EPA Region 8

Wetlands

2010 Wetland Program Development Grants (WPDG) – Funded Projects

Chippewa Cree Tribal Water Resources Department – 2010 Wetlands Program Development Grant

For FY10, the Chippewa Cree Tribe is proposing to utilize Wetland Program Development Grant funding to create and utilize Sweetgrass Monitoring Protocol for up to ten (10) Sweetgrass/Wetlands sites in historic and present metapopulations areas, Revise Wetlands Standards, work with the Cultural Resources Department in creating a Sweetgrass Curriculum as a voluntary educational component that will be presented in the local public school systems, and propose several Sweetgrass sites for inclusion in the Tribe's Tribal Registry of 'Traditional Cultural Places' which would ultimately serve as an additional protective measure under the Tribe's Cultural Resources Protection Ordinance.

Colorado Natural Heritage Program, Colorado State University - Lower South Platte River Basin Wetland Profile and Condition Assessment

Through this project, the Colorado Natural Heritage Program will:
1) Create a digital map of wetlands in the Lower South Platte River basin;
2) Research habitat requirements of target wildlife species;
3) Identify reference condition wetlands in the basin; and
4) Conduct a statistically valid, field-based survey of wetland conditions in the basin.

Colorado Natural Heritage Program, Colorado State University - Survey of Critical Wetland and Riparian Areas in Jefferson County

The Colorado Natural Heritage Program/Colorado State University (CNHP) in partnership with Jefferson County Open Space Department proposes to conduct a prioritized survey and conditional assessment of the County's wetlands, including riparian and geographically isolated wetlands. This survey will continue to build upon the past county-wide wetland survey and assessment projects by CNHP. Additionally, the project will add information to the Statewide Wetlands Strategy, a partnership between CNHP and the Colorado Department of Natural Resources and its Division of Wildlife. The U.S. Fish and Wildlife Service National Wetland Inventory maps will be digitized as a first step to determine wetland acreage and type (Cowardin et al. 1979). Field research will validate the mapping units as well as assess the quality and condition of the wetland resources. Results will be interpreted and disseminated to parties that can implement conservation and restoration of critical wetland resources into ongoing land-use planning targeting significant wetland resources. Additionally, data collected will be used for calibration and validation of the Vegetation Index of Biotic Integrity and Ecological Integrity Scorecards. Deliverables include hard and electronic copy of final report, list of prioritized potential wetland conservation areas, and accompanying spatial dataset.

Confederated Salish & Kootenai Tribes - Wetlands Program Development, Watershed-based Monitoring and Assessment of Reservation Wetlands, Continued Development of Jurisdictional Determination Tools, and Developing Water Quality Standards Specific to Wetlands

Five year, FY11 and FY12, WPDG funding will assist the Confederated Salish and Kootenai Tribes (CSKT) to continue to build core elements of the Tribes' Wetland Conservation Program. Comprehensive program development during this grant period will include: watershed-based Wetland Monitoring and Assessment in the Mission Creek, Little Bitterroot River; continued development of GIS linked project tracking and evaluation database as well as; completion of enhanced NWI and riparian mapping with complete "Nexus" connections to assist with jurisdictional determination; and continued promotion of sound wetland conservation activities through effective wetland, riparian education and outreach activities. Program and CSKT Wetland Conservation Plan (1999) goals are consistent with National Strategic Plan and Region 8 priorities, and all are outside the scope of existing regulatory requirements. With the assistance of CSKT's, EPA Certified Staff of Air Quality, Shoreline Protection, Brownsfield, Pesticide, and UST/LUST Program, pollution and harmful human impacts to wetlands and water quality are being addressed at all levels. Products will include watershed-based wetland condition reports, GIS-linked project tracking tools to share with other stakeholders, assessment of NWI and hydrologic connectivity; and continued work on publication of 'Aquatic Weeds and their Native Look-a-Likes' field guides, Aquatic Invasive Species Threats and other education materials for use in outreach activities. Also, beginning in FY-2011, the wetlands program will complete the first draft of the Confederated Salish and Kootenai Tribe's first Aquatic Invasive Species Strategic Prevention Plan for the Lower Flathead River Watershed. The Wetlands Conservation Coordinator is also deeply involved in the "Crown of the Continent Working Groups and Partnerships" which is providing, preparing and helping in projected management decisions and needs for possible Global Climate Change impacts in the coming years.

