep each other informed. We have been fortunate to have had the opportunity to work with several District Chiefs who have been very cooperative and open. We appreciate that.

2. As is evident by my responses on the survey, I think the State has had an excellent overall relationship with the WRD of the USGS for many years. One primary reason for this is that we cooperate in all aspects of the program.

3. Section 2: Proposals. The USGS does a very good job in developing proposals. This is due in part to the strong involvement of the State in the USGS proposal development process. We work hand-in-hand when developing proposals. This enables us to minimize the potential for conflicts and misunderstandings, and ensures that we get what we pay for.

4. The actual amount of funds that the State provides to support our cooperative program with the USGS has been about $65,000 for the past several years. However, the amount of State funds that flow to the USGS as part of the State's cooperative program that our agency manages generally ranges between $150,000 and $250,000. The other entities who participate in the program through our agency are very satisfied with the program because our agency ensures that they are satisfied with the products that the USGS produces before we pay the USGS.

5. The amount of funds available for matching appears to be decreasing. I believe this is due in part to decreased funding to the USGS at the Federal level. However, it also appears that the USGS is tightening their guidelines on the type of programs that they are willing to cost share on. I know in the State that there is substantially more State money going to the USGS than is being used by the USGS for cost matching.

6. I would like to suggest one area for improvement. It is quite evident in many of the reports that the USGS prepares pertaining to our State's geology and hydrology, that the reports contain primarily USGS references. Usually only a few reports prepared by others (our agency, other State agencies, professional peer reviewed publications, etc.) are included in the References. This practice hints of arrogance and an unwillingness to consider other's points of view or interpretations.

Comment 18 - Just wanted to add that the USGS staff I have worked with over the past 15 years have consistently been technically knowledgeable as well as resourceful and focused on meeting our needs.

Comment 19 - My main comment is that they don't communicate with their co-funders enough during their projects. I have seen mistakes and misinformation occur in reports due to this. The time that is required to publish a report also seems excessive. I believe their extensive review process is a major factor in this.

Comment 20 - The reduction in the cooperative funds available has really hurt this organization. The availability of groundwater is increasing in importance and cost and the USGS budget is going the other way. USGS has several programs that offer great long-term benefits, almost pure R and D. It is difficult for utilities to get the financial support from ratepayers and taxpayers to participate with USGS in these efforts. It would be a great benefit if USGS could fund these efforts at ~90%.

Comment 21 – (1) COLA's are not defensible with this organization's management. (2) Overhead charges are not seen as legitimate expenses.

Comment 22 - The USGS District Office we deal with is highly professional and easy to work with.

Comment 23 - I do not know enough about what your group is doing to be able to give specific input. We have been involved in a cooperative monitoring agreement but I don't know what results have been generated. Please inform me.

Comment 24 - We have a long-standing cooperative agreement (JFA) with USGS. In addition we have worked with them on many other projects. The USGS has been more interested in providing the information we need in the last couple of years. They have provided all of the information that we have recently requested (hard copy and disk).

Comment 25 - We are not currently involved in the co-op program. Answering Sections 3, 4, and 6 was not easy due to the lack of comparable services by others.

Comment 26 - A lot of questions on survey are for long-time users of Dept. Interior. They basically did a stream flow (Q>10) survey for our wastewater treatment need. Costs were impressive and final results were helpful. It saved our small community several dollars. Thank you.

Comment 27 - Increasing cost of CMP is making the program unavailable to cooperators.

Comment 28 – (1) We wait 3-4 months to get back a chloride analysis from national lab. When there was a District lab, the analysis could be made very soon after collection. Bigger may be better, but as far as I'm concerned, national gets a D on turnaround time. Many routine analyses could still be done locally, chloride for example. (2) Please stop using lofty government language that sounds erudite but is vague to the reader. That is EPA's specialty. Vague Terms: Task Force was commissioned (quasi-military?); Co-op Program stakeholders (is someone holding the money in a wager?)

Comment 29 - We are in the initial stages of our cooperative project.

Comment 30 – (1) Additional efforts must be made to speed up report-approval process. (2) Publication of Annual Data Reports may no longer be justifiable. The data should be put on the Internet.

Comment 31 - USGS provides us with high-quality, unbiased work, often on the cutting edge. Basic surface water and ground water data is also excellent and putting it on the Internet solved a problem of timeliness. Reports and completion of projects still have a major problem of timeliness.

Comment 32 - Equipment and methods behind available science (FTS Inc.). Maintenance of gages and automated stations was not as good as suggested would be. QA/QC lacking ... daily/15 minute data missing for weeks before corrected. Poor accessibility to pre-published data. Data correction lag of more than 6 months. Reports not delivered in a timely manner. Contracts needing to be changed to do work and cover expenses that should have been foreseen.

Comment 33 - I feel that it is a good program and USGS staff are good people to work with. There is little question about their technical expertise. I have noticed great interest within the USGS to provide work products in a more timely fashion. I feel there is a need for basic data collection that USGS can provide us but the policy that a formal report must accompany this increases costs and has limited our contracting experience.

Comment 34 - Reports take a long time to complete. I am still waiting for a final report from Phase I of the project (1.5 years ago).

Comment 35 - We cooperatively fund river gage maintenance and flow data production.

1. During the times of year when aquatic vegetation is heavy, we would like the USGS to improve its efforts at producing modified gage readings – flow data.
2. In addition to real-time and verified flow data being available on the Internet, we would like provisional data posted until it can be verified. At present data is not available between real-time and verified (months ago).
3. In principle, we object to the national objective of maintaining streamgages by focusing on the easy targets of water suppliers for cooperative funding.

Comment 36 - We appreciate all USGS efforts in this program. We hope we can receive a larger share in grants from USGS. It's been a pleasure working with the District Chief at USGS.

Comment 37 - Long-term, continuous data from surface water gaging stations are critical for management and conservation of water supplies and stream ecosystems. Unfortunately, the geographic coverage of the current streamflow-monitoring network is inadequate, particularly for small and moderate size streams. Consequently, the USGS is not meeting its mission of continuously assessing the Nation's water resources.

Comment 38 – (1) USGS's co-op program is vital to job of managing our Reservoir! (2) Would like USGS to take over operation and maintenance of all rain gages in our area for US Weather Service. Therefore we could look to one agency, USGS, to insure reliable rainfall and streamflow data.

Comment 39 - The Tribes have used the services of the USGS cooperative program since 1982 for surface water, ground water, water quality, channel maintenance... We are totally satisfied with the program.

Comment 40 - Data analysis and interpretation: Reports are usually too technical and/or difficult to understand—especially if you don't have a basic understanding of hydrology, stream dynamics, etc.

Comment 41 - This is a very good coop program which merits continued or increased support from Congress.

