



**CWQMC Colorado Data Sharing Network  
Sustainability Plan**

**September 12, 2008**

# CWQMC Colorado Data Sharing Network Sustainability Plan

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# 1. Purpose

The Colorado Water Quality Monitoring Council (CWQMC) needs a structure that will support the Colorado Data Sharing Network (DSN) in the long term as well as a plan. The initial Colorado Water Quality Control Division (WQCD) §319 grant, ending in September 2008, provided specific sustainability tasks to be designed in the first year and to begin implementation in year two and three of the grant. This document provides the record of the DSN sustainability plan, addressing all items in the grant work plan:

Objective 6 of the DSN Work plan contains the following Tasks:

- Task 36 Develop a permanent hosting strategy
- Task 27 Establish sustainability strategy
- Task 28 Establish a shared support mechanism
- Task 29 Develop a long term outreach strategy
- Task 39 System Evaluation, Documentation and Reporting

The DSN Sustainability Strategy addresses the following components in some manner:

- Context and Focus is necessary to convey when implementing DSN SWAPS, outreach, training or support. Our context includes the defined target audiences for each product SWAP, web-based map or database and following a large data user and process the WQCC Rule Making Hearings and/or the need/desire for some entities to get there data into National STORET. This is the foundation for Outreach and Recruitment, understanding needs.
- Outreach and Recruitment is necessary to get a critical mass using both the map and database or it will not be of value and achieve the goal of a data source. DSN SWAPS will fulfill a large part of recruitment as will other strategies. This is the foundation for providing Training and System Support.
- Training is necessary to get new users comfortable using the map and database, without training and ease of use, users will not use the system.
- Support is necessary to a minimal degree for users that can guide themselves but need help in a few areas. Self guided tutorials and user manuals are provided at trainings and on the website, these will be updated.
- Tools. The Council has many tools, such as the website, SWAP Fact Sheets, DSN Brochure, Council Charter, SWAP and system user database that support all aspects of the DSN Project. These tools are embedded in the components of DSN implementation.

## **a. 319 Grant and Beyond**

This sustainability plan outlines the CWQMC's interim and future strategies to bring the DSN to self sufficiency. Currently, the DSN's budget is at this time almost entirely dependent on the WQCD §319 grant totaling \$100,000. This grant, ending in September 2008, outlines the following objectives for the development of the DSN:

- Load and host the data management system on a public internet server
- Employ EPA existing web-based map
- Developing tools for implementation of Outreach, Training, and Population of data management system and web based map
- Upload NPS grant program legacy data into the system
- Provide user Outreach, Recruitment, Training, and Support
- Promote sustainability

Until October 2007, the DSN was also partially supported by an EPA Regional Geographic Initiative (RGI) grant totaling \$15,000. The RGI grant funded twelve months of online hosting and support for the DSN database, WebSIM, and ArcIMS map by Gold Systems, Inc. Upon the conclusion of this grant (October 2007), the CWQMC became responsible for providing monthly hosting costs.

The §319 and RGI grants provided the core development and population of the DSN, but are insufficient to expand the system to meet growing public needs and expectations. Simply put, the DSN needs more money – both immediately and in the long term. The immediate fiscal needs include monthly hosting costs that the RGI grant no longer provides for. At a minimum, the DSN needs \$1,000 per month to keep the system online and accessible to the public. From a long term perspective, the objectives outlined above must be supported beyond the life of the grant. Therefore, the DSN must secure funding to staff personnel to provide outreach and assistance. The total estimated monthly cost for the DNS is estimated to be \$3,100/month. To complicate matters further, EPA will cease to support STORET in September 2009. Therefore, we must also consider a strategy to transition our STORET based system to EPA's new Water Quality Exchange system (WQX).

The Outreach and Training strategies and costs outlined in subsequent sections are based off of the CWQMC's evaluation of the DSN's current strategies and are expected to remain constant or decrease through time. The system's operation and maintenance costs, however, remain less clear. Therefore, this document only outlines the expected costs to support the system in its current capacity until September 2009. It is imperative that the DSN work closely with EPA Region 8 as the WQX transition evolves.

