PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM
Water Advisory Committee Meeting Minutes
Conference Call & WebEx

February 1, 2011

Attendance (call-in)
Cory Steinke – WAC Chair, CNPPID
Jerry Kenny – Executive Director PRRIP, 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
Doug Hallum – NDNR
Jim Schneider – NDNR
Jon Altenhofen – Northern Colorado WCD
Mike Drain – CNPPID
Rich Holloway – Tri-Bain NRD
Pat Goltl – NDNR
Brock Merrill – Bureau of Reclamation
Jeff Runge – U.S. Fish and Wildlife Service
Mahonri Williams – Bureau of Reclamation
Kent Miller – Twin Platte NRD
Suzanne Sellers – Colorado Water Conservation Board
Tom Econopouly – U.S. Fish and Wildlife Service
Duane Woodward – CPRND
Matt Hoobler – Wyoming SEO
Mike Besson – Wyoming Water Development Office

Other Attendees
Kenny Roberg – National Weather Service
Teresa Keck – National Weather Service
John Heaston – Nature Conservancy
Matt McConville – HDR

Welcome and Administrative: *Cory Steinke, WAC Chair*
Introductions were made. There were no agenda modifications. **The November WAC Minutes were approved with no modifications.**

WAP Project Updates: *Beorn Courtney, ED Office*
Elm Creek Reservoir – The Elm Creek Reservoir January 2011 draft feasibility report was provided to the WAC on the Program website. Olsson was scheduled to present their findings at the WAC meeting today but since it was changed to a conference call due to weather, their

presentation was postponed until the next WAC meeting to allow for a face-to-face discussion. CPNRD is waiting for feedback from the WAC on the draft report. **If you have comments on the Elm Creek Reservoir report, you can either email them to Beorn Courtney or wait until the next WAC meeting when Olsson will present their findings.**

J2 Rereg Reservoir – The ED Office and CNPPID have met with Olsson several times to address concerns on the hydrocyling mitigation analysis. It was agreed that Olsson will move forward with a synthetic hourly data set that represents how CNPPID plans to operate in the future rather than how CNPPID historically operated. The synthetic data set was generated by Cory Steinke, using historical diversion records and proposed J-2 releases. The use of a dead pool to address issues relating to low storage volumes will also be included in the Olsson analysis. The updated analysis is due next week and a revised memo will be provided to the WAC in late February. The schedule on this project has been delayed but is moving forward again. Under a different task under this same scope of work, Olsson has completed the Phelps County Canal capacity investigation (Task 2.2.1) and Geotech Report (Task 3).

Groundwater recharge – After the last WAC meeting, there was a kickoff groundwater recharge meeting and field visit with the workgroup. The workgroup looked at the Gothenburg and Phelps potential sites identified in pre-feasibility and reviewed the EA Engineering and DBS&A proposal. The workgroup has reviewed the following documents from the Consultant: Available Information and Data Gaps technical memo and Fieldwork Plan. Data collection for assisting in the design of a pilot project will occur next week. The workgroup recommended additional data collection regarding drains located below the Phelps recharge site.

Bill Hahn, a special advisor to the Program, is preparing a numerical model of the Phelps site to evaluate effects of a recharge project near Phelps 9.7. Hahn and Smith (ED Office) will get input regarding model setup from workgroup members interested in the model.

In pre-feasibility, some concerns were raised on the Gothenburg site because of high groundwater levels. The Phelps site looked promising considering the close proximity to Program lands. The workgroup decided to hold off on moving forward at the Gothenburg site and to focus on the Phelps Site. The workgroup would like to collect more data on the Gothenburg site and revisit the pre-feasibility data. Additional information from an NPPD canal system winter operations report by Applegate Group will be used to help assess the potential issues with winter operations in the Gothenburg Canal. The report will be distributed later this month or in early March for circulation to the WAC.