Comment 42 - Some clarifications: My organization has never (to my knowledge) solicited or received any proposals from the USGS office that we cooperate with and therefore I checked the "NA" box. There is only one negative comment I need to make regarding my experience with the USGS cooperative program. We have not always been informed of changes in the water quality analyses, such as changes in parameters that are analyzed, reporting limits, etc. We only find out after the fact, upon reviewing data received from the USGS office. Despite this one comment, I have always been very pleased and impressed with the professionalism and courteousness of the USGS employees that I have dealt with.

Comment 43 - USGS is responsive when I point out problems, but it seems that I have to point them out more often than I expect. I also have to make all decisions and design the approach to data collection. Would be better if the individual managing the project had some inspiration and ideas, but the world isn't perfect. Otherwise, I can't complain.

Comment 44 - Need to use GPs for site locations.

Comment 45 - I have been with the Tribe for only 9 months, very little interaction with USGS to this point ... so, just to qualify my survey responses and lack thereof!

Comment 46 – (1) Many publications pertinent to my area are out of print – only available by loan from you. (2) How can you monitor ground water levels throughout the State with only 17 monitoring stations!? (3) The city should fund expanding the network of monitoring stations using Bond Act $. (4) I would like to see USGS take over _____ duties and provide climate data on Internet for free. (5) Timely drought forecasting is also needed – to be released in July/August of current year.

Comment 47 - Responses are averages of 2 raters. It is often difficult to adequately characterize the finances of the cooperative agreement to municipal officials who see our expenditure and in-kind, but don't see the Federal dollars as expended in the locality, because the municipality "writes a check" to USGS, but doesn't see a "check" written by USGS.

Comment 48 - Would like to see USGS instrumentation at all 5 rivers flowing into the Bay. Only 2 rivers are instrumented now.

Comment 49 - The best buy by far and outstanding staff support by the office chief and support staff. However, they need more Federal funds for cooperative projects.

Comment 50 - Thus far, our relationship with USGS has been very good.

Comment 51 - Your agency and your services are very important to our mission, and the coop program makes you affordable.

Comment 52 - Data collection is a very if not the most important function. It appears to us that data collection is being held "hostage" in order to obtain funding for other projects. Stream gaging and ground water data collection needs to be fully funded and not at the State's expense.

Comment 53 - Do not have a lot of dealings with USGS but everything has always been handled satisfactorily.

Comment 54 - A program worthy of continuing!

Comment 55 - Presently we receive surface water data via satellite every 4 hours. We need data every 30 minutes or every 1.0 hours. We need this badly.

Comment 56 - The State Water Board and the USGS have cooperated in joint water research investigations and data collection since early this century. Surface and ground water data collected through this effort are essential to the operations of the Board, whose role is to support planning, conservation, and responsible development of water for the State. To this end, the Water Development Board/USGS Coop program now supports over 110 stream gages, 40 water well gages, and 60 reservoir stage recorders.

The USGS is recognized throughout the Nation as the authority in flow and water level monitoring. Data collected through the Coop Program is recognized as being of high quality, and is therefore readily accepted by both the technical and legal communities. Loss or continued decline in funding through the Coop program would force the Water Development Board to seek other sources of data collection that would thereby jeopardize the acceptance of ready availability of the data.

The Water Development Board and the State have benefited tremendously over the years through the Coop program, and we strongly support its continuation.

Comment 56 - The USGS serves a vital role. They are professional in every way. We appreciate the opportunity to work with the USGS.

Comment 57 - Without this program there would be a lot of streams not monitored and data would not be available to the public.

Comment 58 - This evaluation covers two projects. One of the projects was managed by several principal investigators. The transition between investigators was not well managed, which in turn affects the overall quality of the project.

Comment 59 – The County Office of Emergency Management has contract with USGS, but Federal attorneys required provisions that violated State law. You need to find ways to be more cooperative if you want agencies like ours to use the USGS services that we think are a great asset to the County.

The USGS-WRD budget for gaging stations should be increased to maintain and expand the network of long-term, continuous gaging stations. To meet its mission, USGS (or other Federal agencies, i.e. COE and BOR, where appropriate) should provide 100% of the funding for a core network of gaging stations. This core network would provide much of the necessary data for water-resources issues of national and regional concern. Also, such a core network would not be affected by fluctuating budgets and priorities of cooperating agencies, and the long-term flow records necessary for water and stream management will be less likely to be interrupted or discontinued. Establishment of such a core network would allow Coop Program funds to be used for assessing water resources primarily of intrastate concern.

To better meet intrastate needs, I believe most States need a better process to more effectively allocate Coop Program and Cooperator funding of gaging stations. In each State, USGS should pursue establishment of an interagency committee to coordinate the collection of water resources and climatological data (See attached "By-laws for Interagency Hydrology Committee for _____"). By coordinating data needs, priorities, and collection, such committees will more effectively use available funding, and possibly encourage additional funding by cooperators.

Comment 60 - The USGS Cooperative Program has been an important source of data in providing the State Engineer with good reliable data upon which to base his decisions. The costs associated with the program have increased significantly over the last 10-12 years. The costs are now at a point where we are looking for alternatives. Whether it is right or not, we feel that the 50% cost share by the State/Local cooperators is covering the actual cost of the projects. The other 50% contributed on paper by the USGS goes to cover overhead, which provides funding for other agency programs.

Comment 61 - Greetings. I would like to see research and development of the radar gaging technologies. I find that tracking floods and real time data on the Internet is very helpful.

Comment 62 - The staff from _____ has been very cooperative, willing to attend educational meetings for property owners.

Comment 63 - We have a limited exposure to USGS, but have always had the best of relationships.

Comment 64 - This program works best for us when we work together as equal partners sharing the planning, proposal preparation, leadership, and workload, with credits given for in-kind contributions, and only a minimal transfer of actual money from us to the WRD. For joint projects that require additional money a separate third party is invited to participate as a traditional WRD defined cooperator. Just providing money on our part is not satisfactory because then we are not a true or equal partner in that project. Thirty years ago WRD personnel were the only water experts around but that is no longer true. Our State can now match most of the expertise that the WRD has and can do some things better and usually for less money, even when considering the Federal match. (We suspect the combined overhead is high.)

Comment 65 – (1) The program could be strengthened by placing more focus on partnering on data collection and special studies with State and local cooperators who have developed their won staff expertise (USGS no longer sole-source provider). (2) Program overhead is large and the cost effectiveness of so-called "matching" efforts is coming into greater question. Full and open disclosure of the true overhead is needed.

Comment 66 - What began as a 50-50 coop has begun to deteriorate into a standard "This is all the legislature gives us" line. There will come a time that our local government will balk at paying a disproportionate share of the costs of this program. Already, the question has arisen "Can we do this for the same or less money?"