## **b. CWQMC Structure**

The CWQMC Charter characterizes three subcommittees and their respective responsibilities to implement this sustainability strategy for the remainder of the grant and beyond. The subcommittees include the Leadership Team (LT), Technical Advisory Council (TAC) and Outreach Team (OT). The CWQMC will be responsible for the continued sustainability, support and development of the CDSN.

## 2. Outreach

Outreach includes the necessary activities, processes, products and services that will support local watershed SWAPS, data calls, data formatting assistance, website and other outreach activities.

### a. **Local Watershed SWAPS**

The *purpose* of watershed SWAPS is to engage entities involved in watershed work in a place-based discussion to exchange 1) what they are doing, where, when, why and how; and then 2) their monitoring priorities, needs and concerns. This exchange provides a communication outlet for entities across a watershed, from a local to regional to state level and back down. Swaps can become a “voice” for monitoring issues collectively at a state level, if implemented consistently.

The CWQMC conducted eleven place-based swaps during the first grant period. Evaluations revealed an overwhelmingly positive response to the SWAPS, and the desired frequency for swap occurrence was on average between 1 and 2 years. The proposed SWAP frequency is outlined in Table 1. The CWQMC does not need to be the entity that hosts every SWAP, and in fact, in some watersheds the Council’s SWAPS may be redundant. The DSN can go where there is a need and identify complimentary mechanisms to communicate priorities, needs and concerns intra basin, in those basins where inter-communication is already occurring. The SWAPS will also be used to recruit and train new users or provide system support. Other events will continue to be identified in each basin that might be leveraged for DSN support.

Sponsorship drives or calls will have a fiscal goal to fund the operation, maintenance and implementation of SWAPS in addition to the DSN web-based map and database. The map and database will not sustain a critical mass without some outreach effort; data calls and user support. SWAPS will facilitate DSN support because entities are coming to the table for their own reasons; while they are there we can train them, get data from them and give the DSN a personal face.

Estimated SWAP costs are based off of real expenses incurred for the eleven SWAPS held from 2006 through 2008. As of September 2008, the desired number of SWAPS is two per year, one in fall and spring, rotating so that each basin was addressed every two years but still following the WQCC Triennial Basin Review Schedule in a timely manner, as outlined in Table 1. Cost estimates outlined in Table 2 are for individual SWAPS. The schedule to implement transition from the Grant cycle to the preferred cycle is displayed in Table 1. This component, as well as the entire plan, should be updated on an annual basis by the Technical Advisory, Outreach and Leadership Team Subcommittees.

**Table 1. DSN SWAP Cycle, Grant transition into one complete 4 year cycle**

Goal is to get rotations for Basin RMH Spring before RMH yet visiting every basin w/in 2 years, while doing annual data calls, and become a predictable event associated with w/ Basic Standards Year.

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*	UC,LC	UC,LC	2007*	SP	UC,LC/303d	UC,LC	2008*	UC,LC
2007*	SJ; Gunn	SP	2008*	Ark, RG	SP	SP	2009	SP
2008*	CWQMC	Basic Standards	2009	CWQMC	SW 303d	Basic Standards	2010	Basic Standards
2009	UC,LC	SJ; Gunn	2010	SJ; Gunn	SJ; Gunn	SJ; Gunn	2011	SJ; Gunn
2010	SP	Ark, RG	2011	Ark, RG/303d	Ark, RG/303d	Ark, RG	2012	Ark, RG
2011	SJ; Gunn	UC,LC	2012	UC,LC	UC,LC	UC,LC	2013	UC,LC
2012	Ark, RG	SP	2013	SP/303d	SP/303d	SP	2014	SP
2013	CWQMC	Basic Standards	2014	CWQMC		Basic Standards	2015	Basic Standards
2014	UC,LC	SJ; Gunn	2015	SJ; Gunn/303d	SJ; Gunn/303d	SJ; Gunn	2016	SJ; Gunn
2015	SP	Ark, RG	2016	Ark, RG	Ark, RG	Ark, RG	2017	Ark, RG
2016	SJ; Gunn	UC,LC	2017	UC,LC/303d	UC,LC/303d	UC,LC	2018	UC,LC
2017	Ark, RG	SP	2018	SP	SP	SP	2019	SP
2018	CWQMC	Basic Standards	2019	CWQMC	SW/303d	Basic Standards	2020	Basic Standards
2019	UC,LC	SJ; Gunn	2020	SJ; Gunn	SJ; Gunn	SJ; Gunn	2021	SJ; Gunn
2020	SP	Ark, RG	2021	Ark, RG/303d	Ark, RG/303d	Ark, RG	2022	Ark, RG

