October 30, 2008

Exhibit A

Scope of Work

Identification and Assessment of Important Wetlands
In the North Platte River Watershed

Applicant: Colorado State University

Water Activity Name: Identification and Assessment of Important Wetlands in North Platte River Watershed

Amount Requested: $182,000

Source of Funds: $86,000 (North Platte Basin Account); $96,000 (Statewide Account)

Matching Funds: $10,000

Water Activity Purpose: Study or analysis of nonconsumptive water project or activity

County: Jackson

Drainage Basin: North Platte

Water Sources: North Platte

Exhibit A
Scope of Work
Identification and Assessment of Important Wetland in North Platte Watershed

This project is designed to provide the North Platte Roundtable with necessary data to support the non-consumptive needs assessment and to "conserve, develop, protect, and manage Colorado's Waters". The project will identify and assess the health of the North Platte's watershed as indicated by the condition of its wetlands. Survey areas will be prioritized by the Roundtable, with a focus on private lands. The proposed project will provide an increased understanding of the watershed's wetlands leading to more effective protection of the area's waters. This project complements the goals of the Statewide Water Supply Initiative and provides baseline data to the Roundtable for its non-consumptive needs assessment.

Task 1 (March –April 2009) Preparation for project and compilation of existing data resources

- Obtain necessary tools, e.g. maps and hire personnel for 2 teams (total of 4 zoologists/ecologists).
- Compile and identify known wetland data sources in watershed.
- Utilizing the Basin Roundtable, the North Park Wetland Focus Area Committee, and other interested entities e.g., CSU Extension, land trusts.
- Identify wetlands to be field surveyed using Roundtable personnel, aerial photos, maps, and other available wetland information collected.
- Conduct preliminary roadside evaluations of sites (where possible) to become more familiar on the ground with the full range of wetland/ riparian types in the study area and to refine the list of targeted survey area.

Deliverable to Roundtable—compilation of existing information, both written and spatial sources due April 30, 2009.

Task 2 (May 2009 - Oct 2009) Field Season and Data Collection

- Contact private landowners to request written access to properties (**CNHP maintains a strict policy of respect for private property**).
- Collect data on dominant plant associations, amphibians, reptiles, soil types, hydrology, disturbance regimes, quality and condition (presence of non-native species, presence of rare/endangered species, etc.), threats, size, and adjacent land use. Survey sites where access is obtained will be visited at the appropriate time as dictated by the seasonal occurrence (or phenology) of the individual elements. The appropriate habitats will be visually searched in a systematic fashion that would attempt to cover the area as thoroughly as possible in the given time. Where necessary and permitted, voucher specimens will be collected and deposited in local university museums and herbaria. When a rare species or significant plant community is discovered, its precise location and known extent was recorded with a global positioning system (GPS) unit.
- During on-site assessments, the following data will be collected:

General Field Information

- A list of all plant associations in the survey area, including the percent cover by that community. In almost all cases, plant associations were immediately placed within either the International National Vegetation Classification (Anderson et al. 1998; Comer et al. 2003) and the Comprehensive Statewide Wetlands Classification (Carsey et al. 2003). Plant synonym
- Vegetation data for each major plant association in the wetland were collected using visual ocular estimates of species cover in a representative portion of the plant association, including non-native species.
- A sketch of the site layout, with distribution of plant community types indicated.
- UTM coordinates from Garmin GPS 12 Personal Navigator.
- Elevation (from 7.5-min. USGS topographic maps and GPS).
- Current and historic land use (e.g., grazing, logging, recreational use) when apparent.
- Notes on geology and geomorphology.
- Reference photos of the site.
- Indicators of disturbance such as logging, grazing, flooding, etc.

Natural Heritage Information

- A list of CNHP elements present at the site
- Element occurrence (EO) ranks; represents the overall significance of each occurrence, relative to others of the same element, will be estimated by rating the size of the population or community, the condition or naturalness of the habitat, and the landscape context (its connectivity and its ease or difficulty of protecting) of the occurrence. These factors will be combined into an element occurrence rank, useful in refining conservation priorities
- Proposed conservation area boundaries

General Wetland Information

- Water source
- Hydroperiod
- Water chemistry (pH and conductivity)
- General soils description (these are based on either a detailed description of a soil profile in the field (e.g., horizons, texture, color, cobble size, percent mottling) or from information from the county soil surveys.

Deliverable-written updates to Basin Roundtable from summer field season due October 30, 2009.

Task 3 (Nov 2008 - Jan 2009)

- Task 3 will involve data processing, final evaluation and prioritization of sites, explanation of

functions associated with the various wetland types, report writing, and map generation.

a) Classify the wetland/riparian areas inventoried and the plant associations present.
b) Profile in writing high quality examples of all wetland types in the study area. These profiles will include a map of the site drawn on a USGS 7.5' topographic map.
c) Rank the wetland and riparian areas for protection priority using the Natural Heritage Program nationally standardized system.
d) Evaluate ecological integrity for each type of wetland in the study area.
e) Compile a report including the above as well as the digital riparian maps.

Deliverables—due January 30, 2010

1) Hyper-link Tool--database and GIS combined into an ArcGIS project where data (plant and animal occurrences) are linked to a spatial layer so that an user can click onto a polygon and a PDF of the information is available. Tool also includes GIS layer that can be used independently. This deliverable will be provided under a data license and use agreement.
2) Final report summarizing project objectives, methods, and results. Accomplishments and recommended next steps. Profile of each wetland visited that includes: wetland classification, rarity, size, ecological boundaries, condition/ecological integrity and landscape assessment.
3) A classification of wetland types and vegetation, as well as an estimate of the percentage of the surveyed portion watershed that is mapped as wetlands.