Comment 67 – (1) Prefer internal procedure for accessing data vs. USGS computer dial up. (2) Make current water year data available in historic group. Typically don't include until after data has been verified, but for those of us who need current data for planning purposes it would be very valuable to have. (Just make it as provisional.)

Appendix F - Selected Water Resources Division Policy Memorandums

1. Water Resources Division Memorandum No 98.21 – Priority Issues for the Federal-State Cooperative Program, Fiscal Year 1999

2. Water Resources Division Memorandum No 95.44 – Avoiding Competition with the Private Sector

3. Water Resources Division Memorandum No 92.14 – Authority for Conducting Water-Resources Investigations

4. Water Resources Division Memorandum No 84.21 – Hydrologic Activities to be excluded from the Federal-State Cooperative Program

In Reply Refer To:
Mail Stop 441

April 27, 1998

WATER RESOURCES DIVISION MEMORANDUM NO. 98.21

Subject: Priority Issues for the Federal-State Cooperative Program, Fiscal Year 1999

This memorandum describes priority water issues to be considered in planning the Water Resources Division's (WRD) fiscal year (FY) 1999 Federal-State Cooperative (Coop) Program. Four major themes that the U.S. Geological Survey should focus on to meet Federal priorities are: (1) Hazards, (2) Resources, (3) Environment, and (4) Information. The President's FY 1999 budget proposes an increase of $5.7 million for the Coop Program which includes an adjustment for uncontrollable costs and an increase for water-quality activities. In consultation with WRD Senior Staff and District managers, the following issues have been identified, to provide a national perspective of those State and local water-related issues which are of the most concern at the Federal level.

WATER QUALITY--The need to provide the data to better define and manage the quality of the Nation's water resources remains among the highest Coop Program priorities. The proposed FY 1999 Coop Program increase for water-quality activities supports the need to improve water quality in degraded watersheds across the country and to improve the availability and dissemination of water-quality information to all potential users. Through partnerships with State and local agencies the Coop Program can assist efforts by addressing issues that include: (1) determining the linkage between agricultural practices and pesticides in ground water; (2) providing more quantitative understanding of the sources of nutrients entering streams; (3) determining the effects of land use practices; (4) understanding the relations between water quality and the health of aquatic organisms; (5) assisting States in setting Total Maximum Daily Load (TMDL) requirements of the Clean Water Act; (6) assessing the best approach to monitor water-supply wells; (7) better quantifying the effects of active and abandoned mines on streams and aquifers; (8) evaluating effectiveness of non-point source pollution management practices; (9) improving strategies to identify and protect drinking water sources; and (10) increasing the availability of water-quality information, including real-time data, for rivers and coastal waters near the Nation's largest cities.

HYDROLOGIC HAZARDS--Economic losses from hydrologic hazards can amount to several billions of dollars annually. Monitoring the occurrence and magnitude of these extreme events and studying the basic processes underlying these hazards are needed to improve the ability to forecast probability of occurrence and likely magnitudes. Also, increasing real-time access to streamflow data through telemetry at gaging stations and through improved presentation on the Internet remains important for disaster preparedness.

HYDROLOGIC DATA NETWORKS--The hydrologic-data program constitutes the foundation for watershed and aquifer management and for many other WRD programs. It continues to be a high priority item. Present and possible future WRD initiatives are expected to require access to a comprehensive, uniform, and accurate foundation of surface-water, ground-water, water-quality, and water-use data of national scope. The Coop Program increase supports additional water-quality monitoring stations, including the collection of streamflow data, to determine pollutant loads. Greater emphasis will be placed on biological monitoring to assess conditions that affect human health and aquatic health. Large amounts of data and specialized interpretation often are required for management of the resource base and for water-rights determination by State and Federal agencies. Enhancement of the hydrologic-data program, improved

accessibility to available information (such as an increase in the availability of real-time data), and coordination of program activities with those of other agencies continue to be high-priority activities.

WATER SUPPLY AND DEMAND--The future health and economic welfare of the Nation's population is dependent upon a continuing supply of uncontaminated freshwater. Many existing sources of water are being stressed by increasing withdrawals, use, diversion, and increasing demands for in-stream flow. More comprehensive water-use data and analysis of water-use information are needed to quantify the stress on existing supplies and to better model and evaluate possible demand management options to supplement the traditional supply approaches. Improved watershed characterization and flow-system definition and simulation also are needed for the management of aquifers and streams that serve as important local or regional sources of water supply and for the management and support of watershed ecosystems. Because aquifers and streams often are highly interdependent, improved tools for simulating interactions between ground and surface water that account quantitatively for effects of withdrawals and climate variations also are needed so that watersheds can be managed more readily as systems. Hydrologic systems models that are capable of showing the consequences of various decisions over a wide range of hydrologic and climatic conditions will be very helpful to local water managers.

WETLANDS, LAKES, RESERVOIRS, AND ESTUARIES--These valuable ecosystems merit special attention because of their importance as fish and wildlife habitat, recreational areas, and sources of water supply. Wetlands, in particular, are areas where important water treatment and purification processes can occur naturally. In many areas wetlands are being restored or constructed without pre- and past-scientific evaluation. Studies that integrate and contribute to a better understanding of the physical, chemical, and biological processes of these ecosystems and their watersheds are needed to evaluate development and management alternatives.

WATER RESOURCES ISSUES IN COASTAL ZONE--Effects of land use and population increases on the water resources in the coastal zone are a major national concern. Hydrologic monitoring and studies are needed to address issues of erosion, loss of wetlands, subsidence, saltwater intrusion, and problems associated with excessive nutrients, disease-causing micro-organisms, and toxic chemicals, originating upstream from industrial activities and agricultural practices. These pollutants can degrade habitat and health of fish and other wildlife and make beaches and other areas unsuitable for recreational use.

ENVIRONMENTAL EFFECTS ON HUMAN HEALTH--This priority focuses on understanding the processes and activities leading to the exposure of human disease-causing contaminants. Issues include: (1) waterborne microbiological threats to human health, including bacteria, viruses, protozoa, and potentially toxic algae; (2) bioaccumulation of trace elements in plants and fish that humans eat; (3) naturally-occurring contaminants, such as arsenic, radium, and other trace elements; and (4) occurrence and persistence of toxic organic compounds in ground waters, rivers, and reservoirs. Development of public information products jointly with State and local health or water supply agencies is strongly encouraged. These products should stress source-water conditions and health advice coupled with explanation of sources and levels of key contaminants.

In addition to the high-priority technical issues outlined above, special consideration should be given within the Coop Program to conducting hydrologic analyses and data collection that:

(1) support the FY 1999 bureau clean water initiatives,
(2) support WRD thrust programs,
(3) are beneficial to the WRD commitment to other Federal

agencies, especially DOI agencies,
(4) result in interdivision collaboration, or
(5) provide data and information that could be used to develop national synthesis products.

