"NPS and CWQMC Colorado Data Sharing Network (DSN)
Project Implementation Plan (PIP)"
Submitted by South Platte CURE
For the Colorado Water Quality Monitoring Council

PIP Table of Contents:

Attachments:

- Figure 1. **Organizational Structure of CWQMC Data Sharing Network** Page 35)

Internet Sites:

- CWQMC Website (Charter, SWAP Fact Sheets, etc.):
  http://cwqmc.coloradowatershed.org/

- DSN map/data site:

http://www.codsnstoret.com/

2.0 Statement of Need

2.1 How the Colorado Data Sharing Network (DSN) Addresses Priorities Stated in the State NPS Management Plan, the Water Quality Control Division (WQCD), CWQMC and entities engaged in watershed restoration and protection efforts.

Quality information and environmental data lead to quality regulation, appropriate actions, ability to measure results and improved water and habitat quality. Lack of information will guarantee a degraded water resource beyond recovery in some cases, as the degraded Nation's water quality years before the establishment of the Clean Water Act demonstrated. The future integrity of Colorado's waterways depends on water managers making informed decisions, making the best use of limited resources and data. DSN has envisioned and built products and services that help address the need of shared data and information, and hopefully, facilitate the next era of water quality management. DSN proposes to provide a mechanism through which information and data can be shared on a common platform, using the principle that data and information that are shared make for more informed and better regulations and ultimately, better water and habitat quality.

Colorado NPS Program

The overall goal of Colorado's NPS Management Area (NPS program) is to 1) restore to full use those waters, both surface and ground water, impaired by non point sources; 2) to prevent future impairments to Colorado's waters by employing an effective, efficient, and open process that fully involves the public; and 3) bring together the necessary regulatory and non-regulatory authorities, agencies, and programs. These goals provide the rationale for the following education and outreach, data assessment and data management needs:

1. The implementation of nonpoint source projects through the Colorado NPS program during the past 16 plus years has resulted in the generation of a significant amount of data. However, the majority of these data are not easily available at all or, in many cases, only available upon request. Data are recorded in a variety of formats, with varying degrees of supporting information and metadata. This lack of a consistent data management system limits the ability for the Water Quality Control Division, EPA and local watershed group to determine overall success of the Clean Water Act (CWA) Section 319(h) NPS Grant assistance, Colorado NPS program and associated nonpoint source projects and effectively share the lessons learned and information generated.

The CWA Section 319 Grant Program and Grants Guidelines for States and Territories requires that all data generated by Section 319 NPS Grant Funds (within each state) be uploaded to the EPA National Database STORET. This requirement has always been in place for agencies implementing CWA Section 319. This requirement has been difficult to comply for many states, including Colorado, and for local project sponsors.

There are approximately 75 projects that have generated data funded with Colorado NPS program awards and that, consequently, fall under the CWA Section 319 STORET requirements. Each year, 5-20 or so projects are funded, a subset of which will generate data that are required to be uploaded to STORET. The WQCD has limited staff and resources to address uploading CWA Section 319 legacy data and to develop a system for uploading data from future nonpoint source projects. In 2004, the NPS program awarded the CWQMC with a grant to facilitate the creation of the Data Sharing Network and the development of a mechanism to address this requirement. This current amendment updates the goals and tasks described in the original DSN project to continue addressing the needs of the Colorado NPS program and associated nonpoint source projects.

2. The CWA Section 319 Grant Program and Grants Guidelines for States and Territories states that “it is a priority to States, Tribes and EPA that data collected under the 319 Program be useable and of high quality”.
The DSN project provides a mechanism to integrate data from many different sources, in a geo-spatial manner, and either provide the data directly or provide information on how to access selected data. This integrating capability allows for a holistic analysis of the results achieved with the implementation of nonpoint source projects and other efforts. This capability facilitates the NPS program and other entities report on environmental measurable results, a requirement under CWA Section 319. also the ability for many other

3. The DSN SWAPs and Mentoring Committee provide environmental education and outreach to local communities and watersheds, facilitating and supplementing the NPS program’s needs to communicate at a local level.

4. The development of Watershed Restoration plans is an effective restoration and protection activity because it increase awareness at the local level, involves the salient stakeholders and identifies and prioritizes environmental issues. They are also a requirement to obtain funding assistance. A major component of watershed plans includes assessment of existing data, data gap analyses and analysis of existing data. The DSN map directory and database are effective tools to assist in this aspect of watershed planning.

Water Quality Control Division
The WQCD conducts is required to use all available data for many decision making processes such as the development of the 303(d) List of Impaired Waters and the Triennial Review of Water Quality Standards. However, using all available data is complex: it involves conducting data calls, manipulating data from multiple sources, evaluating those data, identifying data gaps and turning those data into information. Watershed groups often try to compile their data into one location also, usually paying an entity to do this work, often at a very high price.

The DSN provides a mechanism to streamline some of these tasks. The DSN map and database provides a comprehensive system to access data in Colorado. The timing of DSN SWAPS and response to data requests align with major WQCD and WQCC decision making processes, providing the WQCD with a robust data set DSN also provides a mechanism for WQCD generated data to be disseminated to all data users in the state.

In addition, the WQCD requires that data be submitted in a specific format, one that is not easily completed by non-technical entities (a normalized data format). DSN provides that format outlet, training and support for willing entities thus potentially generating a more robust dataset for all data users. .

Colorado Water Quality Monitoring Council
The CWQMC now has a to address universal statewide needs. In addition to providing a strategy to share data, the goal of the CWQMC is to coordinate, collaborate and streamline on the ground monitoring efforts. Membership on the council includes all the data generators and users as well as anyone involved in almost any watershed management area. DSN provides all data end-users with its flagship product (map directory and database) and service (SWAPs, training, uploads and mentoring). The Council supports the vision of the DSN which is that when data are shared, on the ground collaboration occurs, waters are protected or restored, and everyone benefits.

DSN is the foundation to create a long term statewide voice and focus for watershed monitoring and assessment priorities, needs and concerns. Providing relevant and timely products and resources inclusively (no technical or fiscal barriers) for all that attempt to utilize them. This can only improve water management and quality in Colorado's waterways.

Other Entities Involved in Watershed Restoration and/or Protection.
This category includes local watershed groups, special districts, other state and federal agencies or private industry involved in watershed restoration and protection. Current, accurate, complete data is part of the watershed restoration and protection process, which is a collaborative process. DSN potentially can assist everyone involved in these efforts regarding their ability to measure on the ground water quality improvements.

2.2 Selection and Justification of Target Audience

The target audience for this project includes:

a. Uploading data into DSN database and STORET:
   1. Existing nonpoint source project sponsors who need help uploading project data to DSN and to STORET.
   2. Future nonpoint source project sponsors.

b. SWAPs and Mentoring
   1. SWAPs, multiple placed based events, provide a mechanism at the local scale to exchange what entities are doing where, when, why and how. The exchange also includes monitoring and assessment priorities, needs and concerns as well as how collaboration on the ground can occur. SWAPS Fact Sheets document this information and provide a mechanism for a local voice to be heard at a regional or state scale and visa versa.

      This provides any entity at the state level the opportunity to include their perspective at the local level and visa versa. Currently there are few mechanisms for this type of sharing.

   2. Mentoring activities support entities in generating quality data that is managed and shared. Mentoring support naturally extends to needs of data users or decision makers if it is to be effective. Thus mentoring activities may include data interpretation, analyses, data uses, methods to integrate new regulations and similar activities. This is another version of sharing information for the same reasons data needs to be shared.

c. Supporting the Mission and Goals of the CWQMC.
   CWQMC members and other entities managing water quality in Colorado. DSN provides the liason for common data management and the sharing network in Colorado, which can be used by watershed groups or any entity that is collecting water quality data. DSN also provides the ability to share data with other monitoring entities. This state-wide data sharing network allows all interested parties to manage their data for a minimal cost and with the ability to share the data with other monitoring entities, state agencies and the USEPA.

3.0 Project Description

The first three years of initial funding achieved all planned goals, built the product and services, uploaded all available legacy NPS Award data into National STORET, set up a process to get current and new NPS Award data into STORET, began population of the map directory and database and developed a statewide network, SWAP process and initial implementation of the sustainability plan. The next three years will must maintain and improve DSN product and services to a minimum level and remain relevant to users, maximize population and data uploading of the map directory, database and participation in SWAPs, and institutionalize the network and support for the entire DSN.

The approach that was used to initiate DSN will be the same to sustain it in this phase and has two primary elements. First element is coordination and its implementation is based on four principles:

a) Relevance.
   All products and services need to be relevant to a common set of needs. SWAPs, map directory and database are all needed across the state by a diverse universe of entities including public, private, profit, non-profit, individuals and stakeholder type groups. The organizational structure, process and functions that comprise DSN also need to be relevant to respective target audiences. In addition, the information and data in the system need to be current to be of value as well as all supporting documentation, tools and material.
b) Collaboration of a critical mass founded in a common set of needs.
   DSN works because everyone is willing to contribute their time, data, information and resources to build something larger, more effective and efficient than could be built alone. It is a critical mass of data that makes the map directory and database a valuable resource. It is the contribution of time and resources that map the SWAPs and CWQMC work. Everyone has to contribute what they can for DSN to sustain itself and that approach is the sustainability plan. Participating entities are predicted to realize resource savings when the system is populate, updated, used and institutionalized by a critical mass.
c) Inclusion.
   Access to SWAPs, the map directory and database, both in terms of uploading and downloading data, need to be accessible to all target audiences. Each DSN component targets a different audience. The structure, function, and cost to participate have to remain inclusive to maintain a participatory critical mass.
d) Cost efficiency.
   This manifests in several ways. The CWQMC uses existing tools and resources whenever possible for both technical and outreach DSN components. CWQMC also uses existing expertise, leveraging what entities are already doing, as an essential strategy to implement DSN. This provides match for grants for local projects as well as a significant cost savings. Just as DSN products and services are needed by a diverse universe of entities, so is the support of DSN, both in-kind and cash contributions. Overhead is strategically designed to be minimal to allowing all funds to go directly to products and services.

