PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM

Water Advisory Committee Meeting Minutes
Nebraska Game and Parks Commission – Lake McConaughy Visitor's Center, NE & WebEx

July 19, 2011

Attendance (call-in)

Cory Steinke – WAC Chair, CNPPID
Jerry Kenny – ED Office/Headwaters Corp
Beorn Courtney – ED Office/Headwaters Corp
Steve Smith – ED Office/Headwaters Corp
Sira Sartori – ED Office/Headwaters Corp
Bruce Sackett – ED Office/Headwaters Corp (call-in)
Doug Hallum – NDNR
Jon Altenhofen – Northern Colorado WCD
Mike Drain – CNPPID
Tyler Thulin – CNPPID
Rich Holloway – Tri-Bain NRD
Brock Merrill – Bureau of Reclamation (call-in)
Tom Econopouly – U.S. Fish and Wildlife Service
Jeff Runge – U.S. Fish and Wildlife Service
Mahonri Williams – Bureau of Reclamation (call-in)
Suzanne Sellers – Colorado Water Conservation Board
Duane Woodward – CPRND
Matt Hoobler – Wyoming SEO (call-in)
Pat Goltl – NDNR
Jeff Shaffer – NPPD
Duane Hovorka – Nebraska Wildlife Federation
Dennis Strauch – Pathfinder Irrigation
Kent Miller – Twin Platte NRD

Other Attendees
Graeme Aggett – AMEC Boulder
Dale Schlautman – EA Engineering, Science, and Technology, Inc.
Bill Hahn – Hahn Water Resources
John Heaston – The Nature Conservancy

Matt McConville – HDR (call-in)

Welcome and Administrative*: Cory Steinke, WAC Chair*

Introductions were made. There were no agenda modifications. **The April WAC Minutes were approved with modifications circulated prior to the WAC meeting.**

WAP Project Updates*: Jerry Kenny and Beorn Courtney, ED Office*

J2 Reregulating Reservoir –The ED Office and CNPPID met with Olsson to scope the new irrigation scenario evaluation discussed at the previous WAC meeting. The Finance Committee approved the scope. CNPPID will pay approximately $30,000 out of the $32,000 budget. Olsson submitted memos on the initial tasks outlined in the scope last week and the ED Office and CNPPID are in the process of reviewing and providing comments. The target completion date for feasibility is still at the end of 2011 or beginning of 2012.

At the last WAC meeting, the WAC suggested input to the GC on land acquisition for the J2 Reregulating Reservoir and other WAP projects. At the June GC meeting, the GC suggested moving ahead on evaluation of land acquisition in conjunction with scheduling, environmental permitting and water rights permitting. A GC subcommittee was formed to address this and John Heaston was elected chair. Kenny said the Program has initiated discussion with one of three land owners at the J2 Reregulating Reservoir Site. Altenhofen asked if land exchanges might interest the other two land owners and Kenny said this could be involved in future discussions.

Elm Creek Reregulating Reservoir – Kenny passed on the WAC's comments to the GC regarding the Elm Creek Reregulating Reservoir. The GC agreed to not move forward at this time with the Elm Creek Reregulating Reservoir. NDNR and CPNRD may continue looking at the option but the Program is not actively pursuing this.

Pathfinder Municipal Account – The GC approved the lease agreement at the June GC meeting. The cost per AF is approximately $51 including the lump sum initial payment. The total volume in the agreement is 38,400 AF starting July 1, 2012 through 2019. The Program will pay for the average annual yield of 4,800 AF each year but will be reimbursed if the yield is less than 38,400 AF. The Program can take more in any given year free of charge up to the total 38,400 AF capacity. There is not an official score for the project at this time but the ED Office estimated a 3,800 AF score based on previous WAP project scoring methodology. The ED Office estimated the losses from Lake McConaughy to Grand Island using a simple approach. The scoring subcommittee will reconvene at the end of the year and will be tasked with addressing routing water through Lake McConaughy.

Water Leasing & Water Management Incentives (WMI) – The ED Office will be continuing discussions with CNPPID and NPPD on water leasing but nothing new to report yet. The ED Office would like to focus efforts on the J2 Reregulating Reservoir and ground water recharge projects and then work on forming the Water Leasing/WMI work group. Heaston brought up a WMI type project by the Nebraska Water Balance Alliance, an organization focused on statewide prevention of agricultural retirement. The Alliance is working on an on-farm performance water audit and collecting data from soil probes and local climate stations to evaluate different types of irrigated and non-irrigated croplands. The UNL Extension will analyze the collected data and apply it on a farm and watershed scale. The Alliance is trying to obtain grants to complete a larger scale project to make a connection with irrigation and power

districts.