And finally, we must always keep in mind that projects undertaken with cooperators must provide an enhancement of knowledge, methodology, or data that is likely to be useful beyond the immediate needs of the cooperator. In general, if the project is driven solely by an operational need of the cooperator to meet some information requirement for a permit or regulation, we should not undertake it. However, if this operational need can be satisfied along with one or more of the following broader USGS goals, then the work may be considered appropriate. These broader goals, as enumerated in WRD Memorandum 95-44 are:

(1) advancing knowledge of the regional hydrologic system,
(2) advancing field or analytical methodology,
(3) advancing understanding of hydrologic processes,
(4) providing data or results useful to multiple parties in potentially contentious inter-jurisdictional conflicts over water resources,
(5) furnishing hydrologic data required for interstate and international compacts, Federal law, court decrees, and congressionally mandated studies,
(6) providing water-resources information that will be used by multiple parties for planning and operational purposes,
(7) furnishing hydrologic data or information that contribute to protection of life and property,
(8) contributing data to national data bases that will be used to advance the understanding of regional and temporal variations in hydrologic conditions.

/signed/

Robert M. Hirsch
Chief Hydrologist

Distribution: A, B, S, FO, PO

This memorandum supersedes WRD Memorandum 96.21

July 7, 1995

In Reply Refer To:

Mail Stop 409

WATER RESOURCES DIVISION MEMORANDUM NO. 95.44

Subject: Avoiding Competition with the Private Sector

The purpose of this memorandum is to remind ourselves of the appropriate role of the Water Resources Division (WRD) for investigations and data collection activities within the Federal-State Cooperative (Cooperative) Program and Other Federal Agencies (OFA) Program. The need to review WRD's role is very important and most relevant today in light of the changing technical and political environment. The expertise and capabilities of the hydrologic consulting community have improved greatly in recent years. Federal, State and local agencies can and should use the private sector for many kinds of studies which, in the past, may only have been conducted by WRD. Also, our projects are subject to increasing scrutiny by public officials in light of the emphasis for privatizing Federal entities. However, we believe that there are strong justifications for our Federal role in water information. The existence of even a few projects (out of the many hundreds we undertake) for which the justification is weak can undermine our ability to continue to provide the services to the Nation that are our proper mission. Thus, for every study we undertake we must be able to demonstrate that it is an appropriate role for WRD.

One key role of WRD in hydrologic investigations under Cooperative and OFA programs is to lead the Nation in providing new understanding, approaches, technology, and research for defining water resources and solving water-resources problems. In order to fulfill this role, WRD must maintain strong partnerships with other agencies who use hydrologic data and the results of our investigations to make decisions regarding the management of water resources. The continued vitality and relevance of our programs depends on our close involvement and responsiveness to these agencies. Internally, strong competence in field techniques and assessments, familiarity with the full range of hydrologic systems, and a strong and relevant research program must be maintained. The data and hydrologic system information gathered from the Cooperative and OFA programs are used in turn by WRD to synthesize regional- and National-scale, water-resources perspectives. Thus, these programs are vital to the overall mission of the WRD.

It is no accident that WRD is the principal provider of hydrologic data, theory, research, and new technology for the United States and the world. This competence is maintained by the internal feedback loop among research, the distributed resource-assessment programs, and customer (cooperators and OFA's) input. Without the feedback loop, the WRD program would soon lose its relevance to emerging water-resource issues. Paramount, however, is the need to maintain the longstanding WRD policy not to compete with the private sector. This means that WRD must be responsive to the requests and interests of potential partners, but at the same time set limits on the type of work undertaken on their behalf.

Projects undertaken for customers must meet some basic standards. They must provide an enhancement of knowledge or an enhancement of hydrologic methodology that is likely to be useful beyond the immediate needs of the customer. In general, if the project is driven solely by an operational need of the customer to meet some information requirement for a permit or regulation, we should not undertake it. However, if this operational need can be satisfied along with one or more of the following broader goals, then the work may be considered appropriate. These broader goals for WRD work are:

1) advancing knowledge of the regional hydrologic system

2) advancing field or analytical methodology

3) advancing understanding of hydrologic processes

4) providing data or results useful to multiple parties in potentially contentious interjurisdictional conflicts over water resources

5) furnishing hydrologic data required for interstate and international compacts, Federal law, court decrees, and congressionally mandated studies

6) providing water-resources information that will be used by multiple parties for planning and operational purposes

7) furnishing hydrologic data or information that contribute to protection of life and property

8) contributing data to national data bases that will be used to advance the understanding of regional and temporal variations in hydrologic conditions.

A critical aspect of each of these goals is that all WRD programs (whether funded by appropriations or by specific customers) take an active role in sharing the results of the investigation either through widely-accessible data bases or through published reports. Further guidelines on our appropriate role are given in WRD Memorandum No. 84.21; this memorandum specifically addresses criteria to be used to decide which hydrologic activities are not appropriately included in the Cooperative Program.

The fact that a cooperator or OFA approaches the WRD to undertake the particular study (rather than issuing a request for proposals) is not sufficient evidence that the project is not in competition with the private sector. It must be demonstrated that the proposed work goes significantly beyond what the private sector would do, either in terms of research or innovation, or in terms of contribution to shared hydrologic data or knowledge. There are many instances where the customer's motivations are entirely related to some regulatory requirement for information. It is appropriate for WRD to discuss the customer's needs and see if a broader effort can be undertaken involving enhancements of the data collection methods or analytical approaches or making the information collected more useful for a wide range of uses. However, if the customer's interests are limited to the routine application of standard, pre-existing protocols to satisfy a regulatory or design requirement and do not significantly fulfill any of the 8 goals listed above, then the work should be rejected. On the other hand, if the customer is interested in having the WRD participate in the development of a procedure to be used for some regulatory or design purpose, a project aimed at the development and limited application of the procedure may be appropriate.

The issue of potential competition with the private sector is a difficult one, requiring the use of considerable judgment and sensitivity. It is important that WRD stay relevant to customer needs and maintain a balance of data collection, interpretive studies, and research efforts. The WRD would lose its relevance and ability to provide innovations in data collection and interpretation if it removed itself from these routine activities. WRD must be acutely aware of the needs of a wide range of potential customers for hydrologic information. However, WRD must approach these potential customers with the viewpoint that our role is to form true partnerships with our customers. We must provide significant technical leadership and not simply respond to their needs as they perceive them.

This means that some potential projects will be rejected as inappropriate for WRD. It also means that many potential projects will be greatly strengthened, from the standpoint of benefits to the customer and to the Nation.