\* Grant Transition Years

UC, LC: Upper Colorado, Lower Colorado  
 SJ; Gunn: San Juan, Gunnison  
 Ark, RG: Arkansas, Rio Grande  
 SP: South Platte  
 SW: State Wide  
 CWQMC: CWQMC Evaluation & Training

**Table 2. Costs: One Watershed SWAP per Year (Calendar)**

Item	Estimated Cost			Who?	In-kind Potential	Cost Remaining	
	Unit Cost	Unit	# units				Total
Site	\$100	/day	4	\$400	Local WATERSHED	\$400	\$0
Lead Host	\$520	/day	4	\$2,080	CWQMC	\$2,080	\$0
Travel	\$100	/day	4	\$400	CWQMC	\$400	\$0
Food	\$300	/day	4	\$1,200	Sponsorships	\$600	\$600
Copies/Folders	\$150	/day	4	\$600	Sponsorships	\$300	\$300
Maps – creation and printing	\$100	/day	4	\$400	USGS	\$400	\$0
Guest Speakers	\$400	/day	4	\$1,600	Local WATERSHED	\$1,600	\$0
Outreach	\$55	/hr	40	\$1,800	DSN Coordinator	\$418	\$1,782
	\$65	/hr	20	\$1,300	CWQMC	\$1,300	\$0
Database Management	\$55	/hr	16	\$720	DSN Coordinator	\$167	\$713
DSN Coordinator	\$55	/hr	20	\$900	DSN Coordinator	\$209	\$891
<b>SWAP Budget (per year)</b>				<b>\$12,160</b>		<b>\$7,874</b>	<b>\$4,286</b>
<b>Two per Year</b>				<b>\$24,320</b>		<b>\$15,748</b>	<b>\$8,572</b>

*Assumptions – A SWAP consists of four place-based meetings per basin. Individual meetings are one day event, lunch and snacks provided, estimated 20 attendees*

*Estimated Minimum Annual Cost: \$8,572*

*Estimated Maximum Annual Cost: \$24,320*

## Evaluation

*Evaluation* of SWAPS occurs after each event. Annual evaluation of timing, participants, content, outreach and implementation will be performed by the Technical Advisory, Outreach and Leadership Team Subcommittees in their annual program planning and fund raising goal meeting.

## Documentation

*Documentation* of each SWAP will continue in current Fact Sheet Format, unless another format or mechanism is developed. These are sent to participants and posted on the website.

**b. Database and web-map Calls**

The *purpose* of conducting an annual data call is to get the DSN database and map populated and updated on a meaningful frequency. If the data are not updated, the database will not be relevant and thus not useful. Evaluation of past efforts and feedback from first round of SWAPs indicated reminders would be needed in order to institutionalize the use and value of the system.

The call will be for both information provider for the map and the database. The calls will be as automated as possible, based on the relationship we hope to establish. The data call design is a combination of emails, mail, calls that will 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. The DSN Coordinator will coordinate and track calls, but implementation is the responsibility of the Outreach Committee. The estimated costs associated with the data calls are listed in Table 3.