The second element that sustains DSN is the CWQMC Charter and structure that implements DSN. The Charter provides the strategic plan and organizational structure to serve DSN functions. The CWQMC is comprised of a diverse geographic and organizational representation, for relevance. A subset of the Leadership Team is the Executive Committee. The Leadership Team provides vision, direction, resources and accountability. DSN is implemented by a Technical Advisory, Outreach and Mentoring subcommittee and a part-time project coordinator or manager. The coordinator is responsible for technical aspects of the map and database, maintaining all DSN databases, documentation, tools, associated grant reporting and administrative support for the Leadership Team. All other aspects of DSN are implemented by CWQMC volunteers. CWQMC is DSN; DSN encompasses the cadre of volunteers and a part time coordinator. As part of the CWQMC cost efficiency principle we employ a fiscal agent instead of maintaining a non-profit status. This allows CWQMC and DSN to use the expertise of our volunteers efficiently. When necessary and cost effective, DSN employs other experts for example Gold Systems, the original STORET developers, who we are using to design and develop our transition from SIMS to WQX for STORET uploads.

Current CWQMC partners include EPA, USGS, USFS, WQCD, CDOW, CSGS, South Platte CURE, CWA, at least 8 different watershed groups, City of Thornton, Englewood, Denver, Colorado River District, Northern Water District, Brown and Caldwell and too many others to list here. CWQMC website provides a list of participants on the Leadership Team, subcommittees, and SWAP attendees. Map and database user lists are also available.

DSN will combine funds from the Colorado Nonpoint Source program with in-kind and cash contributions and other grants For background information, a summary of accomplishments from the first NPS project is attached. DSN will assist the Colorado Water Quality Monitoring Council
Colorado NPS program meet their data reporting STORET requirements for NPS projects, while providing more data and information for development and implementation of watershed plans.

Through CWQMC principles, approach, structure and implementation strategy the following elaboration of goals and tasks will be completed. Task responsibilities between CWQMC and coordinator are quantified in section 3.2. Project Coordinator responsibilities listed in Section 4.1.

3.1 Goals

Specific goals for DSN project for the next three years are:

1. Support the Mission and Goals of the CWQMC:
   A. Provide DSN Support and Administration

   This goal identifies essential administrative tasks to support all the other four goals and the implementation and sustainability of DSN, although most of DSN administration is provided by in-kind services similar to CWQMC efforts in outreach, training and support.

   Some aspects of operation, maintenance and administration are fixed costs. Those include server hosting time, software licenses, website hosting fees, travel to SWAPS and phone calls Other costs include time and for the CWQMC and other possible in-kind contributions such as time, expertise, maps, food, training sites and supplies for example.

   B. Provide and institutionalize DSN Leadership, accountability, oversight and sustainability by maintaining the CWQMC

   The following describes the committees that sustain the CWQMC and the DSN:

   The Leadership Team (LT) oversees this goal as well as the financial accountability with our fiscal agent. The CWQMC has adopted a yearly calendar of tasks that identifies membership needs (relevance), produces an annual work plan, identifies fundraising goals, and provides the mechanism to communicate to the statewide membership invested in watershed monitoring and assessment for water restoration and protection..

   Technical Advisory Committee (TAC) oversees the technical aspects of the map and database, associated documentation, training, tracking, upgrades, support and evaluation.

Outreach Committee is responsible for maintaining SWAP databases, sponsorship tracking, implementation of SWAPs, database calls, maintaining the website and related materials (brochures, fact sheets, etc.), costs and evaluation.

Mentoring Committee is responsible for maintaining a skills database, connecting membership to training or mentoring needs.

2. Maintain and continue DSN Outreach Plan – which includes hosting SWAPs to populate the map/database and build support

This goal is about hosting SWAPs which help populate the map/database and build support for DSN. In addition, the DSN is implementing a strategic outreach plan by building a statewide network, where monitoring and assessment priorities, concerns and needs are shared within a watershed, across watersheds from the local to state level and visa versa. This type of communication and sharing leads to other benefits such as on the ground monitoring cooperation.

DSN outreach includes many supporting aspects such as maintaining a website, creating and disseminating SWAP fact sheets, data calls to update data, sponsorship drives, hosting workshops and surveying membership.

DSN will coordinate two SWAPs per year (each SWAP is comprised of four local events) conducted in tandem with the WQCC Basin Rule Making Hearing (RMH) and the WQCD associated data calls. SWAPs are local watershed gatherings where monitoring and assessment work is exchanged, and priorities, needs and concerns are discussed. Every fall, we will also host a SWAP in an "off RMH" basin. This schedule provides an opportunity for outreach to local basins at least once every three years. During the Basic Standards RMH years (non-basin specific), CWQMC plans to host a monitoring and assessment workshop in response to membership needs

This goal includes an annual data call effort, website support and a joint strategy with the USGS working with their existing and new Retrospective studies to gather and analyze basin datasets. Many needs arise at SWAPs and it is an opportunity to connect resources and expertise with those that need it. That in turn may encourage an entity to use the map/database or provide their data, time, resources and support for DSN. The majority of this goal will be accomplished by the volunteer CWQMC supported by specific items from the project coordinator.

This goal can be easily measured by number and frequency of SWAPs, SWAP fact sheets summary of events and presentations, amount and diversity of data on map/database from a SWAP experience, outreach database, and support generated for DSN long term.

3. Maintain and continue DSN strategic system training and support – which leads to populating the map/database

This phase continues the effort of support to adding data into the system, as well as retrieving data and conducting data calls
DSN will continue to provide strategic training and user support to upload, retrieve and use the system and data. Any system like this requires a minimum effort to get data in and manage it. The labor involved to validate and upload the data is either primarily placed on the data generator or the system manager. It is cost effective (costs less) in the long term to have the data generator be responsible for data accuracy and uploads, because they know the data and can conduct timely uploads. It costs more in the long term to have a system manager upload and make corrections because they do not know the data and the time lag is significant. Thus, DSN developed the database with responsibility of data uploads on the generator, which makes the system labor intensive up front. However, once the data are loaded, format templates are created, future uploads are easy in both time and labor. Because DSN chose this cost effective strategy,

we need to provide training and support to all data generators until a critical mass of generators are using the system. This task should decrease over time. Training and support will always be a part of the Network however, due to upgrades and the like.

The database does have different levels of security, does not judge the quality of data but requires a large set of meta-data that allows users the ability to assess quality for other purposes. This is a critical element for the NPS projects in that training and support for NPS projects and data generators will be provided and will assist the WQCD meet their STORET requirements.

This goal can be easily measured by the number of training events and individuals trained, number of new datasets uploaded each year to both the map and database, as well as documented updates. Success can also be measured by the number of updates by quantifying users that exist, users with new data, users who update that data and produce an update success rate. All associated documentation will be updated and revision dates are provided.

4. Operate, maintain and upgrade DSN Web-based map directory and database capacity and function.

The second and third primary DSN Project components are the interactive web-based monitoring directory or map and the actual database. The 2004 grant built these two products from existing hardware and software products. This goal encompasses the operation, maintenance and upgrades of the web-based water quality directory / map and database. Initial funding allowed the development to a minimal functioning degree but did not include all the desired features. The CWQMC is committed to upgrading the system to be of minimal function to meet the needs of users in order to retain relevance and value. This is a necessary component for the technical aspect of any similar project.

In full use, the web-based map directory will have more "data" accessible than the National STORET, for Colorado. The available technology has enabled the issue of database duplication to be addressed and yet maintain access to the majority of data that exist on one point on a map. The map can be used by NPS projects to share data, project results and BMP information, which are currently not required to be in STORET. Every NPS project , WQCD Staff and any other data user can utilize this resource for planning, monitoring, assessment, evaluation, efficient resource allocation and collaboration. The next three years will be focused on getting information into the map, getting the process of updating information institutionalized and adding all desired features. This is a primary responsibility area for the project coordinator.

This goal can be easily measured by providing the upgrade wish list and what is accomplished by these and other funds, a report characterizing the map and database use and users Feedback from end-users will be solicited as well.

3.2 Objectives and Tasks

An overview of the objectives and associated tasks, which will be occurring at the same time include:

1. Support the Mission and Goals of the CWQMC:
   A. Provide DSN Support and Administration
   Task 1: Retain fiscal agent to conduct fiscal administration tasks
   Task 2: Project Administration, maintenance of DSN records, databases, documents, meetings, decisions and tools, 1) tools for implementation, 2) outreach, training and population of system / map and 3) sustainability, documentation and evaluation.