Robert M. Hirsch
Chief Hydrologist

DISTRIBUTION: A, B, DC

This memorandum supersedes WRD Memorandum No. 92.56.

In Reply Refer To:
Mail Stop 404

February 11, 1992

WATER RESOURCES DIVISION MEMORANDUM NO. 92.14

SUBJECT: LEGISLATION--Authority for Conducting Water Resources Investigations

This memorandum replaces Water Resources Division (WRD) Memorandum No. 90.47 (May 24, 1990) on this subject. The principal revisions are in item c.

Headquarters, Regional, and District officials of the Water Resources Division are requested from time to time to cite the legal authority for conducting water resources surveys, investigations, and research, and for publishing the results of that work. This memorandum lists the citations of the principal laws that establish such authority. The laws cited most often are the Organic Act (item a, below) and the most recent appropriations act--Public Law 102-154 described in item c. Underlining has been added as an aid to quick reference.

Abbreviations (examples):

20 Stat. 394 -- Page 394 of volume 20 of U.S. Statutes at Large. 43 U.S.C. 31 -- Section 31 of Title 43 (Public Lands) of U.S. Code. P.L. 102-154 -- Public Law 102-154 (Public Law 154 of the 102nd Congress).

Legal Authority

a. Act of March 3, 1879 (20 Stat. 394; 43 U.S.C. 31), was the organic act that established the Geological Survey, providing for ". . . the classification of public lands, the examination of the geological structure, mineral resources, and products of the national domain," but making no specific reference to water except as relevant to land classification. The next sentence of this same law clearly forbids the Survey from doing work for individuals and non-government organizations: "The Director and members of the Geological Survey shall have no personal and private interests in the lands or mineral wealth of the region under survey, and shall execute no surveys or examinations for private parties or corporations." (See last paragraph of item c., below, regarding authorization for carrying out work cooperatively with private agencies, financed entirely by contributions from such agencies. Special rules and procedures apply.)

b. Act of October 2, 1888 (25 Stat. 526), authorized surveys to identify irrigable lands in arid regions, and "selection of sites for reservoirs and other hydraulic works necessary for the, storage and utilization of water for irrigation and the prevent of floods.

c. Specific appropriations by Congress for gaging streams and performing other functions relating to water resources have been made annually since the act of August 18, 1894, for fiscal year 1895 (28 Stat. 398), providing for "gauging the streams and determining the water supply of the United States, including the investigation of underground currents and artesian wells in arid and semiarid sections..." These appropriations are sometimes referred to as SIR funds (an acronym for "Surveys, Investigations, and Research").

The most recent annual appropriations act is Public Law 102-154, November 13, 1991, which makes appropriations for fiscal year 1992. This act includes the words (re: USGS) " . . . to perform surveys, investigations, and research covering topography, geology, hydrology, and the mineral and water resources of the United States, its Territories and possessions, and other areas as authorized by law (43 U.S.C. 31. 1332. and 1340)." Each annual appropriation act also authorizes the Survey to "give engineering supervision to power permittees and Federal Energy Regulatory Commission licensees:..." (Re: FERC, see 16 U.S.C. 797a and 797c).

The annual appropriations act also States that the "amount appropriated for the Geological Survey shall be available for...payment of compensation and expenses of persons on the rolls of the Geological Survey appointed, as authorized by law, to represent the United States in the negotiation and administration of interstate compacts." The public law approving each interstate compact is the authorizing legislation for the appointment, usually made by the President.

The following is provided for your information and future reference. A provision was added to the appropriations act for FY 1991 (P.L. 101-512, 104 State. 1924-1925) regarding, a definition of cooperative funding. It reads: "That beginning October 1, 1990, and thereafter, funds received from any State, territory, possession, country, international organization, or political subdivision thereof, for topographic, geologic, or water resources mapping or investigations involving cooperation with such an entity shall be considered as intragovernmental funds as defined in the publication titled "A Glossary of Terms Used in the Federal Budget Process." The significance of this provision is that cooperative funds are no longer subject to sequestration under the provisions of the Balanced Budget and Emergency Deficit Control Act of 1985 (P.L. 99-177, 99 Stat. 1038).

A provision of the annual appropriations act for fiscal year 1988 (P.L. 100-202, 101 Stat. 1329-224) is applicable to volunteers who assist the Geological Survey: "...appropriations herein and hereafter...shall be available for paying costs incidental to the utilization of services

contributed by individuals who serve without compensation as volunteers in aid of work of the Geological Survey, and that within appropriations herein and hereafter provided, Geological Survey officials may authorize either direct procurement of or reimbursement for expenses incidental to the effective use of volunteers such as, but not limited to, training, transportation, lodging, subsistence, equipment, and supplies" provided that "provision for such expenses or services is in accord with volunteer or cooperative agreements made with such individuals, private organizations, educational institutions, or State or local government."

The Geological Survey part of the appropriations act for fiscal year 1987 (P.L. 99-591, 100 Stat. 3341-252) included the following provision: "That in fiscal year 1987 and thereafter the Geological Survey is authorized to accept lands, buildings, equipment, and other contributions from public and private sources and to prosecute projects in cooperation with other agencies, Federal, State, or private." This provision, excluding the words "and thereafter, n first appeared in the annual appropriations act for fiscal year 1983 (P.L. 97-394, 96 Stat, 1972). Special rules and procedures must be followed regarding the subject of this provision, as detailed in (1) WRD Memorandum No. 83-91, July 11, 1983, Subject: LEGAL--Contributions from and Collaborative Work with Private Sources; and (2) Geological Survey Manual Series/Chapter/Paragraphs 308.46.1 and 500.20.1 to 500.20.8E. (Please note that after April 1, 1992, reference to 308.46.1 will change to 308.42.2E as Chapter 308.46 will be superseded by revised chapter 308.42.)

d. Congressional recognition and endorsement of the water-related missions of the Geological Survey are also reflected in (1) the act of June 11, 1896 (29 Stat. 453), providing that "hereafter the reports of the Geological Survey in relation to the gauging of streams and to the methods of utilizing the water resources may be printed in octavo form..." (2) the joint resolution of May 16, 1902 (32 Stat. 741; 44 U.S.C. 1318), providing that "hereafter the publications of the Geological Survey shall consist of...water-supply papers and irrigation papers... " and (3) the act of December 24, 1942 (56 Stat. 1086), as amended (43 U.S.C. 36b), authorizing the Secretary of the Interior to acquire lands (or obtain easements, etc.) "for use by the Geological Survey in gaging streams and underground water resources."

e. Cooperative (joint) funding of Geological Survey scientific and technical investigations with State and local governmental agencies, first begun in 1884, was first referred to (re: water) in Public Law 70-100 (45 Stat. 231; 43 U.S.C. 50), March 7, 1928, for fiscal year 1929: " . . . such share of the Geological Survey in no case exceeding 50 per centum... " For fiscal year 1992, Public Law 102-154, the language is " . . . no part of this appropriation shall be used to pay more than one-half the cost of any topographic mapping or water resources investigations carried on in cooperation with any State or municipality." This has been interpreted to mean a public agency or entity having taxing authority or a public institution that is an integral part of such tax-levying entity.