**Table 3. Costs: Annual Map and Database Calls**

Item	Estimated Cost			Who?	In-kind Potential	Cost Remaining	
	Unit Cost	Unit	# units				
Transition and Basin Map and Database Call	\$55	/hr	80	\$4,400	DSN Coordinator	\$836	\$3,564
	\$65	/hr	40	\$2,600	Technical Advisory and Outreach Subcommittees w/ help from WATERSHED leaders	\$2,600	\$0
Database Management	\$55	/hr	40	\$2,200	DSN Coordinator	\$418	\$1,782
NPS Project Data call	\$65	/hr	8	\$520	TA / WQCD NPS Coordinator	\$520	\$0
<b>Call Budget (per year)</b>				<b>\$9,720</b>		<b>\$4,374</b>	<b>\$5,346</b>

*Assumptions – call will occur 2 times per year, spring and fall*

*Estimated Minimum Annual Cost: \$ 5,346*

*Estimated Maximum Annual Cost: \$ 9,720*

**Evaluation**

The TAC and Outreach Subcommittees will conduct an annual evaluation of the target audiences and this approach and report recommendations to the Leadership Team. The goal is that after a certain period of time these users will not require a call and all uploads (80% or more) will be routine.

**Documentation**

An annual report of number of datasets in system updated in database and web-map, the list and number of entities “called” and success of data call effort based on new updates, this will be provided to the Leadership Team.

**c. DSN Individual Upload Assistance**

The *purpose* of providing individual assistance with DSN uploads is to increase the relative comfort level of each data generator with the system. By providing introductory assistance, and in some cases database management advice/ consultation, we hope to instill confidence within each group to continue regular uploads, aiding the goal to institutionalize use and updates. While the tools generated for this project (i.e. import configurations and Excel templates) are designed to make the system more user friendly, the unique nature of each dataset requires *one-on-one* assistance.

The need for individual assistance was identified in the first 319 grant. The alternative or original 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.

The need for this level of support may taper off as participation progresses. Again, the goal is to spend as much time as necessary to get as many datasets as possible into the DSN as soon as possible. The estimated costs for individual upload assistance are listed in Table 4.

**Table 4. Costs: DSN Individual Upload Assistance Year (taper off, re-evaluate)**

Item	Estimated Cost			Who?	In-kind Potential	Cost Remaining	
	Unit Cost	Unit	# units				
Data Assessment	\$55	/hr	116	\$6,380	DSN Coordinator	\$1,212	\$5,168
Consultations/ Upload	\$55	/hr	234	\$12,879	DSN Coordinator	\$2,445	\$10,425
<b>Support Budget (per year)</b>				<b>\$19,250</b>		<b>\$3,658</b>	<b>\$15,593</b>

*Assumptions – yearly estimate, 10 hrs/week for 35 weeks/year*

*Estimated Minimum Annual Cost: \$15,593*

*Estimated Maximum Annual Cost: \$19,250*

**Evaluation**

The TAC will identify critical datasets for the DSN Coordinator to conduct extended outreach assessment and consultations. Our success will be evaluated by the number of data sets uploaded to the system each year. It is projected that this need will decrease as more users are trained and using the system.

**Documentation**

An annual report of number of new and existing datasets in system updated and hours spent doing this task to evaluate their adequacy for the next year, completed by DSN Coordinator provided to Technical Advisory Subcommittee that will report to the Leadership Team.

**d. Website and other Outreach**

The *purpose* of the website and other support documents is to be able to communicate with DSN Target Audiences for the purposes of outreach like handling SWAP registrations and invitation process, trainings, providing information for recruitment and sponsorship calls. Also for data users and potential data generators to understand what the DSN project is about and who the CWQMC is. Other outreach efforts serve the primary purposes of outreach, recruitment, training and providing support. We will estimate attending four of these type events per year and writing about DSN as much as possible. An example of such an event would be the South Platte Forum or Annual Joint Watershed Conference. The estimated website and other outreach costs are outlined in Table 5.

**Table 5. Costs: DSN Other Outreach**

Item	Estimated Cost			Who?	In-kind Potential	Cost Remaining	
	Unit Cost	Unit	# units				
Maintain Website	\$55	/hr	80	\$4,400	DSN Coordinator	\$836	\$3,564
Attend 2 events/yr	\$55	/hr	32	\$1,760	DSN Coordinator	\$334	\$1,426
Attend 2 events/yr	\$65	/hr	32	\$2,080	CWQMC	\$2,080	\$0
Write 2 articles/ yr	\$65	/hr	16	\$1,040	CWQMC	\$1,040	\$0
<b>Outreach Budget (per year)</b>				<b>\$9,280</b>		<b>\$4,290</b>	<b>\$4,990</b>

*Estimated Minimum Annual Cost: \$ 4,990*

*Estimated Maximum Annual Cost: \$ 9,280*

**Evaluation**

The Technical Advisory, Outreach and Leadership Team will evaluate the website annually for updates and provide information to DSN Coordinator. DSN Coordinator will provide annual and as needed report on use, recommendations and issues to Subcommittees.