Fort Peck Tribes Office of Environmental Protection - Characterization of the Manning Lake Wetland Complex

The Fort Peck Tribes are working toward the protection, management, and restoration of the Manning Lake Wetland Complex (MLWC). Characterization of the MLWC will be accomplished through 2 primary goals: 1) determining hydrologic functionality and 2) developing vegetation composition and small vertebrate species diversity monitoring strategies. First, Refuge staff will work with the Tribal non-point source department to develop a strategy to attempt to characterize MLWC hydrological dynamics through the qualification and quantification of water gains and losses and wetland function. Secondly, partnerships will continue with Montana Natural Heritage Program's Wetland division and the Natural Resource Conservation Service to expand upon previous vegetation species association work to develop species composition, canopy cover, and grazing effects monitoring strategies and to analyze data. We will then partner with Montana Natural Heritage Programs' Zoology division and the Phil Wright Memorial Museum to develop small vertebrate species monitoring strategies, building upon current work and baseline species lists. Final products include: 1) detailed description of MLWC water budget, 2) designed vegetation species composition and canopy cover study; 3)

data regarding effects of grazing to vegetation associations and wetlands; 4) increased list of small vertebrate population list and presence; 5) increased breeding bird presence and population list; 6) baseline list of reptile presence and population; and 7) baseline list of reptile presence and population.

Kansas Biological Survey, University of Kansas - Development of Quantitative Invertebrate Community Sampling Protocols to Assess Playa Wetlands

Creation of a statistically valid, aquatic invertebrate monitoring tool for measuring the effects of stressors on playa wetlands and to develop a strategic long term plan for monitoring aquatic invertebrate community structure and composition in playa wetlands. We will develop the preliminary quantitative methods for collecting and storing macroinvertebrate data from playa lakes and similar seasonal wetlands. The main objectives of invertebrate monitoring are to provide biological indicators of potential and/or actual effects of various environmental perturbations on the health and functionality of aquatic habitats and to monitor and establish success criteria for constructed or restored habitats (Resh and Rosenberg 1984; Plafkin et al. 1989; Hutchison 1993; Rogers 1998). Our project will allow for the quantitative collection of macroinvertebrate data through time, with all data collections being statistically comparable. If the expected output of a playa wetland biomonitoring program is developed under this proposal and eventually adopted and funded through the coming decades, the data collected will produce a standardized baseline from which long and short term impacts can be identified and measured. Furthermore, these data will establish performance standards for habitats that are part of restoration efforts. This program will also lay the foundation for developing a playa wetland index of biotic integrity (IBI).metric identification and development, quality control, and potential funding needs.

Montana Department of Environmental Quality – Building Wetland Professional Capacity in Montana

The main objective of this project is to improve professional proficiency and expertise among wetland and natural resource professionals in Montana. This will build capacity regarding wetland regulation, monitoring, assessment and restoration, lead to increased wetland protection and better mitigation and restoration projects, and forward the no-net-loss and net-gain goals. This project will develop a self-sustaining Wetland Professional Training Program in Montana and conduct the first two short courses. The training will meet the needs of professional ecologists, hydrologists, soil scientists, educators, agency professionals, consultants, and others who practice wetland science in Montana. Tasks include: Develop the accredited programmatic components for a self-sustaining Wetland Professional Training Program in Montana that is approved for continuing education credits and will lead toward the 15 semester hours needed for the Society of Wetland Scientists Professional Certification Program (SWS PCP). Create a process to use course fees generated from the initial two short courses as a revolving fund to develop curriculum, plan, conduct, and evaluate future short courses. Develop peer-reviewed content and curriculum for two initial wetland short courses, priority topics for additional short courses, and a speaker's bureau. Plan, conduct, and evaluate two 3-day short courses. Final products will be: A new self-sustaining Wetland Professional Training Program in the State of

Montana. Extended University course curriculum for two short courses approved by SWS PWC that meets the needs of Montana professionals. The first two 3-day short courses successfully conducted and a process to provide future short courses..