Indian tribes are considered public entities (rather than private), as substantiated by their possessing "powers of self-government" as described in Section 1301 of Title 25 of the U.S. Code. United States island possessions also are considered public entities.

f. By the act of September 5, 1962 (P.L. 87-626; 76 Stat. 427; 43 U.S.C. 31b), the Survey's geographic jurisdiction was extended to areas outside the national domain where determined by the Secretary to be in the national interest.

g. Authority for the Geological Survey to perform reimbursable work for other Federal agencies (OFA) program is the Economy Act of 1932, and its codification in 1982 with minimal substantive change as part of Public Law 97-258, September 13, 1982. The relevant wording of the Economy Act is, in part, as follows:

> "The head of any agency or major organizational unit within an agency may place an order with a major organizational unit within the same agency or another agency for goods or services if...the head of the ordering agency or unit decides the order is in the best interest of the United States Government;...and the head of the agency decides ordered goods or services cannot be provided as conveniently or cheaply by a commercial enterprise" (31 U.S.C. 1535).

See WRD Memorandum No. 85.76, May 22, 1985, "POLICY--Relevance to the Division's Other Federal Agency Program of the Competition in Contracting Act of 1984" for a further discussion of the applicability of the Economy Act.

h. The authorizing legislation, through fiscal year 1994, for the Federal part of the support of the State Water Resources Research Institutes and the Research and Technology Development Program is Title I of Public Law 98-242 (98 Stat. 97), May 22, 1984--the Water Resources Research Act of 1984, as amended by Public Law 101-397 (104 Stat. 852), September 28, 1990.

Office of Management and Budget (OMB) Memorandum No. M-92-01, signed by OMB Director Richard Darman on December 10, 1991, designates the Geological Survey as the lead agency to implement the Water Information Coordination Program (WICP) of the Federal Government. This new memorandum replaces OMB Circular A-67, dated August 28, 1964. The program covers information about streams, lakes, reservoirs, ground water, estuaries, and other aquatic habitats influenced primarily by fresh water. Through this memorandum, the USGS has principal responsibility for operating the national network for water-data collection and analysis and for maintaining the national historical water-information base. The WICP functions are conducted in collaboration with other Federal and non-Federal organizations.

The large appendix volume of the President's annual budget contains copy of the appropriations language and brief fiscal and descriptive data for the Geological Survey, identification code 14-0804-0-1-306, within the chapters for the Department of the Interior.

The Catalog of Federal Domestic Assistance, updated twice a year, briefly describes the objectives and eligibility requirements of the Water Resources Institute Program and Water Research Grant Program under items "l5.805 Assistance to State Water Resources Research Institutes" and "15.806 National Water Resources Research Program, " respectively.

The U.S. Code of Federal Regulations (CFR) contains regulations promulgated by the Geological Survey regarding water resources with respect to the Water Resources Research Institutes (WRRI) and the Research and Technology Development Programs. The regulations are in CFR Title 30, Part 401 for WRRI, and in Part 402 for the other two programs.

William B. Mann IV Assistant Chief Hydrologist for Operations

WRD Distribution: A, B, S, FO, PO

This memorandum supersedes WRD Memorandum No. 90.47 (May 24, 1990).

December 5, 1983

In Reply Refer To:
EGS-Mail Stop

WATER RESOURCES DIVISION MEMORANDUM NO. 84.21

Subject: PROGRAMS AND PLANS--Hydrologic Activities to be Excluded from the Federal-State Cooperative Program

The basic mission of the Water Resources Division (WRD) is specified by law and other mandates and, therefore, does not readily change. On the other hand, hydrologic conditions, hydrologic problems, and the public awareness of these problems do change, and as a result our activities change with time. These changes make it important that criteria used to evaluate WRD activities be reviewed and defined on a regular basis.

The current trend toward shifting responsibilities from Federal to State agencies to fund development and for managing the water resource could conceivably influence the emphasis of the Federal-State Cooperative Program. Thus, it is especially important that periodically the criteria for selecting activities for the Federal-State Cooperative Program be reviewed.

Those activities considered to be of highest priority and greatest interest are reviewed and redefined each year. Less attention has been placed on the other end of the scale; that is on those activities that should be excluded from WRD programs. At any time the Division needs to guard against expending its resources on less important activities, but especially at times when funds and manpower are under stress.

The attached staff paper reviews and discusses criteria to be used to decide which hydrologic activities are not appropriately included in the Federal- State Cooperative Program. The discussion paper provides policy guidelines, examples, and references to existing directives that should be used, along with other WRD policy Statements on high priority issues, in the formulation of new programs.

/signed/

Philip Cohen

Attachment

Distribution: All Professional Personnel

Attachment

HYDROLOGIC ACTIVITIES TO BE EXCLUDED FROM THE FEDERAL-STATE COOPERATIVE PROGRAM

Introduction

The task of defining guidelines for rejection of hydrologic studies and data collection proposed by Water Resources Division (WRD) Districts for inclusion in the Federal-State Cooperative Program might be viewed as the negative counterpart of identifying those activities to be accorded the highest priority in the program. In other words, rejection criteria would have to be based on some definition of the lowest priority. One criterion might entail a definition of hydrologic activities that are devoid of merit in the sense that the data or information derived from them would be worthless or nearly so. However, the selection and ranking of hydrologic studies and hydrologic data collection that are of lowest priority is even more subjective than the selection of highest-priority activities. High-priority program issues are so defined in part because of their relation to water problems that are wide-spread geographically. As applied to areal descriptions or interpretive studies, geographically limited occurrence of the water problem to which they were addressed would be a necessary criterion for rejection, but any one of many factors might make a given project of limited geographic extent and occurrence a very desirable addition to the Federal-State Cooperative Program. Considerations of geographic distribution, however, are not applicable to the acceptance or rejection of a given data station.

The list of high-priority activities is rooted in the Division's perception of national and regional water problems, which are the aggregate of local problems, but rejection criteria cannot be based solely on a limitation in the utility of the resultant data or information in space or time, because of the possibility that information of limited areal extent, or data at some point, might be critical to the understanding and eventual solution of a particular hydrologic problem.