The ED Office and groundwater recharge workgroup members have explored using Environmental Account (EA) water from Lake McConaughy as a water supply for a groundwater recharge pilot project. A conference call with NDNR was held on January 31 to discuss using EA water on a temporary basis and potentially long-term basis for recharge projects. Considering that the process could be simpler for a temporary permit for pilot project purposes, CNPPID and the ED Office will work on developing an application for temporary use

of EA water in a pilot project. A different application process is anticipated to be required for a permanent recharge project. The NDNR expressed it would be useful to have letters of support from existing water right permit holders. The ED Office will begin to contact WAC representatives regarding support letters and the Program will also submit a support letter.

Sellers had a question on when recharge would operate, either in summer or winter. Smith said recharge was assumed to run outside of the irrigation system for the prefeasibility study. The NPPD canal system winter operations report will give more information on the potential of using canals in the winter and could change recharge operation assumptions. Courtney noted the pilot project may occur during the irrigation season to make it more feasible to complete. For winter canal operations, a large volume of water to fill the canal would need to be diverted and routed through the system for a relatively small volume of water to be diverted into the pilot project. Sellers asked whether the pilot tests should occur at the same time of year as proposed full-scale recharge operations. Courtney said the workgroup has talked some about this and while the pilot project should theoretically be run in the winter similar to the proposed operation of a permanent recharge project, the feasibility of getting landowner permissions and water supply available during the irrigation season may force pilot project operations outside of the ideal season. The workgroup will keep this in mind when planning the pilot project.

NE Water Leasing and Water Management Incentives – Some background documents were provided to the WAC in November on methods to quantify consumptive use on irrigated lands and what water would be available for water leasing. The ED Office identified a workgroup at the November WAC meeting. Since the last meeting, the ED Office has started reviewing the Water Management Incentives (WMI) Water Action Plan (WAP) project and formulating a plan to move forward. WMI projects have some similar components to the Nebraska Water Leasing and Net Controllable Conserved Water projects. The ED Office would like to initially combine the Nebraska Water Leasing workgroup with the WMI workgroup to discuss similarities/differences between these projects and better define the individual workgroup direction. **The ED Office will send information to the Water Leasing and WMI workgroups and request a meeting date.**

Pathfinder Municipal Account*: Mike Purcell, WWDO*

The Pathfinder Municipal Account contract was provided to the WAC members on the Program website. Pages 3-4 of the document are the "meat and potatoes" of the agreement. The purchase price is going to be a unit price per acre-foot based on the costs to Wyoming. At this time, the construction is not completed so the total cost is unknown. There is a 15% construction contingency and the estimated O&M cost is $3 to $6 per acre-foot per year. The cost per acre-foot is roughly calculated as the Total Construction Cost amortized over 50 years with a 4% discount rate and divided by 9,600 acre-feet per year of anticipated Program yield, plus annual O&M costs. The Program is not required to lease this water. Purcell said the price is about $91 per acre-foot at the dam. The 2009 Water Action Plan Update estimated a cost of $80-$100 per acre-foot at the dam.

Altenhofen had a question on the formula Wyoming used to calculate the cost because it appears to differ from other WAP projects. Purcell responded that the GC was informed that the total project costs for Pathfinder Modification Account are included in the unit pricing. He noted that without this improvement, there would not be the Pathfinder EA for the Program (Initial Three States Project). There was some discussion among WAC members as to whether the total cost for improvements should be included in the unit price since this would include improvements made to the capacity of the Pathfinder EA, which is Wyoming's contribution to the Program. The discussion centered on dividing the total construction cost by the total EA plus the Municipal Account yield instead of the 9,600 acre-feet per year available for lease by the Program. Purcell stated the total cost should be divided by the 9,600 acre-feet per year since this is the yield. If the Program chooses not to purchase water in one year, there will still be the option to purchase water in future years.

Purcell accepted some minor changes to the agreement as suggested by WAC members. Drain pointed out a typo in the document requested the addition "…of Wyoming" at the end of the sentence on page 3 item C. Hallum requested to add "In accordance with NE law" preface on the last sentence on page 4 item 7.

