NORTHERN COLORADO PLATEAU NETWORK

WATER QUALITY MONITORING BACKGROUND QUESTIONNAIRE

May 2001

Background and Purpose

The Northern Colorado Plateau Network (NCPN) of 16 NPS units, has entered into a cooperative agreement with Colorado State University (CSU) to conduct planning work which will lead to development of a water quality monitoring plan for the NCPN. The NCPN has received a $108K base funding increase for water quality monitoring as part of the Natural Resource Challenge. In an effort to make sure that these limited funds are focused on the most important resources, the CSU team will assess water quality conditions based on existing data residing within and outside the parks, and work with park management and staff to determine the highest priority water resources and most pressing known and anticipated threats. The team will assemble and review existing data, and then make recommendations regarding the highest priority water sources, monitoring sites, threats and monitoring parameters and schedules. This information will provide a foundation for developing network and park based water quality monitoring designs. It is anticipated that the planning and design phase will be completed by the end of FY2002 with implementation beginning in FY2003.

The CSU water quality team consists of Melinda Laituri, Dr. Lee MacDonald, Sam Kunkle, Dr. John Stednick, and Dr. Freeman Smith. This team brings extensive experience in water quality monitoring, hydrology, and data management, and a general understanding of the parks involved to this project.

The purpose of this questionnaire is to provide the CSU water quality planning team with a very basic understanding of the water resources and associated issues of each NPS unit in the Northern Colorado Plateau Network. This information will be the basis for further discussions between the CSU team and park staff. It will also help us devote our efforts at understanding water quality issues toward the most important resources.

General Instructions

It is our intent that this questionnaire be completed by one or two knowledgeable park staff with a minimum of additional research. Do not put much effort in to resolving uncertainties and doubts. Just note these and we will follow up later.

We provide rating symbols for your use in many of the tables. However, feel free to adapt or deviate from these if you have a better way to describe the information being requested. We will not be performing statistical analyses on this information, so the exact format is not critical.

Please answer all questions to the best of your knowledge regarding your park only. Please use separate questionnaires for each individual park unit. You may wish to circulate the questionnaire among two or more natural resource professionals.

Many thanks for your cooperation!

PLEASE RETURN COMPLETED QUESTIONNAIRE TO:

Melinda Laituri
CSU, Dept. of Earth Resources
Fort Collins, CO 80523-1482

Phone: (970) 491-0292
Fax: (970) 491-6307
mell@cnr.colostate.edu

REPLY REQUESTED BY JUNE 6TH

WATER QUALITY MONITORING QUESTIONNAIRE

1. **Name of NPS unit or park covered by this questionnaire :**

   Park Name: _____ Park Code: _____

2. **Name, mailing address, telephone number(s), email address of the principal person completing this questionnaire:**

   Name: _____ Phone: _____

   Address: _____ Fax: _____

   _____ Email: _____

   _____

3. **Park Staffing**. Please explain the Staff level of experience or interest in water quality monitoring that exist in your particular park that would be helpful for us to know. Identify individuals with a particular expertise and/or interest in water resources or water quality monitoring.

Key Water Resource Staff

Name	Position Title	% of time devoted to water mgt.	Major Topics
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

4. **Project Contacts.** When we meet with park staff to discuss issues and management priorities, who should be involved? These would include people particularly knowledgeable or involved in water quality and/or able to address park management concerns that are related to water quality. Please include park staff *and those from other agencies*. Please include name, title and a means of contacting them.

Name	Address	Phone/Email

5. Park Water Body Significance and Condition. Please list the park's significant water bodies in the left column of Table A *[note, a "water body" may include streams, lakes, ponds, permanent springs, tinijas, and hanging gardens].* Water bodies may be grouped to the degree that their importance permits.

a) Rank the water bodies as to their general significance for various uses by inserting numbers in the appropriate boxes under "Ranking of Significance. Categories for Management Uses: FH = Fish Habitat; WH = Wildlife Habitat (other then fish) ; TE = T&E / Rare Species; SR = Scenic Resource; RU = Recreational Use; RZ = Riparian Zone and Floodplain; O = Other; OA = Overall

Ranking of Significance:
1 = "especially high or the highest level of significance in the park unit. **Critical to the purpose of the park**
2 = "significant," **Significant features contributing to the purposes of the park**
3 = "somewhat significant." **In relative terms less significant to the purpose of the park.**
"X" = not applicable or not significant.

b) Check the appropriate boxes under the "Representative Condition" column and supply comments as appropriate.