In the past it was fashionable to judge the worth of proposed activities in terms of Federal interest--a concept that commonly had been equated with "National" or "interstate." The Federal-interest notion has, however, become less useful with time, as Federal funds are no longer reserved for very large, or "National" projects, Federal dollars have pervasively entered all levels of government and all aspects of life. Thus, it has become increasingly difficult to define an absence of, or some minimal degree of Federal interest. The spectrum of enterprises and activities supported by Federal dollars is so broad, and so many of them take on national significance only by aggregation of a myriad of site-specific and local concerns, that by analogy practically any and all local and site-specific hydrologic data can be said to have "Federal value" and, therefore, to fall within the Federal interest. Is there less Federal interest in water-supply wells for small rural communities than there is for wheelchair ramps on city sidewalks?

In contrast, there are: (1) Legal and administrative constraints deriving from the Organic Act, the appropriation language, and "the intent of Congress," plus the amplifying rules and procedures promulgated by the Department and the Survey (manuals, and so forth) that contain explicit rejection criteria or provide the framework for them; (2) Statements of objective and mission that allow the exclusion of activities not included by such Statements; (3) judgmental determinations that a given proposal would be technically in-feasible; and (4) management considerations.

The criteria and guidelines that follow, as well as the discussion intended to illustrate and amplify them, should be applied to program proposals for work under the Federal-State Cooperative Program regardless of the funding mechanism. They should be applied whatever

the funding situation, 50-50 matched funds, Federal funds against direct services credit, or 100-percent repay.

Relation to High Priority Program Issues

High-priority program issues, as listed and defined in WRD Memorandum 83.52 for example, describe the kinds of interpretive studies that will be given preference for funding in the Federal-State Cooperative Program. Data collection activities generally are not uniquely related to such a priority list. By implication, however, kinds of data that would contribute to, or provide the foundation for, high-priority program issues take on higher priority than data collection devoid of such a relationship. If a proposal for new work does not fall within the realm of any of the high-priority categories, it should be examined critically and tested against the criteria for exclusion.

A long list can be compiled of activities that are generally considered to be of low priority. In some situations good reasons exist for excluding them from the Federal-State program; in others, they might serve to complement other program elements, or to fill a critical gap in the spectrum of hydrologic information. The list includes, but is not confined to: compilation of drainage areas, preparation of bridge site reports, and sampling and analysis of waste treatment plant outfalls. None of these topics can be categorically rejected. In some hydrologic situations, or if the understanding of the hydrology is minimal, each could be relevant, and in some cases, provide essential hydrologic data or information.

Legal and Administrative Constraints

1. The Organic Act prohibits the undertaking of work for private parties or corporations. By extension, this restriction can be applied to joint-funding agreements with private parties or corporations. Although language in the Appropriations Act for FY 1983 allows for funding of Survey work from private sources, the line items for Federal-State water-resources investigations are presumed not to be affected.

2. Appropriation language in recent years has referred to "...water-resources investigations carried on in cooperation with any State or municipality." This has been interpreted to mean an agency or entity having taxing authority or a public institution that is an integral part of such tax-levying entity. An entity that did not meet such a definition would not be eligible to enter into a joint-funding agreement. For example, the University of California operates the Los Alamos Scientific Laboratory in New Mexico under contract for the U.S. Department of Energy. While the University would be an appropriate cooperating agency for work in California, in New Mexico it is a contractor to a Federal agency and not an extension of that State's government.

3. Cooperative (joint) funding cannot be used for hydrologic activities outside the United States and its associated commonwealths and trust territories.

4. Hydrologic investigations, the conduct of which would violate existing laws of statutes, are to be rejected. (See WRD Memorandum 81.53.) For example, investigations that might have significant adverse effects on public health and safety, such as the introduction of toxic or hazardous materials as hydrologic tracers, or adversely affect endangered or threatened species, should be rejected. Investigations that would adversely affect national landmarks, antiquities, or archeological sites should be rejected.

Policy and Mission Constraints

1. The long-standing and firm Division policy not to compete with private industry (See WRD Memorandum 79.42 and memorandum from Chief Hydrologist, with enclosures, to Regional Hydrologists and others dated April 5, 1976, on "Programs and Plans--Competition with private industry.") precludes consideration of any work devised for or submitted competitively with private industry.

2. Work will not be undertaken (except perhaps under certain court-ordered situations or under special situations negotiated with and specifically approved by the Chief Hydrologist and the cooperator) in which the data and reports therefrom cannot be made public.

3. Given that in broad terms the mission of the Water Resources Division, as conveyed or implied in various laws and other Statements, is to appraise the Nation's water resources, any work proposed for joint funding that is not within that mission would not be acceptable. For example, a State Highway Department might propose joint funding of engineering geology necessary for highway design, but without hydrologic implications. Such work should be rejected.

4. Work that is more appropriately done by private industry or another governmental agency. The scope of proposed work, and its relation to the mission of the Geological Survey to "appraise the Nation's water resources," must contribute to the determination of appropriateness. If it is clearly in the public interest that hydrologic data be collected or hydrologic information be generated in an unbiased, objective manner and that there is a clear public need for the data/information, then it is appropriate for the Geological Survey to consider the work. The need for continuity in time-series data is especially important in such a determination ; continuity can best be assured if the data are collected, disseminated, and archived by an organization with a recognized expertise and the stability necessary to provide a long-term standardized data operation. If these tests are not met, or if the work cannot reasonably be judged a part of appraising the Nation's water resources, than it may be more appropriately within the purview of the private sector or other governmental agencies.

   Even though a cooperating agency might prefer that a given piece of work be done by the Water Resources Division--whether it be flow conditions at a bridge site or a waste outfall, or the location of a supply well for a new subdivision--the worth of the resultant hydrologic data, and especially further interpretations thereof, must be critically evaluated before deciding to accept or reject such work. However, if the purpose of the hydrologic work is dominated by design and engineering considerations of a facility or structure, or if under these conditions and constraints the worth of the data or information does not meet Division standards, then the hydrologic work should not be undertaken as part of the cooperative program. For example, consider the opportunity to collect ground-water data in connection with dewatering necessary to excavate for the foundation and substructure of a large building, perhaps one being built by a cooperating State or local agency. Observation wells might be available, along with other appurtenances and sources of related data. However, if the dewatering had to be done in such a manner that would preclude the estimation of aquifer parameters--perhaps variable discharge rate, or multiple discharge points--rejection of th Indeed, if the dewatering cannot be regulated in such a way as to make it a useful aquifer test, the work should be rejected.

   If a major part or primary thrust of the work consists of engineering, economic, or other determination s, judgments, or opinions, it is more properly done by the private sector and should be rejected by the Division. This is not to say that economic or engineering aspects of resource appraisal or development are to be excluded from the cooperative program, or that

economic or engineering ramifications per se can or should be the basis for exclusion; rather that engineering or economics must be subsidiary to hydrologic or water-resources considerations.