Purcell went over the general timeline and procedures to request water from the Municipal Account, as described in the draft agreement. The Program will be responsible for conveyance losses from the Pathfinder dam to the habitat. The water released from the EA or Municipal Account will be protected to the Wyoming state line (permit is pending). Altenhofen asked if this water will be entered into the Lake McConaughy EA or if it would be entered into a separate Lake McConaughy account. Drain responded that the water would be entered into the Lake McConaughy EA and it will be subject to the EA space limitation of 200,000 acre-feet.

Nebraska Depletions Plan*: Jim Schneider, NDNR*

The Nebraska New Depletions Plan Update was provided to the WAC on the Program website. Schneider discussed the document purpose is to provide a report on the permitting activities and inform the WAC on where the NDNR is headed with other tasks in the Nebraska New Depletions Plan (NNDP). He went over the two pieces in the NNDP Update: the annual report in Attachment A and the progress reporting in Attachment B. A memo was provided to the GC in 2008 describing previous updates. Attachment A in the NNDP Update relates to the NNDP Section IV bullet 3. Tables 1 and 2 in Attachment A are the new permitted uses after January 1, 2006. Table 1 shows the offsets required and Table 2 is a summary of permits (Table 1 lists required offsets from the wells in Table 2). The tables include well and surface water permits issued from 2006 through 2009 and the required offsets as determined by the individual Natural Resource Districts (NRDs). There was a discussion among WAC members whether the NNDP Update included sufficient information regarding the timing and location of the collective depletions as described in bullet 3.

Altenhofen requested clarification on the statement "…NOT in 2840" in the "Notes" column in Table 1. Schneider said this comment means the new depletion is not within the area of 28

percent depletion over 40 years. Another clarification is the "Replacement" column in Table 2 describes whether the well was a replacement well, not if offsets are required. Besson had a question about the positive and negative designations in the "Transferred Acres" column. Schneider described that some NRDs do a straight transfer of acreage (Tri-Basin) while others calculate a net increase or decrease in acreage to obtain a net depletion of zero. If the transferred acres value is a negative number, this represents more acreage at the original location than at the new location (i.e. the user may take a reduction in acreage based on the stream depletion calculations). There were some suggestions from the WAC to add additional information to Table 1 to aid the WAC in following along. Schneider noted that the NRDs are not required to use the same methodology to calculate the offsets so it is difficult to compile all the information in a uniform format. In some cases it is not an "apples to apples" comparison. Schneider said the net effect on the river is zero for each NRD but the NDNR will work on the presentation of data if needed.

Sellers inquired whether supplemental well depletions are considered instantaneous or lagged back to the river and if this impacts target flows. Schneider responded the consumptive use has not changed because the irrigated acreage has not changed when a supplemental well permit is issued. Schneider said that while the NRDs do not require replacement to address the lag from these depletions, Nebraska will address to ensure the target flows are whole. This will be investigated further as land use inventory is completed under Section IV bullet 4. Drain also asked about changes in timing and location when using supplemental wells and the potential increase in consumptive use from adding an additional water source to the land. Schneider said the first round of COHYST didn't include an option to assess comingled acres but this is being addressed in current modeling efforts. NDNR does not believe there is a collective impact based on the information they have at this time. This may be revised once the COHYST model is updated.

The NDNR plans to complete the land use inventory required in Section IV bullet 4 in 2011 for the 2005-2010 time period. In 2009, the NDNR and the NRDs implemented Integrated Management Plans (IMPs) as required in Section V item m. The IMPs laid out the mechanisms for reporting information. The NDNR will extend groundwater model runs to quantify the change in depletions from all uses relative to the 1997 baseline. There was a suggestion from a WAC member to add information on the IMPs in the NNDP Update.

Schneider went on to discuss Attachment B in the NNDP Update. Attachment B goes through the institutional and financial mechanisms to offset 1997 to 2005 depletions. The mechanisms include programs to retire irrigated land and convert use to other land uses with lower consumptive uses. Table 1 summarizes the irrigated acres retired under each of the current programs.