B. DSN Leadership, maintain CWQMC as oversight and accountability for DSN
Task 3: Maintain and build CWQCM infrastructure, participation and membership
Task 4: Provide remaining resources and processes for implementation
Task 5: Provide accountability, decision making and evaluation

2. Maintain and continue DSN Outreach efforts which includes:
   Task 6; Conduct two local SWAPs per calendar year (up to 8 total events) based on WQCC RMH and WQCD data calls
   Task 7: Conduct annual database and web-based directory update calls
   Task 8: Provide DSN database and map upload assistance
   Task 9: Maintain communication website tool and other opportunities (presentations)

3. Continue DSN system training efforts which includes:
   Task 10: NPS Award training and support
   Task 11: Non NPS Award training and support

4. Database and Map Directory operation, maintenance and upgrades, includes:
   Task 12: Operation, maintenance of system
   Task 13: User/use tracking, documentation, evaluation and costs

Key: CWQMC = Colorado Water Quality Monitoring Council
DSN = Data Sharing Network
SWAPs = Place based sharing of monitoring and assessment activities, priorities, needs and concerns (it is not an acronym)
LT= CWQMC Leadership Team
TAC=Technical Advisory Committee CWQMC
Outreach= Outreach Committee CWQMC
PC = Project Coordinator
GS = Gold Systems, subcontractor to CWA

WQCC = Water Quality Control Commission
WQCD = Water Quality Control Division
RMH = Rule making Hearing
USGS = United States Geological Service
STORET = STOrage and RETrieval, national water quality database for EPA

Objective 1: Support the Mission and Goals of the CWQMC

A. Provide DSN Support and Administration

Task 1: Retain fiscal agent to conduct fiscal administration tasks

Responsible Party: CWQMC LT, Fiscal Agent
Description: One result of the last grant cycle evaluation, feedback and sustainability plan was that it would not be cost effective for the CWQMC allocate scarce resources to develop their own fiscal administrative capacity, for example become a 501(c)3. If the CWQMC was their own fiscal agent, resources available for to support DSN components would be reallocated to this task. Fiscal administration is a necessary element for success. However after a cost analyses it was determined it would be cheaper to contract a fiscal agent than develop and support that capacity on our own. CWQMC has an annual contract with CWA to provide these services. That contract is based upon the annual work plan and actual budget generated from the target budget.
Activities/Deliverables: Fiscal agent contract, fiscal administrative products to include capacity to receive and manage funds (donations or grants), project manager of grants (reporting, tracking, documentation), accounting services, monthly profit/loss statements, financial reports, liability insurance, annual account audit, payment for any "paid tasks".

	Per Year	For Three Years
NPS Funds	$8865	$26595
Other Cash	$8865	$26595
Other In-Kind	$0	$0
Total Cost	$17730	$53190

Task 2: Project Administration, maintenance of DSN records, databases, documents, meetings, decisions and tools, 1) tools for implementation, 2) outreach, training and population of system / map and 3) sustainability, documentation and evaluation

Responsible Party: CWQMC LT, Fiscal Agent, PC
Description: CWQMC will use CWA, the fiscal agent to employ a project coordinator. CWA has the capacity to leverage existing staff and resources to provide this service at a reduced rate. This also allows the CWQMC to hire staff or subcontractors for tasks they cannot complete with in-kind contributions. In addition, CWA provides a discounted rate for match as well as other in-kind match for this project. The PC is responsible for keeping all documents, updating most of them or facilitating their update via committees. This includes all grant reporting such as invoicing, match, semi-annual and final reports.

LT and subcommittees have a system in place to track donations, map contributors and users, database contributors and users, SWAP participants and general membership. All documentation, such as meeting minutes, charter, sustainability plan, outreach plan, SWAP fact sheets, user/training manuals, operation manuals, membership surveys and such are posted on the website and archived by the Executive Committee, contractors and/or Fiscal agent.
Activities/Deliverables: See list of documents and databases above.

	Per Year	For Three Years
NPS Funds	$1426	$4278
Other Cash	$5702	$17106
Other In-Kind	$4922	$14766

Total Cost	$12050	$36150

B. Maintain DSN Leadership, oversight and accountability

Task 3: Maintain and build CWQMC infrastructure, participation and membership

Responsible Party: CWQMC Executive Committee, LT and Outreach

Description: CWQMC has an existing charter with annual tasks, budget and fiscal agent contract. This is described above in project description. There is an Executive Committee which is a subset of the Leadership Team (20+ participants), TAC, Outreach and Mentoring subcommittees, membership (250+) and users of DSN product and services. This infrastructure and processes provide the DSN direction, decisions, accountability and resource capacity. The structure is designed to engage diverse entities and geographic representation and allow leadership to be developed and shared over time. Everyone in the CWQMC structure is a volunteer. The LT is responsible for recruitment and outreach to membership, to identify need and ensure relevancy, all with the help of the Outreach Committee. All committees and their work aid participation and membership. The LT also hires the project coordinator.

Activities/Deliverables: List of participants for each level, in-kind and other contributions for each level, fiscal agent contract, annual work plan, target budget, committee meeting minute's participants, membership database and list of Mentoring Cases plus a skills matrix.

NPS Award Funds: $0 **Other Funds:** In-Kind=$-0

Covered in Task 12 and 13 costs

Task 4: Provide remaining resources to implement annual DSN work plan

Responsible Party: CWQMC Executive Committee, LT, Outreach, FA, PC

Description: Remaining resources means resources available to the project implementation that are above and beyond this NPS project assistance.

Based on the results and sustainability plan built and implemented from first NPS Award, DSN will be funded by tracking users and uses and institutionalizing donations supplemented with strategic grants and foundation support. This NPS Award is one piece of that support. LT is responsible for, with the help from subcommittees, an annual work plan and target budget each year for the following year and implementing the "DSN sponsorship" drive throughout the year, generating funds for the next year. The system and subcommittee efforts track the use and users of the system as well as participants in other services that provide the foundation for sponsorship. The LT also has a grant/foundation strategy to implement on an annual basis. This is the process that provides the remaining DSN annual funds. It worked in the past before the CWQMC had a product or service and is used by similar efforts that are synergistic.

Activities/Deliverables: Annual sponsorship drive plan/results, grant/foundation plan/results, resources used to generate, fund tracking database, tools and package.

NPS Award Funds: $0 **Other Funds:** In-Kind =$0

Covered in Task 12 and 13 costs

Task 5: Provide DSN accountability, decision making and evaluation

Responsible Party: CWQMC Executive Committee, LT, Outreach, FA, PC, membership
Description: Program accountability is the collaborative effort of the membership, subcommittees, executive committee and the project coordinator. The approach is multifaceted in that every product or service as an evaluation component, the Outreach Plan describes the strategy to communicate with membership, identify needs, system user needs and integrate all this feedback into the next years wish list, workplan, budget and fund raising goals. Fiscal accountability is a combination of project coordinator, fiscal agent, executive committee and leadership team. The fiscal agent agreement and grant contracts design reporting requirements and standard accounting practices are employed.
Activities/Deliverables: Annual sponsorship drive plan/results, grant/foundation plan/results, resources used to generate, fund tracking database, tools and package.
NPS Award Funds: $0 **Other Funds:** In-Kind =$0
Covered in Task 12 and 13 costs

Objective 2: Maintain and expand DSN Outreach Efforts

Task 6: Conduct two local SWAPs per calendar year (up to 8 total events) based on WQCC RMH and WQCD Data Calls, monitoring workshop (every five years)

Responsible Party: CWQMC LT, TAC and Outreach Committees, PC
Description: SWAPs occur in major basin like the Colorado, but comprise of multiple sub-basins, one day events within the larger basin. Whatever basin the WQCC is focusing on in their June RMH will be preceded during the spring of the previous year the same basin SWAP. Barb – rewrite this – it is confusing. That same fall will be "off" RMH SWAPS. DSN will host SWAPS in each basin every two years, which is the desired frequency requested. Every fifth year DSN will conduct a monitoring training or workshop, leveraging existing events. This will occur more frequently if membership determines the need. It will take DSN until 2009 to transition into this cycle exactly from the current grant period and the 2010 Basic Standards RMH. See Table 1 before Milestones.

Mentoring Committee is available year round to assist project sponsors, the WQCD and watershed groups in developing monitoring plans, watershed plans, evaluating results and similar tasks. If desired and asked by NPS Alliance and WQCD, this committee could assist in the NPS Award in a monitoring and measurable results strategy to tell the NPS results story at project, segment, water body, watershed, local, state and national scales. In this way the NPS Alliance and NPS Management Area are leveraging an existing group of expertise and neither organization would need to support the infrastructure. Mentoring others is in the scope and capacity of DSN, it also provides match for grants (not just NPS Awards) and supports DSN, when DSN can provide assistance in monitoring and assessment related tasks, those entities are more likely to use and support DSN. No direct deliverables from DSN mentoring are in this NPS Award request. SWAPs are primarily the responsibility of the Outreach Committee with specific support from the project coordinator. Other trainings and outreach efforts are mixed between LT, PC and Outreach Committee.

Activities/Deliverables: Two annual basin SWAPS (up to 8 events), participant lists, Fact sheets/event, summary costs, issues brought forth, maps generated, data generator/user lists updated, if need is stated an workshop or training every 5th year

	Per Year	For Three Years
NPS Funds	$1720	$5160
Other Cash	$6852	$20566
Other In-Kind	$15748	$47244
Total Cost	$24320	$72960

Task 7: Conduct annual database and web map directory update calls

Responsible Party: CWQMC LT, TAC and Outreach Committees, PC
Description: The purpose of this task is to ensure data and information in the system are updated and current on a meaningful frequency to be of value. Evaluation of past efforts and feedback from first round of SWAPs indicated this would be needed in order to institutionalize the use and value of the system. The mechanism will be a combination of emails, mail, calls and leverage existing group's communication tools (meetings, email lists, newsletters, etc.). This effort will focus on data generators for the map and database so it is a finite group. Timing will coordinate with WQCD data calls and this effort should over time. This includes a joint strategy with the USGS working with their existing and new Retrospective studies to gather and analyze basin datasets. The PC will coordinate and track calls, but implementation is the Outreach Committee.