**Documentation**

An annual summary report of use, updates and recommendations will be filed by DSN Coordinator for Leadership Team to provide direction for next year.

### 3. DSN System Training

#### a. **Non 319 Project Sponsor System Trainings**

The *purpose* of DSN training strategy is to provide adequate training so number of users increase and competency of users increase. Adequate means training with the right content and the right time to the right and ready entity. Evaluation and feedback from the first round of trainings indicates that participants attended the SWAPS and system trainings to learn more about the DSN, not the details of how to use it. Often time's participants were interested, but needed permission from supervisors before they could commit to the DSN.

Training can accompany a SWAP, but at this point our learning tells us to present a system overview at SWAPs, provide individual upload assistance for groups struggling with their data and organize strategic training events for identified target audiences. These strategic and detailed training events will for organizations with a commitment to enter their data into the DSN. Prior to attending a strategic training, identified participants will work with the DSN coordinator to begin gathering and formatting the information necessary to upload data into the DSN. The estimated costs for system trainings are outlined in Table 6.

**Table 6. Costs: DSN system training**

System Item	Estimated Cost				Who?	In-kind Potential	Cost Remaining
	Unit Cost	Unit	# units	Total			
Training	\$55	/hr	96	\$5,280	DSN Coordinator	No	\$4,320
Travel	\$100	/day	12	\$1,200	DSN Coordinator	No	\$1,200
Documentation Update	\$55	/hr	24	\$1,320	DSN Coordinator	No	\$1,080
DSN Web updates	\$65	/hr	24	\$1,560	CWQMC	Yes	\$0
<b>Training Budget (per year)</b>				<b>\$9,360</b>		<b>\$2,814</b>	<b>\$6,546</b>

*Assumptions – 8 trainings/year, one day events, 4 local, 12 total days, Doc update 3 days*

*Estimated Minimum Annual Cost: \$ 6,546*

*Estimated Maximum Annual Cost: \$ 9,360*

#### **Evaluation**

Each training event will have a post evaluation. User documentation will provide a feed back form and the DSN website will be evaluated and updated for its value and use.

#### **Documentation**

The DSN Coordinator will track, document, and report to the TAC or LT annually on DSN training components such as where trainings occurred, who attended and an evaluation for Council's review. These trainings will add contact names to the Councils' database.

**b. 319 NPS Project Sponsor Training and Support**

A primary objective of the DSN is to provide a mechanism for 319 project sponsors to upload data to national STORET. To integrate the DSN into new 319 projects, it is vital that project sponsors build the DSN into their Project Implementation Plans and consider DSN formatting requirements before they start collecting data.

Retaining and building the relationship and commitment between the CWQMC and WQCD Non Point Source Program is critical to the success of the DSN. The DSN has worked with WQCD staff to strategize ways incorporate the DSN into new 319 projects. Upon WQCD request, the DSN will provide additional system trainings and support for the 319 audience at WQCD events. The DSN will also prioritize individual upload assistance for 319 groups. WQCD will need to identify and communicate to the DSN which projects require the DSN to meet EPA STORET requirements to ensure that the DSN provides timely support. The estimated costs for 319 project trainings and support are listed in Table 7.

**Table 7. Costs: NPS Project Sponsor Trainings and Support**

NPS Program	Estimated Cost				Who?	In-kind Potential	Cost Remaining
	Unit Cost	Unit	# units	Total			
NPS Training	\$55	/hr	8	\$440	TAC or DSN Coordinator	\$84	\$356
Documentation	\$55	/hr	4	\$220	TAC or DSN Coordinator	\$42	\$178
Project Sponsor Support	\$55	/hr	20	\$1,100	TAC or DSN Coordinator	\$209	\$891
<b>Total Budget</b>				<b>\$1,760</b>		<b>\$334</b>	<b>\$1,426</b>

*Assumptions – one day event, 4 hour event, 4 hour prep, support approx 10 sponsors/year at 2hr/each*

*Estimated Minimum Annual Cost: \$ 1,426*

*Estimated Maximum Annual Cost: \$ 1,760*

**Evaluation**

The DSN Subcommittee will solicit annual feedback from the WQCD NPS Program manager.