Additionally, Nebraska also plans on using conjunctive management projects and WAP projects to mitigate depletions. Page 5 of Attachment B describes the COHYST update which is anticipated to be completed in 2011 with land use, groundwater and surface water routing. The

NDNR found problems in the initial irrigated acreage datasets. The assessment of new depletions between 1997 and 2005 may significantly change based on updated irrigated acreage. The results will be included in the COHYST report at the end of the year. The NDNR is also working on municipal and industrial depletions tracking in the model.

Drain stated that the report shows the NRDs are doing what the rules require, but inquired about the forum to express concerns about appropriateness of the offset calculation methodologies. Schneider suggested each water user contact the NDNR directly to discuss concerns. Kenny commented that this could also be done in a process through the WAC after the calculations are reported to the WAC.

Drain requested clarification on when the NDNR intends to invest in WAP projects and if the NDNR will pay back a portion of the initial costs already spent by participants on collecting background information. Schneider responded that they anticipate having funding in the future but he is unsure when NDNR will contribute at this time. Kenny said the NDNR offered funding for reservoir feasibility studies in the past but the GC declined. Contributions from the NDNR and past costs might be negotiated with the project participants. Runge asked if there is a time limit on when NDNR must participate. Kenny said the time has not passed yet.

Schneider addressed the differences in the reporting period requirements. The 1997-2005 depletion offsets have been calculated and there are measures in place to offset these depletions. Attachment A in this NNDP update is the tracking of permitting activities since 2006 which will fall under the five year assessment in Section IV bullet 5. There is a different requirement for the 2006-2009 annual reporting on depletions and offsets. The NDNR does not need to calculate additional offsets until 2012 as stated in Section IV bullet 5.

There was a conversation on what information should be passed on from the WAC to the GC. It was discussed whether a recommendation, approval or acceptance of assumptions, should be included in the correspondence to the GC. Courtney said the GC is looking for feedback from the WAC on the document and it can be in any form preferred by the WAC. The WAC agreed to accept the permit tabulation as meeting the permitting report requirement and accepting the remainder of the document as an update on the NNDP, which provides a good summary on water-related activities and provides information on where Nebraska is going on these activities, but to let the GC know that some WAC members believe there may still be issues in the determination of offsets, or that more information needs to be provided to the WAC so that they can better understand the methodologies being used. The WAC would also like to start discussing NDNR's level of interest (or at what stage NDNR will be able to identify) in the Water Action Plan (WAP) projects that NDNR expressed interest in the previous WAP reports. Steinke stated no WAC vote was required to approve any pieces in the NNDP Update. **The ED Office will draft a formal memo describing the WAC discussion on the NNDP Update as reflected in the minutes and pass this information on to the GC.**

Hydraulic Modeling Related to Channel Capacity*: Steve Smith, EDO and Kenny Roberg, NWS*

Smith gave a presentation on channel capacity at North Platte Choke Point and Kearney gage. The presentation went over the accompanying memo given to the WAC. Potential causes of decreased hydraulic capacity were discussed, including reduced North Platte River flows and vegetation growth. There were questions on the reduction in peak flow stage in the 1970s and 80s (Figure 4 in the Choke Point memo). In the 1970s, the Highway 83 Bridge was shortened by approximately 1,000 feet and the channel dredged to route water around construction which may have had an impact on the peak flows in Figure 4. Drain asked if this included a review of the 3 states report. Smith said it did not and Drain said he'd provide a copy. Steinke commented that CNPPID lost the Tri-County Diversion dam in 1983, which may have changed the gradient of the river as a result of sediment passing. This could explain the dip in peak flow stage in 1983 in Figure 4.

Smith noted the Kearney gage is also an issue because the flood stage flow is between 6,000 and 7,000 cfs depending on which rating curve is used (NWS modified rating curve indicates 6,000 cfs, but USGS original rating curve indicates 7,000 cfs). Need to be aware of this issue when planning for SDHFs, so as not to exceed NWS flood stage. Smith described how the NWS obtains raw rating curve data from the USGS and uses it in their flood forecasting model. This explains why the NWS rating curve can be different than the USGS rating curve. A practical example of high flow occurred in June 2010, when 8,000 cfs was recorded at the gage resulting in minor flooding near Kearney.