Montana Department of Environmental Quality - Montana In Lieu Fee Aquatic Resource Mitigation Program Development

This proposal's main objective is to increase the amount of wetland, riparian, and stream restoration and protection in Montana by creating a Montana In Lieu Fee (ILF) Aquatic Resource Mitigation Program. The ILF program would offer a practical third-party compensatory mitigation option for 404-permit applicants whose projects impact wetlands, streams, riparian areas, and other regulated aquatic resources. This proposal differs from a similar proposal last year in that: 1) the Montana Army Corps of Engineers (ACOE) Regulatory Office has begun to require mitigation for stream-related impacts; and, 2) a nonprofit entity will constitute the ILF program sponsor. The proposed ILF program will complement current and future mitigation banks by offering an additional mitigation option for crediting in all Montana watersheds. In developing this ILF program, MT DEQ will: 1) work with ACOE to establish an ILF Interagency Review Team (IRT); 2) develop and secure IRT review and comment on an ILF program prospectus; 3) work through Trout Unlimited's Montana Water Project (TU) to establish a subsidiary nonprofit entity to administer the ILF program; and, 4) develop an ILF program instrument and work with the ACOE and IRT to finalize the instrument. TU is an excellent partner for this work because of their leadership in water, stream, and watershed conservation in Montana and legal and policy expertise. As a final product, this grant provides seed money to develop the ILF program which, by the close of the grant, will be self sustaining and operating on 404-impact fees emanating from the program.

Montana Natural Heritage Program, University of Montana - Developing and Refining Montana's Wetland Assessment and Monitoring Strategy [Phase III]

This project will work toward the continued development of the Montana Natural Heritage Program's (MTNHP) statewide wetland assessment and monitoring strategy. The goals of this project are to: 1) complete the third phase of MTNHP's statewide rotating basin assessment and monitoring program; 2) continue the development of scientifically defensible rapid wetland assessment methods by calibrating and validating assessment metrics to independent measures of wetland condition; 3) continue to develop Montana's reference network by establishing regional differences in least disturbed condition; 4) integrate wetland assessment data into MTNHP web applications such as National Wetland Inventory mapping; 5) integrate wetland assessment data collected by MTNHP, as well as other agencies and organizations, into MTNHP databases and web applications; and 6) provide trainings and workshops to various partners on wetland data acquisition and potential uses. Outputs of this project will include: 1) estimates of wetland condition across several basins in southeastern Montana; 2) rapid wetland assessment methods that provide reliable measures of wetland condition; 3) biotic (vegetation) and abiotic (soils) indicators of ecological integrity that complement other indicators currently in development by other State partners; 4) readily accessible wetland assessment data information; 5) training to state, federal, and tribal partners, detailing methods of accessing wetland assessment data; and 6)

a report to the Montana Wetland Council, EPA Region 8, and state, federal, and watershed partners across Montana.

Montana Natural Heritage Program, University of Montana - Development of a Strategy for the Identification, Protection and Restoration of Fens in Montana

This project will develop a clear and consistent strategy for the identification, protection and restoration of ecologically significant and vulnerable wetlands, focusing on fens. To accomplish this, we will 1) develop and refine GIS-based methods to distinguish fens from other saturated and semi-saturated wetlands and to identify hydrologic and ecological connections; 2) build GIS-based predictive models to identify fen-rich areas for field surveys; 3) identify and assess ecologically significant fens in the field; and 4) coordinate efforts to develop a multijurisdictional, Region 8 working group to set protection and restoration goals for fens. Outputs will include an illustrated set of photointerpretation guidelines; GIS layers and paper maps of target-rich areas for field surveys; a technical note on model development; a report with field data and descriptions; web-based assessment data and photos; and a multijurisdictional Region 8 work group, with a group workspace on the EPA Portal. As a result of this work, professionals and other stakeholders will have an enhanced ability to use aerial photography to identify fens and their hydrological/ecological connectivity; researchers will be able to target surveys for maximum efficiency; planners and other stakeholders will have maps and geographic data enabling them to minimize or avoid losses to fens; and agency biologists, researchers and non-governmental entities will be able to coordinate voluntary protection and restoration strategies.

Missoula City Health Department – Evaluation of Riparian and Wetland Area Management in Missoula County Subdivisions

This project would evaluate management of riparian and wetland areas that have been designated “Areas of Riparian Resource” under city and county subdivision regulation provisions adopted in the mid-1990s; these provisions require a management plan that protects all wetland and riparian areas contained in the subdivision, and generally include prohibitions or restrictions on structures, roads, native vegetation removal, livestock grazing and other potentially damaging land uses. Results of the evaluation would inform education and outreach efforts, as well as consideration of additional incentives, regulations and/or enforcement measures that might be needed to adequately protect these areas.