Activities/Deliverables: Annual data call documentation of effort, numbers, cost, result, recommendations for next call, updated contact list

	Per Year	For Three Years
NPS Funds	$1070	$3210
Other Cash	$4276	$12828
Other In-Kind	$4374	$13122
Total Cost	$9720	$29160

Task 8: Provide DSN Individual Upload Assistance

Responsible Party: CWQMC TAC, PC
Description: The purpose is to increase the relative comfort level of each data generator with uploading data to the system. This will result in regular system use and updates, aiding the goal to institutionalize use and updates. Each database is unique and so is the assistance needed. If we can help get legacy data into the system, users are more likely to use system and there is more information available in one place for other users. This is a result of the evaluation from last grant work where it was determined to be more cost effective to use this approach. The alternative or previous approach was to have larger group events where entities came prepared to upload their data following the facilitation of an instructor. Each data set is unique as well as every data manager's knowledge of what is needed to upload, thus it is cost effective to deliver a one-on-one approach to provide upload support. The time allocated for this task should decrease over time and is a task that CWQMC cannot provide as much in-kind. Users can access tutorials and upload

information at anytime on their own as well. This is primarily the PC, but the TAC helps provide and update minimum data elements, templates and other technical related tools.

Activities/Deliverables: Documentation and annual list of datasets uploaded, appended, map entries entered

	Per Year	For Three Years
NPS Funds	$3120	$9360
Other Cash	$12472	$37416
Other In-Kind	$3658	$10974
Total Cost	$19250	$57750

Task 9: Maintain communication website tool and other opportunities

Responsible Party: CWQMC LT, TAC and Outreach, PC
Description: The purpose of the website and other support documents is to be able to communicate with and inform DSN target audiences effectively. The website is essential for responsive communication implementing the SWAPs and providing general information for sponsors and such. Other documents, tools and ability to leverage existing communication tools and events are critical for outreach too. Most of this effort is supported by CWQMC in-kind but has some hard costs. The PC maintains site and some material on the site, the CWQMC updates the remainder of content.

Activities/Deliverables: Annual data call documentation of effort, numbers, cost, result, recommendations for next call, updated contact list

	Per Year	For Three Years
NPS Funds	$1000	$3000
Other Cash	$3990	$11970
Other In-Kind	$4290	$12870
Total Cost	$9280	$27840

Objective 3: Continue DSN system training efforts

Task 10: NPS Award Generated Data Training and Support

Responsible Party: CWQMC LT, TAC and Outreach Committees, PC
Description: The purpose of a DSN training strategy is to provide adequate training so number of users increase and competency increases. This objective targets NPS projects that need a mechanism to get data into STORET or are required to demonstrate their alternative path to National STORET uploads. These entities are most likely to be new users and require training. This support will be one-on-one to help them upload data into the system. WQCD will need to identify and communicate to DSN which projects are

required to use STORET/DSN so the CWQMC can adequately track project and provide timely support. This is a primary task for the PC.

Activities/Deliverables: Training event conducted at when WQCD conducts their training, tracking of that user, data generated, documented provided support reported to WQCD

	Per Year	For Three Years
NPS Funds	$286	$858
Other Cash	$1140	$3420
Other In-Kind	$334	$1002
Total Cost	$1760	$5280

Task 11: Non NPS Award Generated Data Training and Support

Responsible Party: CWQMC LT, TAC, Outreach, PC
Description: The purpose of a DSN training strategy is to provide adequate training so number of users increase. Results of last grant cycle evaluation and feedback was that data sets are unique, the timing when a data set is ready for upload varies and the ability of the user varies. That limits providing a detailed enough large one time training that will result in data being entered into the system. SWAPs will continue to have an overview with training and individual assistance provided via this task and task 6. This is a primary task for the PC.

Activities/Deliverables: Training event included with SWAP and then targeted user trainings, documentation of participants, success, data entered

	Per Year	For Three Years
NPS Funds	$1310	$3930
Other Cash	$5236	$15708
Other In-Kind	$2814	$8442
Total Cost	$9360	$28080

Objective 4: Database and Map Directory Operation, maintenance and upgrades

Task 12: Operation, maintenance and use of system

Responsible Party: CWQMC LT, TAC, PC
Description: The purpose of this task is to be able to support the system in the long term. This task involves a hosting contract (server where the data and operating system live) and the work to operate and maintain it. The system is comprised of a STORET database and an ArchIMS Interactive map as the software/hardware. There are numerous supporting items that get data in,

manipulate them, provide data outputs and allow DSN to track and evaluate use, users and activity. This is the technology piece of DSN that addresses technical problems, software updates and the like.

DSN was built on the principle to not re-invent anything if possible but to leverage existing hardware/software and other networks. DSN continues to do this with a seat at the EPA's STORET technical evolution from WebSIM to WQX and we have the same approach for future technical changes which will come as part of the nature of this work. A cost effective decision is to keep the server service provided from Gold Systems until this transition is complete. Gold Systems developed STORET, WebSIM and will develop any EPA WQX transition tools. It makes sense to let them work out the bugs before DSN moves to our own server.

This approach seems more expensive in the short term for server space, but saves on costs associated with having Gold System technical capacity in house, thus is cost effective given current conditions. DSN will develop a transition server strategy in the next 3 years. This will potentially reduce overall DSN annual costs in the future because this arrangement costs DSN per organization ID (each data provider in system) whereas in the future DSN won't have this charge. These are hard costs difficult to provide in-kind replacement. This task includes updating all user, training and operation documentation, tracking of user passwords and such. Also includes bi-annual uploads to STORET of identified data. This is a primary task for the PC.

Activities/Deliverables: A functioning database, list of organization IDs, web map directory and associated tools, updated user, operation and training manuals, minimum data elements, data templates, STORET upload documentation.

	Per Year	For Three Years
Hosting NPS Funds	$3840	$11520
Hosting Other Cash	$15360	$46080
Hosting Other In-Kind	$4800	$14400
O/M NPS Funds	$1481	$4443
O/M Other Cash	$5924	$17772
O/M Other In-Kind	$1045	$3135
Total Cost	$32450	$97350

Task 13: User/use tracking, documentation, evaluation and costs

Responsible Party: CWQMC TAC and PC
Description: The purpose of this task is to be able support DSN in the long term. That requires documenting and tracking uses and users, evaluating the system operations, currency and efficiency, planning and tracking current and future costs so that the system remains functioning and relevant. Documentation of use is a primary task for the PC, using that information to generate support is the TAC's responsibility.
Activities/Deliverables: An annual list of features to add, upgrade and costs, a list of data providers and users, annual evaluation of system and plan to address issues including costs
NPS Award Funds: $0 **Other Funds:** In-Kind =$
Covered in Task 13 costs

Table 1. Organizational Structure of CWQMC Data Sharing NPS Grant Program NPS Awards

Year 1	Fall DSN SWAP (Optional) Year 1	October Issue Scoping Hearing Year 1	Year 2	Spring DSN SWAP Year 2	WQCD Data Call August Year 2	Issue Formulation Hearing November Year 2	Year 3	Rulemaking Hearing June Year 3
2006*	Upper Colorado; Lower Colorado	Upper Colorado; Lower Colorado	2007*	South Platte	Upper Colorado; Lower Colorado/303d	Upper Colorado; Lower Colorado	2008*	Upper Colorado; Lower Colorado
2007*	San Juan; Gunnison	South Platte	2008*	Arkansas; Rio Grande	South Platte	South Platte	2009	South Platte
2008*	CWQMC Eval & Workshop	Basic Standards	2009	CWQMC Eval & Workshop	Statewide 303d	Basic Standards	2010	Basic Standards
2009	Upper Colorado; Lower Colorado	San Juan; Gunnison	2010	San Juan; Gunnison	San Juan; Gunnison	San Juan; Gunnison	2011	San Juan; Gunnison
2010	South Platte	Arkansas; Rio Grande	2011	Arkansas; Rio Grande	Arkansas; Rio Grande/303d	Arkansas; Rio Grande	2012	Arkansas; Rio Grande
2011	San Juan; Gunnison	Upper Colorado; Lower Colorado	2012	Upper Colorado; Lower Colorado	Upper Colorado; Lower Colorado	Upper Colorado; Lower Colorado	2013	Upper Colorado; Lower Colorado
2012	Arkansas; Rio Grande	South Platte	2013	South Platte	South Platte/303d	South Platte	2014	South Platte
2013	CWQMC Eval & Workshop	Basic Standards	2014	CWQMC Eval & Workshop		Basic Standards	2015	Basic Standards
2014	Upper Colorado; Lower Colorado	San Juan; Gunnison	2015	San Juan; Gunnison	San Juan; Gunnison/303d	San Juan; Gunnison	2016	San Juan; Gunnison
2015	South Platte	Arkansas; Rio Grande	2016	Arkansas; Rio Grande	Arkansas; Rio Grande	Arkansas; Rio Grande	2017	Arkansas; Rio Grande
2016	San Juan; Gunnison	Upper Colorado; Lower Colorado	2017	Upper Colorado; Lower Colorado/303d	Upper Colorado; Lower Colorado/303d	Upper Colorado; Lower Colorado	2018	Upper Colorado; Lower Colorado
2017	Arkansas; Rio Grande	South Platte	2018	South Platte	South Platte	South Platte	2019	South Platte
2018	CWQMC Eval & Workshop	Basic Standards	2019	CWQMC Eval & Workshop	Statewide 303d	Basic Standards	2020	Basic Standards
2019	Upper Colorado; Lower Colorado	San Juan; Gunnison	2020	San Juan; Gunnison	San Juan; Gunnison	San Juan; Gunnison	2021	San Juan; Gunnison
2020	South Platte	Arkansas; Rio Grande	2021	Arkansas; Rio Grande/303d	Arkansas; Rio Grande/303d	Arkansas; Rio Grande	2022	Arkansas; Rio Grande

*Grant Transition

3.3 Milestone Table - *Years one-three are represented in Table (activities, deliverables and responsibilities listed in 3.2)*