This guideline is especially difficult to express. A definition written from the government point of view is likely to be considered self-serving by industry and vice versa. The key judgment involves the anticipated worth of the resultant data, and the need for those data in ongoing programs or as part of a network. This guideline must be applied flexibly, and implemented gradually, because the availability of private-industry capability varies a great deal from one State to another, and because of historical factors in the development of the cooperative program.

5. Information Value

Activities that will produce little hydrologic information, or information of low value, should be rejected. Activities that would duplicate known facts or information are to be rejected. This obviously requires a distinction between refinement and duplication of information, and would not apply to conditions known or thought to vary with time.

Consider the case of a well field to be developed in an area where the subsurface geology is well known, but where head distribution and hydraulic properties of the aquifers and confining beds are poorly defined. Initial drilling and testing of the first few wells are likely to have a high information content, and depending on the general understanding of the flow system, information of high value. Thus, it would be appropriate to monitor the initial drilling and testing carefully to insure that head distribution is well documented and that properly designed and conducted aquifer tests produce good information. However, at some stage in well field development and expansion, data on individual drill holes takes on as a primary objective the design of casing and screening so that yields can be maximized and drawdowns can be minimized. The generation of continuing data on drawdown, pumpage, etc., provides justification for continuing Division involvement, but unless such opportunity exists, at this point the collection of drill-hole data is no longer an appropriate cooperative-program activity, including recognition of direct services credit.

The key point in this guideline relates to the duplication of known facts or information. While it may be well within the cooperator's mission and objective, and may indeed be essential to that mission, to duplicate the hydrologically significant information for other reasons (for example, engineering requirements), when the generation of new hydrologically significant data or information decreases appreciably or vanishes, the activity is no longer appropriate for Division involvement.

Technical Feasibility

Rejection criteria related to technical feasibility of proposed work (a) must be considered in a very flexible manner, (b) must rely on and presume that those persons responsible for acceptance or rejection of proposals have access to the technical expertise and judgment consistent with high scientific standards of the Geological Survey, (c) must be made in light of the capabilities of the Division as a whole to advance the State-of-the-art, and (d) must consider the ability and willingness of the organization to assign the requisite scientific talent to the proposed work.

In some cases it is necessary to reject proposals for cooperatively funded work because there is inadequate scientific understanding of the phenomena of interest to meet the Stated objectives. In some cases the research necessary to gain an appropriate degree of understanding is either outside the purview of the Water Resources Division, or chemically and physically so complex

that a major research effort, and consequent program redirection, would be required to achieve the necessary degree of understanding. This situation is illustrated by a recent proposal to model the transport of nitrates in ground water beneath an area where extensive applications of nitrogen fertilizers take place. The proposal had to be rejected because of chemical changes (including changes in the mass balance) in the unsaturated zone and consequent uncertainties about the magnitude and chemical nature of the very diffuse input to the ground-water system. The project would not have been rejected if it had been proposed as a research project with provision for adequate funding, time, and talent.

The conduct of basic research in the Federal-State program is to be encouraged, provided both parties fully understand and appreciate the risks and uncertainties of the research and are fully prepared to dedicate the financial and human resources to the quest for knowledge.

Questions of technical feasibility are most commonly raised by inconsistencies between Statements of objectives and descriptions of approach in areal, topical, or applied-research investigations. Rejection may not be necessary if a flexible position is taken by both proposers and reviewers for acceptability. It may be possible to adjust and modify the objectives, or to amplify and strengthen the approach (in some cases with appropriate adjustments in effort and funding) and arrive at an acceptable match between objectives and approach.

Technical feasibility frequently involves the time necessary, given a reasonable level of effort and funding, in which to generate and verify the data necessary for a given investigation, and fit those data within an appropriate conceptual, analytical, and/or numerical simulation. In many cases the cooperating agency lacks sufficient understanding of the investigational process to appreciate the time and effort necessary to achieve a given objective. In such situations, either the direction of study and level of funding must be extended, or the work should be rejected.

Management Considerations

Although management considerations may be considered somewhat subjective, they are related to the general plans and concepts of the Division in terms of program effectiveness and organizational effectiveness.

National program balance

Inasmuch as the only vehicle whereby the Division can provide reasonably comprehensive and complete coverage of the hydrology and water-resource conditions of the entire Nation is the cooperative program, it follows that the Division has an obligation to strive for a reasonable geographic balance in that program. In other words, if a wealthy State such as California, Florida, or some other State wished to participate in the program with a very large sum of money, and the necessary increase in Federal matching funds could not be obtained, at some point the acceptance of such work would operate to the detriment of the overall program, because other needs for information could not be met within the limits of the appropriation. Objective criteria at which distortions of program balance would be detrimental are elusive at best. There seems to be no practical way of combining the myriad of factors that enter into such judgment. Nevertheless, if proposals for work would require a level of funding that necessitates "robbing" programs in other States, the proposals should be rejected or scaled down. Similarly, if the direct credit contribution from the State and local agencies approaches a level in which technical competence and operational efficiency within the offices of the Division would be appreciably weakened, such proposals should be rejected.

Shifts in geographic balance can very well result from program emphasis on high-priority national concerns that are not evenly distributed geographically; for example, water for energy

self-sufficiency, or water for increased food production, and the hydrologic impacts thereof. Such issues can and should be identified in advance and should be specified as line items in the budget, rather than allowing the program in some parts of the country to deteriorate in order to expand a few priority issues having limited geographic scope. This, however, becomes a problem in the definition of National-program goals rather than defining rejection criteria.

Maintenance of program balance should be a goal of Division management; the process of acceptance or rejection of a particular project or data station is but a minute step toward the larger goal.

Direct services credit

Criteria for rejection of proposals for cooperatively funded work by the Water Resources Division apply also to work by a cooperating agency for which direct-services credit might be offered. In addition, direct-services credit should not be granted for major capital expenditures by the cooperating agency, and proposals predicated on such expenditures should be rejected. (See WRD Memorandum 71.17.) This applies especially to major capital expenditures such as the purchase of well-drilling equipment. For example, the one-time cost would be inappropriate; however, the fair market value of a use rate or a fee for services is appropriate.

Employee safety

Proposals for work, whether in the Federal-State program or other program elements, that would place employees in an unsafe environment should be rejected. Although a number of Division activities involve some measure of personal risk, and greater risk at some times that at others, work that would incur an unacceptable level of risk should be rejected, whether it might involve streamflow measurements from structurally unsound bridges, or excessive exposure to toxic chemicals.

8/1/99

The following memos referenced are obsolete or superseded:
71.017 Obsolete
79.042 Superseded by 84.036
81-053 Obsolete
83.052 Obsolete