North Dakota Department of Health - Spatial Variation in Multi-Element Fingerprints for Rapid Chemical Assessment of Soils in North Dakota Wetlands

The goal of the proposed project is to develop a wetland condition assessment tool which is based on an assessment of the multi-element composition (i.e., chemical fingerprint) of wetland soils. Once established, this method can provide a fast, cost-effective means of assessing and monitoring the biogeochemical quality of wetlands in a manner complementary to existing biological and chemical approaches. The work will be carried out in North Dakota, and includes wetlands of the Prairie Pothole Region (PPR) being sampled as part of the National Wetland

Condition Assessment and riparian wetlands of the Missouri and Red River of the North. It further includes the under-researched wetlands on the Tribal lands of the Standing Rock Sioux Tribe. This work will therefore not only benefit the USEPA but also Standing Rock, one of the largest Native American reservations in the Nation. Soil samples will be collected from approximately 200 wetlands during two phases. During phase 1, the main sampling of PPR wetlands will be carried out, as well as exploratory surveys across the less-studied wetlands. During phase 2, the information obtained from the exploratory work will be used to optimize sampling approaches for the wetlands other than those of the PPR. The products of this study will include: (1) the first ever comprehensive database in the world of multi-element fingerprints of wetlands across a range of landscapes; (2) an assessment of the suitability of multi-element fingerprinting for rapid, chemical assessment of quality of wetlands, complementary to existing wetland condition assessment approaches; (3) the production and dissemination of project results and information through agency reports and scientific publications; and (4) training and education of university students and the general public in wetland science and management..

Utah Department of Environmental Quality, Division of Water Quality - Building Utah's Great Salt Lake Wetlands Monitoring, Assessment and Water Quality Standards Program

The overarching goal of this WPDG is to develop methods that quantify the condition of Great Salt Lake wetlands. To accomplish this goal, UDWQ proposes three primary tasks: 1) augment, test and finalize the existing Multi-Metric Index (MMI) that uses multiple lines of evidence to quantify the condition of impounded Great Salt Lake (GSL) wetlands, 2) collect and analyze data from 50 randomly selected impounded wetlands to determine average condition and key stressors, and 3) develop a similar monitoring and assessment framework for the GSL fringe wetlands. The focus on developing methods of wetland condition is consistent with both EPA and Utah's goals and objectives. In particular, tools developed through this proposed research will focus efforts to develop wetland-specific standards (both numeric criteria and uses), help quantify current conditions to create a benchmark for CWA §401 & §404 "no net loss" goals, and help expand UDWQ's routine monitoring and assessment programs to include wetlands. Also, the research will continue to strengthen recently formed collaborative partnerships with the Utah Geographic Survey, which will increase the efficiency and effectiveness of meeting the management goals of both agencies.

Utah Department of Natural Resources, Utah Geological Survey - Developing Scientifically Valid Tools to Assess Condition of Utah's Wetlands

Recent wetland conservation efforts emphasize an overall increase in wetland condition, and no net loss of wetland extent. However, we currently have little monitoring and assessment data on wetland condition, and lack a successfully developed rapid assessment model. Within Utah, the Great Salt Lake ecosystem contains the vast majority of Utah's known wetlands, is a nationally recognized ecosystem of significance, and serves as a desert oasis for millions of migratory birds. To protect this extraordinary resource, and address current limitations in information and assessment tools, we propose three main objectives to build collaborative partnerships and integrate knowledge, tools, and effort for more effective wetlands management.
Our first objective is to improve Utah's Level-2 monitoring and assessment tools. We will

conduct a landscape-level HGM-based reclassification of GSL wetlands, for use as a sampling frame in future wetland assessments. We will test the ability of USA-RAM and UWAAM to evaluate the condition of two important wetland classes, and modify/refine these models for GSL wetlands. Our second objective is to develop Utah's Wetland Program Plan for 2011-2016, through coordination and collaboration with other state wetland-focused agencies. Our third objective is to increase Utah's wetland database and infrastructure capabilities. We will compile a spatial dataset of publicly and privately held wetland management units, and develop the wetlands component of the Utah Geological Survey's website into a wetlands clearinghouse (including direct links to all state Developing scientifically valid tools to assess condition of Utah's wetlands wetland projects and programs), to integrate scientific knowledge, work effort, and resources among wetland groups, and move toward more comprehensive ecosystem-level management of wetlands.