Courtney suggested a presentation by WAC members on their knowledge of existing WMI type projects to get an idea of what data is available. Altenhofen said he is willing to provide information on projects in northern Colorado and suggested a presentation in the fall. The presentation may be at the next WAC meeting or a different meeting scheduled in the fall. Kenny will get in touch with the UNL Water Center in regards to potential reporting on work being completed by the NE Water Balance Alliance.

Ground Water Recharge Feasibility*: Beorn Courtney, ED Office and Dale Schlautman, EA Engineering, Science, and Technology, Inc.*
The Finance Committee approved the additional drain monitoring added to the scope discussed at the previous WAC meeting. The work group met June 3rd to review a 30% design memo from EA Engineering for the pilot study. EA Engineering provided designs and cost ranges for varying levels of monitoring and instrumentation at the 8.7 and 9.7 sites. The work group recommended the mid-level monitoring and instrumentation. The work group suggested focusing efforts on the 8.7 pilot site, which best represents the typical conditions in the area. The work group recommended moving forward on a pilot at this location and to continue to pursue the 7.7 site as a potential pilot/permanent site. Bruce Sackett later notified the group that the 7.7 landowner is no longer interested in allowing a pilot project at this site or in selling to the Program. The pilot project is still on schedule to begin this fall. The workgroup also requested a site visit to see the pilot project in action. **The ED Office will look at scheduling a work group site visit around the next WAC meeting.**

The Finance Committee will review the 90% design memo from EA Engineering and the other pilot project documents including the water service agreement with CNPPID and landowner agreement to make a budget decision this week. CNPPID filed an application on behalf of the Program for a temporary permit to use excess flows as a supply for the project and it was approved by the NDNR. CNPPID will also file a permit to use the Environmental Account water as a supply. Runge asked CNPPID if the winter operations would impact their FERC non-irrigation minimum flows. Drain replied that the water supplies will either be excess flows or Environmental Account water and will not impact the limitations in the FERC license. Drain has also discussed the use with FERC and since the operations will be temporary, no action is required. The same amount of water will be diverted into CNPPID's system but less will be returned to the river.

Courtney informed the WAC that Tri-Basin NRD and NDNR also have contracts with CNPPID for winter canal recharge and the groups will split the water service costs. The Program will complete studies on canal recharge and basin recharge. Per the contract, CNPPID will not bill the Program for daily operations by staff members as this is included in the $25 per acre-foot cost. Altenhofen questioned the operations cost in the 90% design memo and EA Engineering said this was their estimated cost, not the actual cost from CNPPID. The operations cost in the 90% design memo will decrease based on the actual water service agreement. **The ED Office**

will revise the budget to remove the daily operations costs and provide this to the Finance Committee.

Schlautman gave a PowerPoint presentation on the Phase I results including the 90% design memo. EA Engineering and DBS&A have almost completed Phase I-Fieldwork and Pilot Recharge Design. Schlautman described some of the data collection, results and recommendations from Phase I. The Phase I Fieldwork Summary Report includes information on the characterization of the alluvial aquifer, estimation of infiltration rates, variation in alluvial deposits and interaction of recharge with ground water drains. EA Engineering did not find any "fatal flaws" in the pilot project. They are still collecting water level data in the monitoring wells and drains and will continue to monitor the levels throughout the pilot project. The next design memo will be final and will be submitted at the end of July. Sellers had a question why vadose zone monitoring was included in the design memo and Altenhofen responded that the work group recommended the intermediate level of instrumentation and monitoring, including vadose zone monitoring with 1 piezometer and 1 set of soil probes, in a meeting on June 3rd.

Schlautman went over Phase II of the project, which will be the execution of the pilot recharge project. The goal is to operate the canal as long as possible with target operations for the recharge basin from approximately October 5, 2011 through March 1, 2012. This will leave one month to restore the site to existing conditions before the irrigation season. Schlautman presented the projected cost of the pilot, which totaled $230,000 for basin construction, water delivery construction, instrumentation installation, operations/engineering services, operation and maintenance, evaluation and reporting. The final report is tentatively scheduled for completion on July 26, 2012. EA Engineering will discuss frequency and location of data records that are needed for monitoring recharge from the canal with CNPPID.