**Documentation**

As with other trainings, NPS training events that occur each year will be documented where, who attended and summary of evaluation for Council’s review.

## 4. Database and Map System Operation and Maintenance

The *purpose* of the DSN System is to provide a statewide watershed monitoring directory for chemical, physical and biological data on rivers, lakes, reservoirs and ground water, and when possible the actual data.

To achieve this DSN System has two major components: the Regional STORET data Warehouse and ArcIMS Interactive Map (often called the web-based map). The Regional STORET Warehouse is a secure, off-site copy of EPA's water quality database, STORET. The map uses ArcIMS technology to interactively display water quality data from the Regional STORET Warehouse on an on-line map. Both the Regional STORET Warehouse and map were developed and are maintained by Gold Systems, Inc.

The DSN database and map are designed to meet the needs of both data generators and data users. The target audience for the Regional STORET Warehouse is individuals with fiscal or technical barriers to sharing their data with the public. This includes groups that are required to upload their data to national STORET, groups that may not have a secure data management system or groups who want to use the DSN as a primary or secondary data management system. The target audience for the map is much larger: anyone generating watershed data, regardless of where the data may reside. Map-only users have the opportunity to post general description of their data collection efforts and station locations on the map. Groups uploading their data to the Regional STORET Warehouse via WebSIM will automatically have their data displayed on the map.

Both the map and database will track users, which include data providers and just users of the information. A first time user will have to provide information before they can access the map or database. Data generators will already be in our database. This is the foundation database for all SWAPS, trainings and sponsorship drives.

### a. **System Needs**

#### **DSN Database Features and Needs**

*Features:* The DSN Database is an Oracle Database built to model EPA's STORET on a regional scale. Data can be accessed through the Regional STORET Warehouse that has an interface similar to STORET. Data can be uploaded to the database through WebSIM, an import module created to migrate data from an individual's system to the regional database. The DSN created a series of import configurations, excel templates, and minimum data elements to increase overall user ability.

*Needs:* The ability to track user activities, including regular reports on data uploads, downloads those who view our system.

#### **WQX**

EPA is currently developing a new water quality database called WQX. The Water Quality Exchange (WQX) is a new framework that makes it easier for users to submit and share water quality monitoring data over the Internet. Once fully online in 2009, they EPA no longer support the current STORET system.

*Needs:* The DSN needs to have a strategy to migrate to WQX with the rest of the country. DSN will likely not begin transitioning to WQX until early 2010, in order to utilize the same technologies developed by EPA Region 8 states and Tribes which should reduce our costs. Gold Systems has proposed two interim strategies to continue sending data to National STORET after September 2009.

1. Gold Systems has developed a tool to create XML files (the required WQX file format) in order to send data to National STORET.
  - This will be a cost intensive option
  - Individual files will have to be put through the XML generated tool.
2. Delay national STORET uploads until the DSN has transitioned to WQX.
  - There are no costs to this option
  - Groups with contract requirements to upload data to national STORET will be unable to migrate their data

*Estimated Capital Cost: \$50,000 to \$60,000*

### **ArcIMS Map Features and Needs**

*Features:* ArcIMS provides an online and interactive map that identifies sample locations throughout Colorado and provides users with the ability to query data from the Regional STORET Warehouse.

*Needs:* ArcIMS currently meets the minimum desired DSN functionality. The DSN has developed a “wish list” that outlines map features necessary to meet user needs:

1. Ability to select multiple stations at one time
2. Ability to customize queries (i.e. nitrogen results above 0.5 mg/L from Boulder County)
3. Additional reference layers (i.e. WBID, NHD, 12 digit HUC)
4. Ability to directly link to other databases (i.e. NWIS)
5. Expand ability to view more station metadata (i.e. general summary of data)

In July 2008, WQCD and EPA offered \$20,000 in financial assistance for the continued development of the map. The DSN will need to work with the CWQMC, WQCD, EPA and Gold Systems to develop a work plan for this item.