II. Key Personnel

Denise R. Culver, Senior Ecologist and Project Manager: over 20 years experience working in wetlands. At CNHP since 1995, have completed similar surveys in Routt, Summit, Garfield, Rio Grande, Conejos, Park, El Paso, Pueblo, Rio Blanco, Boulder, La Plata, Grand, Archuleta, Chaffee, and Dolores counties, all within budget and on time.

Chris Gaughn, Lead Zoologist: Over 10 years experience working with amphibian surveys, working with Natural Heritage Programs since 2000.

Consolidated Schedule

Task	9/08	3/09	4/09	5/09	6/09	7/09	8/09	9/09	10/09	11/09	12/09
Grant awarded											
Pre-field analysis; Compilation of existing data resources											
Field Survey and Data Collection											
Information processing											
Develop Report and Hyper-link tool											
Report writing											
Travel											
Project Coordination											

III. Budget ($192,000)

Total Costs				
	Labor	Travel, Materials, Other Direct Costs	Matching Funds (If Applicable)	Total Project Costs
Task 1 – Project Start	17,539	764		18,303
Task 2 –Site Visits	70,456	28,229		98,685
Task 3—Data Analysis, Final Report	27,579	7,100		34,679
Total Direct Costs	**115,574**	**36,093**		**151,667**
CSU Facilities and Administrative (20%)	23,115	7,219		30,334
In-Kind Contributions				
Total Costs:	**138,689**	**43,312**		**182,000**

Water Supply Reserve Account – Grant Application Form

1) Identify specific source and amount by task.

Titles

Example Project Personnel: Monthly Rate:	Project Manager/ Ecologist 5514/mth	Lead Zoologist 5,200/mth	2 Field Techs/ 1 Workstudy 2,560 mth/ 2,688 work study	Information Manager 3,640/mth	GIS Manager 4,674/mth	Chief Scientist 6,000/mth	Total Costs
Hourly Rate	31.81/hr	30.00/hr	14.77/hr-tech 2.12/hr-workstudy*	21.00/hr	26.97/hr	34.62/hr	
Task 1 -	4,500	5,000		1,000		2,600	13,100
Task 2 -	20,113	24,000	23,855	3,500		2,600	75,213
Task 3	7,800	7,400	2,688	5,581	2,337	2,600	27,261
Total Hours:	5.9 months /1120 hrs	7 months / 1120 hrs	4 months (2 tech) / 1268 hrs	2.77 months /443 hrs	.50 months /80 hrs	1.3 month /208 hrs	
Direct Costs:	**32,413**	**36,400**	**26,543**	**10,081**	**2,337**	**7,800**	**115,574**
CSU Facilities and Administrative (20%)	**6,483**	**7,280**	**5,309**	**2,016**	**467**	**1,560**	**23,115**
Total Costs:	**38,896**	**43,680**	**31,852**	**12,097**	**2,804**	**9,360**	**138,689**

*Workstudy salaries are subsidized by CSU as part of the Federal and State of Colorado Work Study Programs. CNHP's contribution, on the average is $2.12/hour.

Travel						
Item: Units: Unit Cost:	3 Vehicle rentals for 4 mths @1,060.83/ ea 3 vehicles for 4 mth 3,182.5/ mth/vehicle	Gas estimate 3 vehicles for 4 mth 318/mth	Lodging estimate 1 apt for 4 mth 743/mth	Per diem 4 field staff for 4 mths (320 days total) 27/day	Travel to planning meetings (not during field season)	Total
Task 1 -					212	14,214
Task 2 -	12,370	3,819	2,970	8,486		14,003
Task 3					212	212
Direct Costs:	**12,730**	**3,819**	**2,970**	**8,486**	**424**	**28,429**
CSU Facilities and Administra-tive (20%)	**2,546**	**764**	**594**	**1,697**	**85**	**5,686**
Total Costs:	**15,276**	**4,583**	**3,564**	**10,183**	**509**	**34,115**

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Other Direct Costs						
Item: Units: Unit Cost:		Field Supplies 40 Maps @5/ea = 200 Software upgrades = 200 General field supplies (coolers, boots, etc) = 365	Cell Phone and Long Distance Costs (130/mth for 4 mth)	Report Production (15 copies @115.40 ea)	Core Heritage Service (3.03% 160,000 project total)*	Total
Task 1 -		350			1,616	1,966
Task 2 -		215	520		1,616	2,351
Task 3				1,731	1,616	3,347
Total Units:						
Direct Costs:		**565**	**520**	**1,731**	**4,848**	**7,664**
CSU Facilities and Administra-tive (20%)		**112**	**104**	**346**	**970**	**1532**
Total Costs:		**678**	**624**	**2,077**	**5,818**	**9,196**

*Core heritage services related to the management of the Natural Heritage Data System and associated essential computer system services which directly support the ability of CNHP's biologists to complete this proposed project using the best biodiversity information available.

In-Kind Contributions (If Applicable)				
Project Personnel: Hourly Rate:				Total
Task 1 -				
Task 2 -				
Total Hours:				
Total Cost:				

Payment

Payment will be made based on actual expenditures and invoicing by the water activity sponsor. The request for payment must include a description of the work accomplished by major task, and estimate of the percent completion for individual tasks and the entire water activity in relation to the percentage of budget spent, identification of any major issues and proposed or implemented corrective actions. The last 5 percent of the entire water activity budget will be withheld until final project/water activity documentation is completed.

All products, data and information developed as a result of this grant must be provided to CWCB in hard copy and electronic format as part of the project documentation.