The WAC discussed their concerns with the projected costs for Phase II of the pilot project. Altenhofen requested more detailed costs for DBS&A and if there was any overlap between the contractors and Bill Hahn. Schlautman said DBS&A will do the soil moisture sensor borings and data logging and will spend the majority of their time working on the report. Sellers suggested completing phased reporting or a midway check-in to the WAC. This would give the WAC a chance to review the data before authorizing the contractor to move forward with further evaluation. Schlautman said there could be a loss of efficiency if additional documentation and deliverables are required. Hahn suggested the midway check-in could be an informal presentation via conference call with the Workgroup. Altenhofen questioned why Task 12 is included in the EA Engineering budget and Courtney said the ED Office requested this according to scope of work items originally included in the RFP for the project. Altenhofen questioned whether EA Engineering should analyze the data to estimate return flows, or whether this effort should be performed by Bill Hahn and the EDO. Hahn said that it probably makes sense for EA Engineering to do the data evaluation and to be involved in the return flow estimates. The WAC raised several questions on the cost of reporting at approximately $60,000. Hallum said he does not believe 25% of a project cost for reporting is unreasonable. Steinke mentioned that the ground water drain studies are an integral part of the pilot project and he believes that cost

should remain. Woodward did not have any issue with the cost estimates. In all, the WAC agreed that they would like some type of check-in with the contractors to stay informed on the progress and make suggestions on analyses.

Courtney suggested a refinement of the scope for portions of Task 11 and 12, to better describe data analyses, evaluation, and associated costs of the various contractors. However, this refinement cannot occur until the Workgroup meets to review the numerical model and discuss how the numerical model will be utilized moving forward to estimate return flows. This will help determine which contractor and/or the ED Office is most appropriate to perform the various pieces of data evaluation and return flow timing estimates. Courtney suggested adding language to EA Engineering's contract amendment to require scope and budget refinement of these specific tasks, and to add a mid-pilot status report from EA Engineering in the form of a Workgroup conference call that is not intended to require substantial additional reporting or administrative costs. The WAC acknowledged that more clarification in these aspects of the scope and budget and a mid-project call with the Workgroup would satisfy their concerns. **The ED Office will refine EA Engineering's contract amendment to reflect this discussion prior to the Finance Committee meeting later this week. The data analysis/evaluation portions of the scopes and associated budgets for EA Engineering/DBS&A and Bill Hahn will be refined after the numerical model documentation and call with the Workgroup are complete.**

Choke Point Update: *Steve Smith, EDO*

Smith gave an update on HDR and Tetra Tech alternative evaluation. HDR and Tetra Tech have provided their final deliverable. The scope of work included a literature review, an alternatives identification and ranking, and an alternatives evaluation. The top three alternatives were modeled in the hydraulic model and sediment transport model to see how the North Platte choke point capacity would change over time. The objective was to increase the capacity to 3,000 cfs at NWS flood stage. The top three alternatives modeled are: Cody Park north bank channel reactivation, Cody Park north bank reactivation with Cody Park berm construction, and widening of the opening through the UPRR Bridge. The model was calibrated using WY 2002-2010 hydrology, and the modeling scenarios included short duration high flows. The results of the modeling showed aggradation and decreased capacity over time for the baseline condition (no action) and the three alternatives. The three alternatives show a decrease in the capacity but at a slower pace than the baseline. The models were sensitive to the input hydrology, and Smith said he will test hydrologic sensitivity through additional runs. Based on the results, there is a need to manage the sediment by either decreasing the supply or widening the channel so deposition occurs in overbanks instead of in the main channel. It was suggested the source of sediment is from erosion of the sandy streambed and banks between Lake McConaughy and the City of North Platte, but it is unclear if this is the only source. Woodward mentioned he noticed the Grand Island rating curves have shown decreased capacity over time since the 1980s, similar to the trends in the North Platte River. After the high flows this season, the NDNR will reassess the rating curve in the fall, which may show that capacity has increased as a result of high flows in 2011.