Representative Condition:
(a) = "Impaired" as listed in the State 303d reports or other listings based on benefical use or numeric criteria;
(b) = "Impaired" in Park's perspective but not formally listed or designated as such;
(c) = "Pristine" or **natural condition;**
(d) = Neither Pristine nor Impaired under a formal designation, but perceived to be threatened;
  (d-1) = in the short term (immediately threatened to < 3 years)or
  (d-2) = potentially threatened in the long term (> 3 years);
(e) =Other (you may explain in the right column any important water bodies that do not fit a, b, c, or d.

TABLE A

Water Body	Ranking of Significance Mark each box below with a 1, 2, 3, or X, using the "rankings of significance" below (also see abbreviations below).								Representative Condition Check the box below that best describes the "representative condition" of the water body (see definitions of a through e below).						
	FH	WH	TE	SR	RU	RZ	O	OA	a	b	c	d1	d2	e	descriptions or comments

6. Water Resource Threats. In Table B, please list the water resource management practices or land use issues that now impact water resources from either within or outside your park.

Examples of threats that you may list in Table B: logging/deforestation, agriculture, grazing, mining areas, road construction, off-road vehicles, sewage from second homes, boats & personal water craft, urbanization on a park boundary, etc (you may have other issues). The threats in Table B also may include "point discharges" into Significant Park Waterbodies or their upstream tributaries (note, a "point discharge" is something coming from a pipe or a distinct point of leakage, as opposed to a "non point discharge" from diffuse sources, such as contaminated runoff coming from farm fields. Point discharges also can include public or privately owned treatment works (POTW's) --i.e., sewage plants. Point discharges also can include EPA designated Superfund Sites. Think in terms of both current impacts to water bodies and future impacts related to growth (industrial, commercial, or residential) or expansion of various types of development.

TABLE B

Threats Within the Park		**Threats Outside the Park** (upstream, adjacent to, nearby)		Water Bodies or Water Sources Affected (see note below)
The Threat (describe the threat and its general location)	Near term or long term?	The Threat (describe the threat and its general location)	Near term or long term?	

"Near term" refers to impacts that are current or < 3 years away;
"**Long term**" refers to potential impacts > 3 years away;
Note: You may use the same names of water bodies from column 1 of Table A where appropriate.

7. Park Water Quality Monitoring Projects. In Table C, column 1, please list the water quality monitoring projects which are currently underway or have occurred in the past within or adjacent to your park. In column 2, estimate the duration of the monitoring (how long you expect it to continue). Monitoring may include chemical (e.g., pH, dissolved oxygen), physical monitoring (e.g., flow, sediment, temperature) as well as biological monitoring (e.g., aquatic invertebrates, indicator bacteria). In the right columns, indicate who is conducting the work (e.g., NPS, State of Utah, BYU, USGS, etc) and on which water bodies.

TABLE C

Brief description of the monitoring currently underway	**Expected duration of this monitoring** (include begin and end dates)	**Who is(has) conducting this monitoring?** (fill in brief names or add descriptions on separate sheet if you wish)				**Water Bodies or Water Sources Affected** (see note below)	Project inside park ? Yes or No
		Park staff	Other federal or state agency	University	Other		

Note: You may use or refer to the names of water bodies from column 1 of Table A where appropriate.

8. Gaging Stations. In Table D, list any U.S. Geological Survey or other gaging stations found in the park or nearby. If known, list what parameters are measured, and at what frequency (if the answer is readily available – no research is expected). Identify the database or location of where this information is stored.