Tasks	Year 1						Year 2						Year 3					
	Months						Months						Months					
	1-2	3-4	5-6	7-8	9-10	11-12	1-2	3-4	5-6	7-8	9-10	11-12	1-2	3-4	5-6	7-8	9-10	11-12
Objective 1 **Support the Mission and Goals of the CWQMC:** **A.** ***Provide DSN Administration***																		
T1 Fiscal Agent																		
T2 Prjct Admin, doc*																		
B. ***DSN Leadership, maintain CWQMC as oversight and accountability for DSN***																		
T3 Maintain and build CWQMC																		
T4 Resources for Implementation																		
T5 Accountability																		
Objective 2 ***Maintain and continue DSN Outreach efforts***																		
T6 Swaps/Outreach																		
T7 Data/web calls																		
T8 Upload Assist.																		
T9 Website/other																		
Objective 3 ***Continue DSN system training efforts***																		
T10 NPS Training / support																		
T11 Other Training / Support																		
Objective 4 ***Database and Map Directory operation, maintenance and upgrades***																		
T12 System O/M																		
T13 Doc/eval																		

*****This includes all award invoicing, semi-annual and final report

3.4 Lead Project Sponsor

CWQMC is the lead Project Sponsor for both this NPS Award and the all other funds. CWQMC will manage this project through the Leadership Team, Executive Committee, and Technical Advisory Committee (TAC), Outreach and Mentoring Committees, a project coordinator hired via our fiscal agent, feedback from the membership, SWAP participants and map/database users. The LT has 20 or so members to represent geographic and organization diversity in the monitoring and assessment community. The primary responsibility of the LT is to provide funding, accountability and leadership for DSN.

South Platte CURE is the fiscal agent for the Colorado Water Quality Monitoring Council and NPS project . Colorado Watershed Assembly with contract with South Platte CURE to hire a DSN project coordinator for this project. CWA, via South Platte CURE, has a contract with the CWQMC to perform such duties and, in conjunction with the Executive Committee, will provide overall leadership and project accountability. As the CWQMC's fiscal agent, CWA via South Platte CURE, will be responsible for overall project coordination to produce products, deliverables and reports, including documentation of match of this project. Thus, CWA, via the project coordinator has a role in every task, if only to incorporate the product of that task into the final product or next task(s). The cost to do this is reflected in the overall CWA hourly rate and not itemized within each task. Contributions for CWQMC are listed in each task as cash or in-kind match

The CWQMC may contract with other entities when strategically necessary. For example Gold System's Server currently hosts the DSN system via a contract. For fiscal and technical reasons CWQMC will continue this strategy until circumstances direct otherwise.

CWQMC is the appropriate organization to lead this project because of its diverse and statewide membership with common interests and needs for data management tools, a process and mechanism to share data and related information. A mechanism for sharing data is critical for participating entities to become, more informed to facilitate decision making as well as to coordinate on the ground monitoring efforts. No other entity in the state has this mission. Through a diverse membership CWQMC has the ability and access to a vast set of resources to coordinate all the pieces required for a project of this magnitude now and in the future.

3.5 Operation and Maintenance Plans

This project does not include any traditional NPS best management practices. However, the CWQMC has BMPs associated with the operation, maintenance, use and training of the technical system that was developed in the 2004 grant. These are in the several different documents and formats including the CWQMC Charter, Sustainability Plan, System User and Operations Manual, minimum data elements lists for parameters and media types. DSN is built on "effective data management principles" regardless of what actual hardware and software is employed. This are aligned with recommendations from the National Water Quality Monitoring Council as well.

4.0 Coordination Plan

4.1 Organizational chart, cooperators, roles and method of cooperation

Please refer to Figure 1. To provide leadership and accountability the CWQMC rewrote and renewed is charter. The CWQMC structure is composed of a Leadership Team, Executive Committee and three subcommittees the Technical Advisory, Outreach and Mentoring. Figure 1 illustrates the relationship between membership, data generators, data users and watershed managers, to the CWQMC Leadership, with their subcommittees, and entities that help support and sustain DSN formally and via in-kind.

For the NPS projects, CWQMC LT, in partnership with and the project coordinator, will act as joint project managers for this project . That works via fiscal agent agreement between the CWQMC and South Platte CURE, who then subcontracts with CWA who will hire and support the DSN

project coordinator. SPCURE does not charge for this service but it is part of their contribution to DSN. The LT in concert with CWA will hire the project coordinator. CWQMC partners and utilizes many existing networks to succeed including Waste Water Utility Council, Water Utility Council, USGS Retrospectives, multiple special districts, watershed groups and other coalitions.

Leadership Team

This diverse group is responsible for the leadership, accountability, programs, annual work plan and budget, sponsorship and grant development, fiscal management (via fiscal agent), project management oversight, decision making, communication with larger membership and system users, and evaluation. The Charter explains the structure and function. The focus of the CWQMC is to sustain all aspects of DSN, provide mentorship and when appropriate help conduct monitoring and assessment workshops to address identified membership needs.

The LT has to be a diverse geographic and organization group in order to represent the watershed monitoring and assessment community and remain relevant. To date the LT is:

1. Karl Hermann, USEPA
2. Dan Beley, WQCD
3. Julian Brown, USGS, Retrospective Databases and other Resources
4. Vic Lucero, City of Thornton, SPCURE, CLRMA,
5. Barb Horn, Colorado Division of Wildlife, SW representation,
6. Dave Kanzer, Colorado River District,
7. Mike Gibson – Rio Grande Watershed Plan,
8. Carishma Gokhale Welch – Willow Creek Stakeholders,
9. Jim Dorsch, Metro and CLMRA Lakes Volunteer Monitoring Program
10. Geneva Mixon – Left Hand Canyon, Front Range Tributaries
11. Esther Vincent – Northern Water District
12. Julie McCaleb – NE Colorado Health Department
13. Natalie Cannon – Boyle Consulting
14. Michelle Wind - Brown and Caldwell
15. Alison Wood – Integral Corporation
16. Our Fiscal Agent Representative

CWQMC Technical Advisory Team (TAC)

The Colorado Water Quality Monitoring Council (CWQMC) has established a Technical Advisory Committee (TAC) for the purpose of this Colorado Data Sharing Project. The TAC is a diverse subset of the CWQMC membership that has an interest, skill or resources that built the system from the last NPS Award. This group will continue to provide in-kind support, technical assistance, guidance, documentation, tracking, evaluation and accountability for the DSN. It has a 6-7 active core group of individuals representing federal, state, local government, watershed groups and service providers. The TAC is responsible for communicating Project information to the CWQMC LT who passes the information to the larger membership.

Current TAC members include Marty McComb and Karl Hermann, (EPA), Dave Litke (USGS), Barb Horn (Colorado Division of Wildlife), Arne Sjodin (WQCD STORET), Amy Woodis (Wastewater Utility Council), Jim Dorsch (Denver Metro Waste Water Treatment Plant), Sarah Reeves (SP CURE), Sarah Sauter, Sherry Scaggiari (Cherry Cr), Dave Kanzer (CO River District), Sharon Davis (Brown and Caldwell), Esther Vincent and Katie Lucchesi (Northern WD),Kirby Wynn (USGS), Teresa Springer (CUSP), and Tami Ivanough (USGS). Jim Dorsch is Chair.

Outreach Committee

This committee is responsible for implementing and evaluating the SWAPS and maintain, upgrading other outreach tools. This includes the council website, SWAP fact sheets, SWAP and membership feedback mechanisms, Council and project brochures and FAQs, system/SWAP user databases, sponsorship database and associated tools and processes. This group in concert with the TAC conducts the data calls and maintains the tools for sponsorship drives. The Outreach Committee is responsible for communicating Project information to the CWQMC LT who passes

the information to the larger membership. Current Outreach members are the same as the TAC at this juncture. Barb Horn is Chair.

Mentoring Committee

This committee is responsible to maintain and update the CWQMC skill matrix, connect membership needs with expertise, and help solicit membership priorities, needs and concerns in order to develop appropriate training workshops or similar assistance at least every five years. This committee is schedule to start in September 08, initial chair is Katie Lucchesi.

Project Coordinator

CWQMC hires a project coordinator via our fiscal agent, a detailed contract of responsibilities and deliverables is employed. In general, the project coordinator responsible for:

- Maintaining databases for outreach and from system users
- Managing the DSN database, operation, maintenance, upgrades, uploads from users, uploads to STORET
- Managing the DSN map directory, operation, maintenance, upgrades, dataset assessments uploads from users
- Managing DSN website (updates)
- Organizing the annual data calls, assistance with implementation
- Documenting SWAP, map and database use, reporting to CWQMC
- Keeper for all DSN documents and materials, including SWAP factsheets and training material, system training and user documentation and other CWQMC DSN material such as brochures, FAQ's, minimum data elements, templates, registrations, plans, volunteer match, etc.
- NPS Award training and assistance (including NPS Management Area staff)
- Map/database training, and two DSN presentations and 2 articles
- Liaison with server contractor and other technical subcontractors
- Grant writing and reporting related to above tasks (including budget)
- Administrative support for LT
- Annual system cost tracking and reporting to TAC/LT

Fiscal Accountability

South Platte CURE is the CWQMC fiscal agent for this and past NPS project CWQMC chose not to become their own fiscal entity in order to use as much generated funds as possible directly on DSN product and services. In addition, CWQMC is a volunteer organization and in-kind contributions need to focus on DSN elements not on managing a 501(c)3. This structure served CWQMC DSN last NPS project. As a fiscal agent South Platte CURE provides liability insurance, contracts with subcontractors and pulls all deliverables together for reporting purposes. All fiscal agent responsibilities are in the fiscal agreement which is available upon request.