Smith requested input from the WAC on long-term and short-term solutions to increase the North Platte Choke Point capacity. Besson suggested a potential long-term solution of buying property and/or changing zoning to create flow easements. **The ED Office will provide an update on channel capacity to the GC at the March 2011 meeting. WAC members can provide any input on short-term vs. long-term solutions via email to Steve Smith.**

Roberg (Senior Forecaster and Hydrology Program Leader in the NWS Forecast Office in North Platte, NE) gave a presentation on how flood stage is determined, history of the North Platte gage and North Platte gage flow data from 1983 through 2008. Roberg shared several photos of the North Platte River at or near the gage location at different stages ranging from approximately 5.7 feet to 6.2 feet. A 5.7 foot stage for the North Platte gage is approximately 1,350 cfs with minor overflow in agricultural land in some places. At a stage of 5.9 feet, there is water intruding on Cody Park but downstream the flow is within the banks. A flood stage around 6.0 feet is approximately 1,600 cfs. At approximately 6.2 feet, there are minor flood conditions and extensive water in Cody Park, widespread flooding in agricultural lands and encroachment on residential properties. Water begins to rise in the ditches along access roads. Above a 6.4 foot stage, the flow is about 2,700 cfs with widespread flooding and encroachment in buildings and residential properties.

The NWS determines flood stage as an established gage height for a given location at which a

rise in water surface levels begin to impact lives, property or commerce. The issuance of a flood warning is linked to flood stage. NWS wants to be sensitive and allow the necessary flows through the Central Platte to satisfy water users but also make sure the flows do not impact property. Establishing a new flood stage or changes in existing flood stage requires approval from the central region NWS headquarters. Surveying is necessary to determine the elevation when the water leaves the bank and minor flooding begins.

Roberg discussed historical changes to the North Platte gage. The gage was moved in 1968 and is now located 150 feet downstream of the Highway 83 bridge on right bank. In 1994, the Cooperative Program with the USGS was discontinued. NDNR now owns and maintains records for the gage site. In 1997, a chain gage was installed adjacent to the gage house and remained until 2007. In 2002, the flood stage was lowered from 6.0 to 5.7 feet. The chain gage was removed in 2007 and a wire weight gage was installed in a new location 150 feet upstream of the old gage. There is a 0.17 ft elevation increase between the wire weight gage and previous chain gage due to the location change. The flood stage was raised to 6.0 feet again in 2008 as a result of the +0.17 foot shift in the gage elevation. This remains the accurate flood stage based on surveying and flow observations.

Additional Business*: Cory Steinke, WAC Chair*

The next WAC meeting was scheduled for April 26, 2011, from 9:30 am – 3 pm (Mountain Time) at the Lake McConaughy Visitors Center. Some tentative items on the next agenda will be:

- Colorado and Wyoming Depletions Plans Updates
- Elm Creek Feasibility Study presentation by Olsson
- CNPPID Reregulating Reservoir hydrocyling mitigation presentation by Olsson (Pre-Feasibility report)

There was no additional business.

Action Items

General WAC

- Comments on the Elm Creek Reservoir report can either be emailed to Beorn Courtney or wait until the April WAC meeting when Olsson will present their findings.
- WAC members can provide any input on Choke Point short-term vs. long-term solutions via email to Steve Smith.

ED Office

- The ED Office will send information to the Nebraska Water Leasing workgroup and the WMI workgroup (identified in a previous WAC meeting) and request a meeting date to discuss preliminary information and similarities/differences of these projects.
- The ED Office will draft a formal memo describing the WAC discussion on the NNDP Update as reflected in the minutes and pass this information on to the GC.
- The ED Office will provide a Choke Point update to the GC at the March 2011 meeting.