TABLE D

Name of USGS or other Station and its number (as far as known)	Location of the station (stream name and approximate location)	Parameters being measured	Frequency of measurements	Database or where information can be found

9. Contaminants. Please list in Table E any contaminants that are known or "suspected" to be impacting water quality in the park at this time and complete the associated information. Please see example of a completed table below.

Regional = Contaminant is known or believed to cause moderate to significant impact to several parks or several major water bodies in Network (i.e. beyond a single park)
Local = Contaminant is known or believed to cause moderate to significant to impact water body in this park.

Rankings of "Certainty" that the contamination is occurring.

1- Well documented by park and others
2- Strong circumstantial evidence that the activity that typically causes contamination is occurring.
3- Weak circumstantial evidence, or the contamination is rumored to occur.
4- other, explain

TABLE E

Contaminant	**Extent of impact by the contaminant**		**Source or suspected source of the contaminant**	**"Certainty"** rate 1-4 (see below)	**Water Bodies or Water Sources** Affected (see note below)
	Regional	Local			

Note: You may use or refer to the names of water bodies from column 1 of Table A where appropriate.

Below are some *examples* of the types of items that might go into your Table E.

Example of types of items that might go into your Table E.

Contaminant	Extent of impact by the contaminant		Source or suspected source of the contaminant	"Certainty" (rank 1-4)	Water Bodies or Water Sources Affected
	Regional	Local			
Pesticides	X	X X	1. Aerial overspray 2. Runoff from nearby agricultural fields	2	Upper Smith Creek near Hillsboro.
Nutrients (nitrogen and phosphorus)	X	X	Runoff into a park stream from agriculture and livestock in the upstream watershed	1	In Jones Lake, near main Vistor Center
Metals (lead, zinc)		X	Mining activity in a tributary watershed which feeds into the park	1	Upper Smith Creek near Hillsboro
Volatile organic compounds (BTEX)		X	A leaking underground storage tank is impacting a stream	2	In Smith Pond and the wetlands NE of the Parking Lot.
Mercury	X		Atmospheric fallout is coming into the park from a distant unknown source and may be impacting water quality	3	In Smith Pond and the wetlands NE of the Parking Lot.
Sediment		X	Unpaved roads are causing siltation	1	Upper Smith Creek near Hillsboro. King River by park entrance.

10. GIS information in the park.

a. Does your park use GIS? ☐ yes ☐ no

b. Who is primary GIS contact? Name _____ email_____ tel._____

c. What software is used for your GIS? (e.g., ArcView, ARC/INFO) _____

d. What hardware or operating systems is used for your GIS? (e.g., NT, Windows 2000, UNIX) _____

Please provide summary information on GIS coverages you have at your park that are related to water, water quality, land use, or otherwise might be relevant to this project. You do not need to include national or USGS base cartographic data sets (DRGs, DOQs, TIGER, 1:100k hydro); rather, focus on park-specific coverages that are created and managed locally. (For example: current grazing allotments; trails; irrigation diversions; springs and seeps; floodplain delineations; etc.)

Description of coverage	Scale	Date (or year)	Source (e.g., digitized at park, GPS, Gap, etc.)	Spatial extent (e.g., entire park, specific study site)

11. Water Resource Information. We will be visiting the Park to retrieve water resource/water quality information, and to discuss water quality issues and management priorities. Please indicate the general amount of water resource information and data you are aware of that is stored your facility - - this includes both hard copy and digital data. As accurately as possible, please describe what this data is and how is it stored (hardcopy/digital?)

Amount of information/data	**Digital/Electronic**	**Hardcopy (text and tables)**	**Graphics (maps and figures)**
Very significant amount			
Moderate amount			
Little or no data is available			

Thank you for your time and effort in completing this questionnaire.

Any further question, please contact:

Sam Kunkle: Water quality data
kunkle@earthlink.net (505) 466-9182

John Stednick: Water quality issues, water quality data
jds@cnr.colostate.edu

Melinda Laituri: GIS information; general comments
mell@cnr.colostate.edu (970) 491-0292

Lee MacDonald: Water quality constituents and water quality issues
leemac@cnr.colostate.edu

Freeman Smith: Water quality issues
freeman@cnr.colostate.edu