Product and Service Accountability

CWQMC LT and Committees will oversee all task activities and deliverables for CWA to act as NPS Project Coordinator. This structure was used for this function in the past grant and worked well. When a subcontractor is needed for any task, CWQMC will conduct a fair request for proposal requiring fiscal information, staffing information, experience, project approach and a budget that will be incorporated into a contract. The RFPs will be available upon request.

4.2 Describe local support

The CWQMC is comprised of a membership of approximately 250 members representing federal agencies, state agencies, municipalities, private industry, and grass roots watershed organizations. The vision of CWQMC is to promote the development of a state-wide data sharing network. The CWQMC has worked for twelve plus years to evaluate the need and interest for a data sharing network between monitoring groups, governmental agencies, and regulators. It is now well understood that there is both a need and interest for a system whereby water quality data can be managed with a standard set of criteria and shared between participants.

CWQMC members have demonstrated their commitment to this effort by the past project in-kind services provided the total being over 500 as of January 2008. We have built a statewide water user contact database of over 4,600 entities. This group of volunteers simultaneously built a system, conducted statewide outreach and training of the system, began population of the system, developed and began to implement a sustainability plan provided all the necessary documentation, reports and databases. These entities have invested their time and resources, including the WQCD. The sensitive time period is the next three years when a critical mass needs to support the system, lead by example for others that are watching, perhaps before all users are in the system. The past grant did enable a product to be developed in holistic manner that would allow for long term commitment sustainability, now everyone needs to contribute and demonstrate support at their appropriate level.

If key professional support for this project comes from the State Water Quality Control Division, NPS Awards, EPA Region VIII, USGS, state agencies and large data generators and stakeholder groups, others will follow and this project will have strong appropriate local support.

4.3 Coordination with other NPS Projects

This project coordinates with all NPS projects that generate data with NPS program funds. Legacy NPS project data that was obtainable was uploaded to National STORET via DSN and the 2004 NPS project. Current and future projects that generate data with NPS funds will receive training and support to use DSN, upload their data which will be uploaded to National STORET fulfilling that reporting requirement for each NPS project and the Colorado NPS Management Area. NPS projects and WQCD can also use DSN SWAPs to not only share data, but to communicate monitoring priorities, needs and concerns that can lead to future NPS projects with clear measurable results. Colorado NPS program can also employ DSN map and database to help tell the NPS measurable result story at all scales by accessing all the information on the system. In addition NPS projects can use the Mentoring Committee to help them develop monitoring plans, inventory data and gaps fro watershed plans, evaluate data and related tasks.

4.4 Identify Similar Efforts in this area

There are only two national water quality data repositories, the USEPA STORET and the USGS NWIS. Any entity can upload data to STORET, but history has demonstrated that there are significant technical and fiscal barriers to do so. Case in point, STORET has been in existence more than 20 years and only nine entities in Colorado have uploaded data. There are significantly more data generators within Colorado than nine. USGS NWIS will only accept USGS generated data.

On a smaller watershed scale, the USGS has helped basins create a collective database, develop a website for the users and in some cases help update the database annually. These are called “retrospective” projects by the USGS. The USGS also provides a data and gap analyses for these users. This service has a price tag associated that often makes it exclusive or not sustainable for many basins. DSN is partnering with the USGS to become the data repository and data caller for these retrospectives so that DSN can employ USGS to perform data and gap analyses on a rotating frequency for all basins. This is a perfect partnership because DSN does not conduct data or gap analyses and the USGS is very qualified to do so in a uniform standard way valuable to all.

Other watershed groups have also tried to create collective databases, some with success, and others many years into limited success. This is duplication of effort at a small scale, when every group needs to support the infrastructure, labor and expertise. This is one of the synergistic elements of DSN. If every entity contributed some of those resources to a collective effort, we all benefit with a more sustainable, robust system, liberating local resources for more monitoring, data analyses or other tasks.

5.0 Evaluation and Monitoring Plan

5.1 Plans to evaluate project goals, objectives and tasks

This project does not directly generate data. It does address components of data collection to generate high quality useable data and assist in turning data into information for decision making processes. DSN provides NPS projects and any entity engaged in watershed monitoring and assessment the following items:

- A template, guidance and support to employ data management principles that lead to high quality, useable information for measurable result outcomes, regardless of what database is actually employed (data management expertise and tip sheets).
- The DSN map directory where an entity can share what monitoring, when, where, why, how and how to acquire the data. This also allows entities to privately share data if trust is an issue because entities have to contact the data generator to get the data versus downloading from the DSN database.
- The DSN database provides a mechanism to manage data, share data and upload to National STORET
- DSN SWAPs provide an opportunity to communicate at a local scale monitoring assessment activities, priorities, needs and concerns. In addition, entities can collaborate on the ground monitoring and other activities such as develop NPS project proposals.
- Via DSN Mentoring Subcommittee obtain support mechanism for writing or updating QAPPS, SAPS, monitoring designs, evaluating data, data gaps and or determining measurable results.

The CWQMC and DSN have in place "BMPs" for this essential aspect of water restoration and protection work.

Evaluation of Project Goals:

1. ***Support the Mission and Goals of CWQMC***
    a. ***Provide DSN Administration***
    b. ***Provide DSN Leadership, accountability, oversight and sustainability by maintaining the CWQMC***
2. ***Maintain and continue DSN Outreach Plan***
3. ***Maintain and continue DSN strategic system training and support***
4. ***Operate, maintain and upgrade DSN Web-based map and database***

The CWQMC believes that if the objectives and tasks described above are accomplished than the Project Goals will also be achieved. Success beyond this grant will depend upon the success of the next three years. In addition, it is these objectives, tasks and goals that will produce the outputs listed in Section 3.0 and achieve progress on all the outcomes.

Objective and Task	Evaluation Criteria
Objective 1: **A. Provide DSN Administration**	
Task 1: Retain fiscal agent to conduct fiscal administration tasks	Fiscal agent annual contract, fiscal agent reports, databases and deliverables from contract, no outstanding bills or fiscal issues, insurance provided
Task 2: Project Administration, maintenance of DSN records, databases, documents, meetings, decisions and tools, 1) tools for implementation, 2) outreach, training and population of system / map and 3) sustainability, documentation and evaluation.	Updated membership, SWAP, system user, sponsorship drive databases, SWAP fact sheets, updated system training and operation manuals, updated charter, brochures, outreach and sustainability plans, annual work plan, budget, cost assessment and DSN financial goal, all grant reporting documentation, all fiscal reporting documentation—can all be delivered upon request
B. DSN Leadership, maintain CWQMC as oversight and accountability for DSN	
Task 3: Maintain and build CWQCM infrastructure, participation and membership	Number of participants in LT, 3 Committees, diversity of composition, achieve annual program and financial goals

Task 4: Provide remaining resources and processes for implementation	In-kind and financial resources sufficient to maintain DSN for next three years (and beyond), annual financial goal, sponsorship drive, annual sustainability plan updates
Task 5: Provide accountability, decision making and evaluation	Annual product and services evaluation-feedback documented, membership needs assessment, changes made for next year, annual work plan/budget, DSN deliverables completed, fiscal agent contract/reporting
Objective 2: Maintain and continue DSN Outreach	
Task 6. Conduct two local SWAPS per calendar year (up to 8 total events) based on WQCC RMH and WQCD data calls	List of participants, costs, SWAP fact sheet on web, evaluation, increase in web/database users documented, on ground monitoring changes recorded, documented actions resulting from events
Task 7: Conduct annual database and web-based directory update calls	Baseline user numbers/data sets, documentation of data calls (who, when), change in system number/track updates, evaluation of approach, modification implemented and documented in reports
Task 8: Provide DSN database and map upload assistance	Document number, data sets, effort for support, progress on current list of desired data sets both new/legacy into system (numbers, characterization)
Task 9: Maintain communication website tool and other opportunities	Website hosted, contact current, all documentation current, document all outreach efforts above SWAPS (who, what, where, why, result)
Objective 3: Continue DSN system training efforts	
Task 10: NPS award training and support	Documentation of training (in coor. with WQCD), evaluation, tracking NPS project sponsors support, data sets, frequent reporting to WQCD on progress, recommendations for future use, minimum data element lists, user manuals, operations manuals
Task 11: Non NPS Award training and support	Documentation of training, support, groups and datasets in map and database, success stories of how entities are organizing to do this, value and cost savings documented
Objective 4: Database and Map Directory operation, maintenance and upgrades	
Task 12: Operation, maintenance of system	Web and database functioning, data in, managed, uploaded to STORET, retrievable, users use tracked and documented, upgrade wish list progress document, user evaluation/feedback/action documented, costs documented for annual sponsorship drive, contributions documented
Task 13: User/use tracking, documentation, evaluation and costs	Multiple tools developed to track participation, contribution, and costs, multiple avenues for system evaluate and feedback to ensure relevancy

Assumptions

The assumptions that are associated with this project include:

- The EPA is able to continue with their in kind support for the project and in the future (technical assistance, upgrades, etc.).
- The CWQMC membership (includes users of the system) commits to short term and long term sustainability and support and continues to need and value the results of this project and use the data system developed, see commitment letters.
- The sustainability plan is implemented as intended.
- Significant unforeseen circumstances around the funding, project management or other entities involved.

Note Sections 5.2-5.6 are not applicable to this project.

However, this project provides a key element for NPS projects to achieve deliverables required in Sections 5.1 through 5.6. How data is managed and where it is stored is integral to implementation of the NPS Management Plan.