### **b. System Cost Estimates**

There are two types of system costs the DSN incurs: a monthly hosting cost and services requested. The monthly hosting costs is the Gold Systems fee that covers host the DSN system online, database and network administration, and hardware/software licensing costs. The services requested costs incorporate grant deliverables and CWQMC requested services. CWQMC requested services in the future will include refreshing the map to display new information, migrating data to national STORET and the WQX transition.

DSN grant deliverables included development of a permanent hosting strategy (Task 36) and establishment of a shared support mechanism (Task 28). At the current time, DSN recommends that the CWQMC remain with Gold Systems as our system manager. Gold Systems, who provides similar services to states throughout the county, has an intimate

technical knowledge of STORET, WebSIM, ArcIMS, and WQX. Gold Systems has demonstrated a willingness to work the DSN and other parallel organizations to share technologies in an effort to minimize costs. Therefore, as the DSN expands the number of users, there is the potential to further decrease costs. The estimated annual DSN system base costs are outlined in Table 8.

**Table 8. Costs: Annual DSN System Base Costs**

Item	Estimated Cost				Who?	In-kind Potential	Remaining Cost
	Unit Cost	Unit	# units	Total			
GS Charge Org ID	\$1,000	----	-----	\$12,000	GS	\$0	\$12,000
DB O&M (100 hrs/yr)	\$55	/hr	100	\$5,500	DSN Coordinator	\$1,045	\$4,455
<b>Sub Total</b>				<b>\$17,500</b>		<b>\$1,045</b>	<b>\$16,455</b>
Contingency 10%				\$1,750			\$1,645
<b>System Budget (per year)</b>				<b>\$19,250</b>		<b>\$1,045</b>	<b>\$18,100</b>

*Assumptions – Stay with Gold Systems--\$1000/month for unlimited OrgIDs, ArcIMS 10% contingency on unknown hardware/software issues.*

*Estimated Minimum Annual Cost: \$ 19,250*

*Estimated Maximum Annual Cost: \$ 18,100*

## Evaluation

For inclusion in the DSN, whether metadata displayed on the map or data uploaded to the database, data generators will be required to provide contact information and purpose to the DSN Coordinator. This will keep our user contact database current for evaluation and outreach efforts. The map and database will be evaluated by periodic online surveys, narrative evaluation by the DSN Coordinator, and the number of people accessing the system.

## Documentation

The DSN Coordinator, via the Technical Advisory Subcommittee will report before the sponsorship call effort, to the Leadership Team on use, costs, issues and recommendations.

## 5. DSN Administration

The *purpose* of DSN administration section is to outline a strategy to adequately obtain the necessary funding to support the administrative tasks necessary to implement and manage all aspects of the DSN Project. This includes payment to our fiscal agent for their work and items that are in the joint MOU. It does not include DSN Coordinator time that has been allotted in above items and tasks. The anticipated costs to maintain a fiscal agent are listed in Table 9. The Fiscal Agent responsibilities include:

- to receive funds on behalf of the CWQMC,
- employ the DSN Coordinator and associated needs,
- fiscal responsibilities associated with grants and other funds,
- provide accounting services,
- payment services as needed, maintain a billing/fee for service capacity,
- provide monthly profit/loss statements,
- other reports requested by LT such as financial reports,
- maintain liability insurance and conduct an annual independent audit.

The CWQMC responsibilities include (w/assistance from fiscal agent):

- Develop and implement an annual work plan with an annual budget and financial goal
- Design and conduct annual sponsorship drive consistent with LT approved guidelines
- Develop and/or approve grant applications
- Provide in-kind support and documentation
- Develop and help evaluate DSN Coordinator position
- Compensate Fiscal Agent
- Develop joint “fee for service” agreements where apply
- Evaluate fiscal agent performance and relationship

The current strategy to fund DSN and other CWQMC efforts are through an annual sponsorship drive that wherever possible becomes institutionalized within each entity's budgeting process. Guiding principles and strategy implementation is being documented in its own document for the Leadership Team to maintain along with the CWQMC Charter.