Smith explained several graphs including comparisons of the topography and water surface elevations of the three alternatives in relation to the baseline. Of the three modeled alternatives, reactivation of the north channel and vegetation clearing at the Cody Park restriction area proved to be the best alternative with the least amount of aggradation. Runge asked what other alternatives are available since the three modeled alternatives will not increase the capacity to the short duration high flow requirement. Kenny mentioned other alternatives to increase the choke point capacity could be costly civil engineering programs like capture and deposition and would likely involve landowner agreements. Other alternatives for the short duration high flow would involve releasing water from other sources below the choke point. Runge stated that the GC should provide their level of interest regarding: a) a single focus of improving the channel conveyance through the North Platte River, or b) broader alternatives that would deliver Program water to Overton. Econopouly suggested bringing hydraulic capacity information at the Kearney Gage as well as the North Platte Gage to the next EAC/RCC meeting to help determine whether a short duration high flow will be implemented next year. **The ED Office will provide the hydraulic capacity information for the Kearney and North Platte gages to the FWS, and discuss how to incorporate that information into SDHF planning.**

Study of Platte River Appropriation Status*: Duane Woodward, CPNRD*

This presentation was rescheduled for the next WAC meeting due to time restraints. Woodward said a presentation is available on the NDNR website if anyone is interested. The study report will be completed around mid-August.

Integrated Management Plan Update*: Doug Hallum, NDNR*

Hallum presented an overview of other water projects the NDNR is working on outside of the Program's WAPs as part of the DNR's integrated water management activities. Hallum gave a briefing on Nebraska water rights and the NDNR and NRDs and described the NDNRs annual evaluations of long term supply. A fully appropriated basin means the NRDs have to complete Integrated Management Plans (IMPs) with the goal to balance supply and use. Some of the other water projects the NDNR is involved with include: Excess Flow Study, COHYST Conjunctive Management Studies and other tools, POAC (Platte Overappropriated Committee), ground water recharge projects, AWEP, CREP and EQIP, Management Options Study, North Dry Creek augmentation project, and water leasing/purchasing projects. The NDNR is open to working with the Program on some these projects in the future.

Hallum talked about the canal recharge projects that occurred this year during the flood flows. The NDNR issued several temporary permits to divert flood waters in canals for canal recharge with the benefits of mitigating flood flows and storing high flows in the ground water aquifers. The diversions into canals totaled 90,000 AF for agreements with 20 contractors and irrigation districts. The 90,000 AF of recharged water was calculated as the total measured amount of diversions minus the total measured amount of spills back to the Platte River. Evaporation was not removed, and the amount of water left in the canals prior to irrigation season that could have been partially used by the canal for wetting and/or irrigation was also not removed. The South

Platte NRD and Twin Platte NRD used recharge basins in addition to canal recharge. There was no instrumentation due to the short turn-around of the permit applications so mass water balances were used to estimate accretions to the river. Altenhofen said the excess accretions from these types of project could potentially be used by the Program to reduce shortages to target flows in the future. Hallum said the temporary permits are only good for one year but if the demonstration projects seem successful, the NDNR could develop a process to complete similar projects in the future.

Additional Business*: Cory Steinke, WAC Chair*
The next WAC meeting was scheduled for October 25, 2011, from 8:30 am – 2 pm (Mountain Time) at the Lake McConaughy Visitors Center.

The WAC requested the ED Office post the presentations from today. There was no additional business.

Action Items

General WAC

- n/a

ED Office

- The ED Office will schedule a ground water recharge work group site visit around the next WAC meeting.
- The ED Office will revise the ground water recharge pilot project budget to remove the daily operations costs and provide this to the Finance Committee.
- **The ED Office will refine EA Engineering's contract amendment to reflect this discussion prior to the Finance Committee meeting later this week. The data analysis/evaluation portions of the scopes and associated budgets for EA Engineering/DBS&A and Bill Hahn will be refined after the numerical model documentation and call with the Workgroup are complete.**
- The ED Office will refine EA Engineering's contract amendment to reflect WAC discussion prior to the Finance Committee meeting later this week. The data analysis/evaluation portions of the scopes and associated budgets for EA Engineering/ DBS&A, and Bill Hahn (this will not be until after the numerical model documentation is completed and discussed with the workgroup).
- The ED Office will provide the most current hydraulic capacity information for the North Platte and Kearney gages to the FWS, and discuss how this information should be used in planning for SDHFs.
- The ED Office will post the presentations from the WAC meeting on the website.