5.7 Long term funding for Operating and Maintenance of System

The Sustainability Plan from the 2004 grant established a mechanism to assess track and document system operation and maintenance costs as well as provide the essential activities that

comprise DSN. From this information, the CWQMC LT has adopted an annual process that utilizes that information in conjunction with a user and membership needs assessments to:

1. Evaluate the system (SWAPs, map and database), use, costs, components, needs and generate recommendations
2. Produce an work plan with
3. Financial targets, strategy (cash and in-kind contributions from all sources and grants), sponsorship drive goals and a budget

The results of these efforts are implemented during the following year, so that we remain one year ahead of needs.

The two primary recommendations from the research and 2004 Sustainability plan were for the CWQMC to use a fiscal agent versus develop that capacity and to ensure that cost never became a barrier to use the system (inclusion principle). If the CWQMC employs a fiscal agent, they can focus their expertise on generating the in-kind, cash and grant resources needed to support DSN. The second recommendation from the sustainability plan was for DSN to be inclusive, thus cost cannot be a barrier to either downloading or uploading information to DSN. Critical masses of data generators and data users are needed to sustain DSN. Fortunately there is a diverse universe of entities that have this common need. Everyone contributes their data and as a whole and the system is information rich. Similarly, if every benefactor contributes what they can to DSN, that same critical mass factor will keep DSN supported in the long term.

The CWQMC donated over $70,000 in a dollar value the past three years to pay for hard and soft costs. Thus, the support is there, CWQMC just needs to continue to access it.

Another strategy is to employ a part time coordinator. That provides consistency for the CWQMC administratively and for all DSN documentation, accounting and reporting. It also ensures the necessary technical tasks will completed with competence. Strategically, the NPS project is a large part of the project coordinator support. This is because it is easier to raise funds for other DSN costs or to provide in-kind support from other sources, such as server time, conducting SWAs and supporting and entity to upload their data. The final piece to long term operation and maintenance is the Council's fiscal agent, which allows volunteers to provide their expertise and time in areas that are direct DSN tasks.

6.0 Part 1. Funding Sources (identify federal and non federal funds)

	Year 1	Year 2	Year 3	TOTAL
NPS Project Funds	$ 24,118	$ 24,118	$ 24,118	$72,354
Other Federal Funds 3%[3]	$ 0	$ 0	$ 0	$ 0
CWQMC[1] Cash Other State 10% ($7000) County 4% ($3000) City 20% ($14400) Special Districts 22% ($16000) Non Profit 19% ($13600) Private 22% ($16000)	$ 69,817	$ 69,817	$ 69,817	$209,451
CWQMC[2] In-Kind Other State 60% ($24771) City 26% ($10920) Special Districts 61% ($26450) Non Profit 30% ($12595) Private 12% ($5038)	$ 41,985	$ 41,985	$ 41,985	$125,955
Total Budget	**$135,920**	**$135,92**	**$135,920**	**$407,76**

[1] CWQMC estimated match from source

[2] CWQMC estimated match from source, amount is more than needed so total >100

[3] Federal contributions are not counted in total project cost, we do try and track their contribution

Part 2. By Task-Objective and Category

Category	Year 1	Year 2	Year 3	Year Totals	In-Kind Match	Cash Match	NPS Funds
DSN Project Coordinator – Total PC is $66,500 worth of salary/fringe time, $1200 Travel/year, involved in tracking all tasks, responsible for some							
Task-Objective 2 ***Maintain and continue DSN Outreach Plan***							
4-SWAP Sites (8 events)	$ 800	$ 800	$ 800	$ 2400	$ 2400	$	$
4-Lead Host	$ 4160	$ 4160	$ 4160	$ 12480	$ 12480	$	$
4-Travel	$ 800	$ 800	$ 800	$ 2400	$ 2400	$	$
4-Food	$ 2400	$ 2400	$ 2400	$ 7200	$ 3600	$ 2880	$ 720
4-Copies/folders	$ 1200	$ 1200	$ 1200	$ 3600	$ 1800	$ 1440	$ 360
4-Maps	$ 800	$ 800	$ 800	$ 2400	$ 2400	$	
4-Guest Speakers	$ 3200	$ 3200	$ 3200	$ 9600	$ 9600	$	
4-SWAP Outreach [2]	$ 2600	$ 2600	$ 2600	$ 7800	$ 7800	$	
4-SWAP Outreach[1]	$ 4400	$ 4400	$ 4400	$ 13200	$ 2508	$ 8539	$ 2153
4-SWAP Coor/Hosting/Content[1]	$ 2200	$ 2200	$ 2200	$ 6600	$ 1254	$ 4276	$ 1070
4-SWAP Database Management[1]	$ 1760	$ 1760	$ 1760	$ 5280	$ 1002	$ 3421	$ 857
5-Map/Database Calls[2]	$ 2600	$ 2600	$ 2600	$ 7800	$ 7800	$	
5-Map/Database Calls[1]	$ 4400	$ 4400	$ 4400	$ 13200	$ 2508	$ 7482	$ 3210
5-Data Mang for Calls other[1]	$ 2200	$ 2200	$ 2200	$ 6600	$ 1254	$ 5346	
5,9-Data Mang for Calls NPS[1]	$ 520	$ 520	$ 520	$ 1560	$ 1560		
6-DSN Coor -Upload Assmt & Assist [1]	$ 19250	$ 19250	$ 19250	$ 57750	$ 10974	$ 37416	$ 9360
7-Website[1]	$ 4400	$ 4400	$ 4400	$ 13200	$ 2508	$ 9192	$ 1500
7-Event Outreach [2]	$ 3120	$ 3120	$ 3120	$ 9360	$ 9360	$	
7-Event Outreach [1]	$ 1760	$ 1760	$ 1760	$ 5280	$ 1002	$ 2778	$ 1500
Subtotal	**$ 62570**	**$ 62570**	**$ 62570**	**$187710**	**$ 84210**	**$ 82770**	**$ 20730**

Task-Objective 3 ***Continue DSN system training efforts***							
8,9,11-Conducting Training [1] (NPS/Other) (NPS Project Assistance)	$ 5280 $ 440 $ 1100	$ 5280 $ 440 $ 1100	$ 5280 $ 440 $ 1100	$ 15840 $ 1320 $ 3300	$ 3009 $ 252 $ 627	$ 8901 $ 210 $ 2673	$ 3930 $ 858
8,9-Travel[1]	$ 1200	$ 1200	$ 1200	$ 3600	$	$ 3600	$
8,9,11-Training Website[2]	$ 1560	$ 1560	$ 1560	$ 4680	$ 4680		$
8,9,11Training Documentation l[1] (NPS/Other)	$ 1320 $ 220	$ 1320 $ 220	$ 1320 $ 220	$ 3960 $ 660	$ 753 $ 126	$ 3207 $ 534	$
Subtotal	**$ 11120**	**$ 11120**	**$ 11120**	**$ 33360**	**$ 9447**	**$ 19125**	**$ 4788**
Task-Objective 4 ***Database and Map Directory operation, maintenance and upgrades***							
10-Hosting Contract[3]	$ 24000	$ 24000	$ 24000	$ 72000	$ 14400	$ 46080	$ 11520
10-Map/Database O/M[1] (+contingency)	$ 8450	$ 8450	$ 8450	$ 25350	$ 3135	$ 17772	$ 4443
Subtotal	**$ 32450**	**$ 32450**	**$ 32450**	**$ 97350**	**$ 17535**	**$ 63852**	**$ 15963**
Task-Objective 1 ***DSN Leadership, maintain CWQMC as oversight and accountability for DSN*** **Task- Objective 5** ***Provide DSN Administration***							
1,5-Fiscal Agent[4]	$ 17730	$ 17730	$ 17730	$ 53190	$	$ 26595	$ 26595
1-5-Administration [2]	$ 3250	$ 3250	$ 3250	$ 9750	$ 9750		
1-5-Administration[1]	$ 8800	$ 8800	$ 8800	$ 26400	$ 5016	$ 17106	$ 4278
Subtotal	**$ 29780**	**$ 29780**	**$ 29780**	**$ 89340**	**$ 14766**	**$ 43701**	**$ 30873**
Total	**$135920**	**$135920**	**$135920**	**$407760**	**$125958**	**$209448**	**$ 72354**

[1] DSN Project Coordinator, from CWA (will subcontract with Gold Systems for a few tasks), Coordinator costs for all objectives and tasks totaled, CWA $55/hour rate discounted by 20% and equals CWA Match to project

[2] CWQMC = Councils contribution to this task in addition to DSN Coordinator, CWQMC match rate of $65/hour is a blended estimate of the match provided by CWQMC members. It is a conservative rate.

[3] Gold Systems will host the server contract, subcontracting through CWQMC Fiscal Agent CWA, they too provide a 20% discount their rate for match

[4] CWA Fiscal Agent fee is 13% of total DSN budget (enacted through SPCURE who does not charge any fees), if actual budget increases or decreases, this fee would be adjusted accordingly

7.0 Public Involvement

CWQMC is founded in public involvement, targeting all entities engaged in any level of watershed management. That includes water rights, moving and storing water, water quality, using water in any way, land practices and affect water quality or quantity and the like. The council itself is a volunteer organization of diverse geographic and entity type. Our volunteer force and membership is the public, however they are organized, formally or informally.

The three DSN system elements are designed for the public to use and engage the public in their use and support. Every project goal, objective and tasks involves the public in some manner. Leadership, accountability, support, administration and evaluation all involve the public as the Council is made up of volunteers, solicits feedback on products, services, needs and priorities and designs work plan based on this information and then asks the public to support DSN with their time, data or cash. The SWAPs directly engage the public where we bring the project *to the local level* in a frequent and predictable manner that provides a voice for them across watersheds and back to a state level. The interactive map and database are designed for the public to use in order to protect and restore their waterways more cost effectively. We also partner with public stakeholder entities like CWA, Special Districts, Watershed Groups, and SPCURE to involve the public in an effective way.