The balance that needs to be attained must incorporate keeping the system inclusive for users of both the map and database for the target audience while ensuring those that can pay do, or those that use it more if can support it more. The Council desires the WQCD to become dependent upon this system and support it at some level and/or require data to be put in it, and thus for this reason as well we cannot have cost be a barrier to participation. This effort will be concurrent to working with the WQCD and other entities to provide support as well.

This document provides the basis for the sponsorship call annual financial goal, in addition to other CWQMC activities to be determined and finalized by the Leadership Team. Council and its subcommittees and members need to contribute where can to keep costs down.

**Table 9. Costs: Administration**

Item	Estimated Cost			Who?	In-kind Potential	Cost Remaining	
	Unit Cost	Unit	# units				Total
Sponsorship Drive	\$65	/hr	50	\$3,250	CWQMC LT, Outreach SC	\$3,250	\$0
Fiscal accounting w/ Sponsorship Drive					Fiscal Agent	\$418	\$1,782
Data Call time	\$55	/hr	40	\$2,200	DSN Coordinator	\$1,254	\$5,346
	\$55	/hr	120	\$6,600			
<b>Administrative Budget (per year)</b>				<b>\$12,050</b>		<b>\$4,922</b>	<b>\$7,128</b>
<i>Total Annual Budget subtotal</i>				<i>\$118,190</i>		<i>\$43,661</i>	<i>\$75,620</i>
<b>Fiscal Agent Fee (15% of total Annual Budget)</b>				<b>\$17,729</b>		<b>\$6,549</b>	<b>\$11,343</b>

*Assumptions – 1) need to call 500 groups, 10 folks/500=50 each, takes 10/hour, 5 hours x 50 hours at \$65/hr. 2) first year is Sept 07 to June 08, fiscal agent is only managing Sponsorship call funds and Data calls (\$5400) not included in grant 3) total budget amount to be raised this year is for next year*

**Evaluation**

DSN Coordinator and our fiscal agent will provide financial reports via the MOU and provide an independent audit. Via the MOU grant management, handling of sponsorship funds and similar tasks are also included. Costs to implement DSN will be tracked annually by DSN Coordinator, TA Subcommittee and reported to LT. Necessary program adjustments will be made.

**Documentation**

Costs will be documented in a format and processes design during the grant cycle by the TAC. Post grant, Leadership Team and Fiscal Agent will determine documentation format, frequency and contact via MOU.

## 6. Implementation

The CWQMC via the Leadership Team, Technical Advisory and Outreach Subcommittees are responsible for operation and maintenance of the DSN project. On mechanism to do this will be the use of a fiscal agent in lieu of becoming and 501(c)3 entity. The CWQMC has a revised Charter that provides the vision, mission, desired outcomes/results, target audiences, structure and functions to guide the next year's efforts. The new Charter can be found on the website.

Key Implementation Points from Charter:

- Leadership Team forms and begins operation in September, elects executive team, signs Fiscal Agent MOU, approves sponsorship drive strategy, sustainability plan and budget, develops skill matrix, identifies leaders of each subcommittee.
- Fiscal Agent begins reporting via MOU requirements, keeps CWQMC informed regarding DSN Coordinator position as transition from grant to w/out grant.
- Sponsorship drive begins strategic implementation in late September through March to obtain financial goals before grant expires.
- Summary of total costs for fund raising goal is next

## 7. Total Costs

Item	Estimated Cost	In-kind Potential	Cost Remaining
Outreach	\$73,690	\$31,219	\$42,471
System	\$19,250	\$ 1,045	\$18,100
Admin	\$12,050	\$4,922	\$ 7,128
<b>Total Annual Estimated Budget</b>	<b>\$104,990</b>	<b>\$37,186</b>	<b>\$67,699</b>

*Estimated Minimum Annual Cost: \$ 67,699*

*Estimated Maximum Annual Cost: \$ 104,990*

*Capital Cost (WQX): \$50,000 - \$60,000*