8.0 Summary of 2004-2007 Grant

Often funding entities want to know the results of previous awards for amended contracts. This section summarizes the 2004 NPS Project results, which is scheduled to be closed out September 2008. To provide a summary of the 2004 NPS DSN project, we used the 2004 Grant Proposal Section 5.0 Evaluation content and format.

The goals stated in the 2004 NPS Award were:

1. ***To establish a water quality data management system that meets the needs of Colorado's NPS projects and local data providers (manages input, output and simple manipulations for monitoring results).***
2. ***Establish a web-based map to compliment data management system that shares monitoring locations, contact information, monitoring objectives, what is monitored and how.***
3. ***To actively nurture use of the system for three years.***
4. ***To implement a sustainable strategy for future support and use.***

Plans to evaluate those goals were listed in a table. The CWQMC achieved all four goals of the 2004 Project, demonstrating the approach as made progress in addressing the stated needs and that there is support for DSN.

2004 Objective and Task	2004 Evaluation Criteria	2008 Results
Objective 1: Load and host the data management system on a public internet server		
Task 1: Establish and Prioritize non NPS Award Data for this year	Statewide list of potential entities to participate this and following years	CWQMC approached this 3 ways, 1st solicited projects, 2nd at SWAPS gauged interest priorities desired/ready data sets, 3rd uploaded those who actually took the time to take use our assistance
Task 2: Establish STORET Organization ID's	List of Organization Id's and documented mechanism to update and maintain	Have a list of ORG IDs, this is required by STORET and Gold Systems, charge by Org ID, goal to change this structure for next 3 years to deal with associated issues
Task 3: Establish STORET Project Ids for NPS Award data	List of STORET Project ID's and documented mechanism to update and maintain	Done, have list for all projects in database, part of hierarchy in relationships so can produce project list as an output
Task 4: Assign logins and passwords to data providers	Logins for list of project Ids and documented mechanism to update and maintain	Process to document and implement security levels in place, being used, part of operation documentation
Task 5: Establish a hosting contract	Contract in place for one year	Held for all three years (raised additional funds to support because was not part of original plan), in negotiations for next three years right now
Task 6: Load data management system on a web server	Data management system viewable on web server, organizations, project id's and passwords all loaded	Go to http://www.codsnstoret.com to see map, database exists, unforeseen issues came up with EPA Region 10 map, we processed and are on path to incorp WQX and existing feature list next 3 years to remain relevant
Task 7: Host data management system on a web server	Maintenance of organizations, project id's and passwords on web server for one year, documentation to maintain beyond first year	Have documentation, evolving as WQX evolves, will be completed by end of 2004 Grant
Objective 2: Employ EPA Existing Web-based Map		
Task 8. Assess existing EPA ArchIMS web-based map for this project	List of necessary changes	Made list, prioritized, funded changes, have map and prioritized upgrade list/costs for next 3 years
Task 9. Changes made to EPA ArchIMS web-based map	Ready to go map	Can provide list of changes made
Task 10. Load ArchIMS tool to web server	Map on same server as data system for 1 year	Go to http://www.codsnstoret.com see map – have joint contract to keep map and database together on same server
Objective 3: Tools for Implementation of Outreach, Training and Populate the data management system & map		
Task 11: Develop data standards or minimum data elements	List of minimum data elements to use	Have for chemical, rivers, in final stages for phys hab, biological (3 areas), lakes/reservoirs and ground water
Task 12: Develop data formatting guidance	Approved Formatting Guidance document	Have for NPS Awards training, WQCD has not hosted this event yet w/in grant period
Task 13: Develop data formatting tools and templates	Data formatting templates and tools	Have for chemical, rivers, in final stages for phys hab, biological (3 areas), lakes/reservoirs and ground water
Task 14: Develop data system and mapping tool training materials	Training material for NPS Awards and CWQMC	Have set of material, still dynamic as system is being finalized, WQX path, etc. Current versions on webpage or provided at trainings
Task 15: Documentation of System and Map Tools for user and trainers	Two Instruction documents one for users and trainers	Have 2 sets of material, still dynamic as system is being finalized, WQX path, etc. Current versions on webpage or provided at trainings

Task 16: Documentation of System and Map Tools for OM	Instruction document for system O and M	Have a document in process, still dynamic as system is being finalized, WQX path, etc. Current versions available, part of final product
Objective 4: NPS Awards Legacy Data into System		
Task 17. Gather Legacy NPS Awards data sets	Template for collection of data sets and collection of data from prioritized, selected NPS Awards from Table 1	A multi-level effort was implemented multiple times to get data from the WQCD prioritized legacy project list. Effort is documented, key decisions and rationale will be in final report.
Task 18. Assess Legacy NPS Awards data sets	Assessment of data completeness, format, etc. for transition to STORET	Data sets we had to get, did get have been assessed to allocate resources for STORET upload processes
Task 19. Prioritize Legacy NPS Awards data sets	Prioritized, final list of projects to move forward to STORET	WQCD completed final prioritization fall 07, progress in place on actual transformation
Task 20: Format Legacy NPS Awards datasets	Formatted data from projects prioritized in Table 1	In progress
Task 21: Upload Legacy NPS Awards datasets	STORET Uploads, documentation, of projects prioritized in Table 1	Will see priority data sets received in DSN and National STORET end of grant
Objective 5: User Outreach, Recruitment, Training and Support		
Task 22: Organize and facilitate 8 regional CWQMC trainings, needs and meta-data swaps, 3 NPS Awards Training	Plan and implementation of 8 regional CWQMC trainings, need and meta-data swaps in conjunction w/ Triennial review and 3 NPS Award Trainings-all over 3 yrs	Conducted 12 of 16 one-day SWAPS, Ark/Rio Grande schedule April 08. Factsheets on website for CO and SP, SJ/GU/DO in progresses. Evaluations, recommendations documented in factsheet, feedback used in sustainability plan
Task 23: Provide user support	Documentation of what support was provided by whom, when and the status of the effort	Continual, will summarize support, datasets in final report, goal to acquire diverse media and parameter data sets will be achieved in addition to NPS Award data
Task 24: User Outreach strategy for data system and map	Documented outreach strategy, tasks, time-line, deliverables and evaluation plan	Outreach plan on website, updated and incorporated into sustainability plan, includes evaluation, feedback and recommendations cycle
Task 25: Implement Outreach strategy	Evaluation targets and summary developed for strategy	In process of implementing sustainability strategy (outreach incorp into that), this grant is part of that strategy, it is like a WS Plan, identified needs, gaps, plan to address
Objective 6: Promote sustainability		

Task 26: Develop a permanent hosting strategy	Permanent host found and commitment secured	Have developed next 3 year strategy, final hosting strategy will depend upon final implementation of WQX strategy, cost effective to stay w/ GS, decision and rationale will be in final report
Task 27: Establish sustainability strategy	For each supporting system component, strategy to maintain in long term identified, documented and secured	See sustainability strategy on webpage http://coloradowatershed.org/CWQMC, copies provided by request, final plan part of final report, in progress due to WQX transition still
Task 28: Establish a shared support mechanism	Support system developed and begun, evaluation targets identified and actively being measured	Sustainability plan includes shared support mechanism strategy based of SWAP and user feedback, cost / benefit analyses, leveraging in-kind capacity, incorporating future technology and political hurdles, result CWQCM will use fiscal agent, has a sponsorship /grant support strategy to provide in-kind and cash support
Task 29: Develop Long Term outreach strategy	Comprehensive long term outreach strategy document, tasks, resources, cost, including evaluation and implementation begun	See outreach plan on website, also integrated into sustainability plan. CWQMC LT will update both documents annually.
Task 30: System evaluation, documentation and reporting	Quarterly and final budget, final report, task, evaluation and recommendation report by Project Sponsor, associated databases. User Documentation of system.	Many tools in place, some still in development/piloting, includes all tools listed in current proposal TASK 13.

Assumptions for the 2004 NPS Award *(2008 Response)*

The assumptions that are associated with this project include:

- The EPA is able to continue with their in kind support for the project and in the future (technical assistance, upgrades, etc.). *EPA has honored their commitment; remain on the LT providing their expertise and access to funds.*
- The CWQMC membership commits to short term and long term sustainability and support and continues to need and value the results of this project and use the data system developed. *CWQMC membership donated 70,000$ and over 3000 hours, commitment for future support in place, has new members and re-engaged historic members.*
- The sustainability plan is implemented as intended. *CWQMC is in process of implementing, this grant is one component, everyone needs to contribute something and a process is in place to ask. If funds are not adequate at maximum operation CWQMC will scale back all components but not eliminate any individual component.*
- Significant unforeseen circumstances around the funding, project management or other entities involved. *Technical issues always arise, WQX is an example and the CWQMC's response is also an example of existing capacity and potential to manage DSN, other contractual issues that arose due to the partnership structure were all handled and developed into current working and effective structure.*

Acronyms:

ArcIMS	Geographic Information mapping software
CWA	Colorado Watershed Assembly
CWA	Colorado Watershed Assembly
CWQMC	Colorado Water Quality Monitoring Council
DSN	Data Sharing Network
EPA	Environmental Protection Agency
GS	Gold Systems
LT	Leadership Team
NPS	Non Point Source
PM	Project Manager
O&M	Operation and Maintenance
SIM	STORET Input Module (on server or stand alone)
STORET	Storage and Retrieval database and data warehouse
TAC	Technical Advisory Committee
TMDL	Total Maximum Daily Load
USGS	United States Geological Survey
WebSIM	Web-based STORET Input Module
WQCC	Water Quality Control Commission
WQCD	Water Quality Control Division
WQX	Water Quality Exchange

Figure 1. Organizational Structure of CWQMC Data Sharing and NPS Award