PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM
Water Advisory Committee Reference Notes
Nebraska Game and Parks Commission – Lake McConaughy Visitors Center, NE

February 9, 2010

Attendance
Cory Steinke – WAC Chair, CNPPID
Jerry Kenny – Executive Director, Headwaters Corp
Beorn Courtney – ED Office/Headwaters Corp
Laura Belanger – ED Office/Headwaters Corp
Steve Smith – ED Office/Headwaters Corp
Bruce Sackett – ED Office/Headwaters Corp (by phone/WebEx)
Chad Smith – ED Office/Headwaters Corp (by phone/WebEx)
Frank Kwapnioski –NPPD
Doug Hallum – NDNR
Dennis Strauch – Pathfinder Irrigation District
Jeff Shafer - NPPD
Jon Altenhofen – Northern Colorado WCD
Mahonri Williams – Bureau of Reclamation
Mike Besson – Wyoming Water Development Office
Mike Drain – CNPPID
Rich Holloway – Tri-Bain NRD
Pat Goltl – Nebraska DNR
Brock Merrill – Bureau of Reclamation
Jeff Runge – U.S. Fish and Wildlife Service
Duane Woodward – Central Platte NRD (by phone/WebEx)
Matt Hoobler – Wyoming SEO
Ted Kowalski – State of Colorado (by phone/WebEx)
Kent Miller – Twin Platte NRD
Ann Bleed – Ann Bleed and Associates (by phone/WebEx)
Eric Dove – Olsson Associates
Mike Yost – Olsson Associates
George Oamek – Honey Creek Resources
Bill Hahn – Hahn Water Resources
John Engel – HDR (by phone/WebEx)

Welcome and Administrative
Introductions were made. There were no agenda modifications. **The November WAC Minutes were approved with no modifications.**

WAP Update Report Finalization
Courtney discussed edits made to the WAP Update document to address WAC member

comments. **Wyoming project routing still needs to be modified pending input from Wyoming. Altenhofen asked that the NE Ground Water Recharge project description be updated based upon new information and to describe overlap with the Nebraska Ground Water Management project, and the ED Office agreed. Altenhofen also suggested that the footnote on page 7 should be revised** to clarify that the Appendix A-5 versus Appendix E issue is considering to be investigated by the Scoring Subcommittee being undertaken per Governance Committee (GC) direction. Altenhofen noted that Tamarack I was originally scored based upon fixed daily targets of 3,000 cfs in May/June, not even 3,400 cfs. Then over time this changed from 3,000 to 3,400 to 4,900 cfs for certain days. Altenhofen also noted that the 4,900 cfs is really like a short duration high flow (SDHF) if you go back and read through the history of target flow development. Altenhofen indicated that the 4,900 cfs may not be appropriate for determining excess flows that can be stored but is more appropriate for determining releases. The group agreed that this is work for the Scoring Subcommittee. Courtney clarified that WAP project scoring will be a separate exercise from the work done in reregulating reservoir project feasibility, though information from feasibility is important to scoring. Besson motioned to approve the document pending the modifications discussed above and that the **WAC receive an updated version prior to it being sent to the GC**. Strauch seconded the motion. **The WAC approved the WAP Update provided that the changes discussed above are made.**

WAP Permitting Update Kenny reported on recent conversations with the Army Corps of Engineers (COE). All in-channel work could be done via Nationwide Permits #27. The ED Office has also discussed other WAP projects with the COE, particularly the Elm Creek and J-2 reregulating reservoir projects. Off-channel reservoir permitting tends to be easier, so Elm Creek would likely receive greater scrutiny as would a J-2 reservoir impacting Plum Creek. The COE thinks an EIS is probably not necessary and that we can likely tier off of the Programmatic EIS. Nevertheless, CWA Section 401(b)(1) must be dealt with to demonstrate the alternative is the least environmentally damaging practical alternative. The Purpose and Need for these reservoirs needs to be carefully crafted to focus the alternatives analysis to discuss SDHF, hydrocycling mitigation, and target flow purposes. Early conversations with the COE and all other permitting and regulatory entities is important. The ED Office has a tentatively scheduled meeting in late March with the COE, Environmental Protection Agency (EPA), Nebraska Game and Parks Commission (NGPC), Nebraska Department of Environmental Quality (NDEQ), the Fish and Wildlife Service (FWS) and possibly others to discuss potential Program actions. Kenny also noted that there are some activities that we'd like to start doing now related to permitting, for example wetland delineation, to capitalize on specific time windows when the work can be accomplished.

CNPPID Reregulating Reservoir Phase I Final Report

Olsson will make a few minor edits to the report in response to new comments provided by Besson and Altenhofen. Steinke requested that the WAC approve the final report. Altenhofen made the motion and Williams seconded. **The WAC approved the final report provided that the edits noted above are made.**

CNPPID Reregulating Reservoir Phase II Scope

Courtney told the group that following the Olsson Phase I Reregulating Reservoir presentation to the GC in December, the GC expressed concern about approving the next phase of feasibility prior to the WAC approving the final report and prior to having an agreement between the Program and CNPPID. Recognizing seasonal constraints (ground frozen, pre-irrigation season), the GC directed the field work portion of the next phase be provided in a separate scope for approval at a special GC meeting on February 25, with any subsequent work to potentially be approved at a later date.

A WAC workgroup meeting was held with Olsson and the ED Office in January to discuss potential incremental benefits of combinations of projects and project configurations that hadn't been considered in Phase I, prior to embarking on full feasibility. For example, some significantly lower-cost alternatives were identifited which would utilize Elwood Reservoir to supplement a Short Duration High Flow that would be primarily achieved with J2 Reregulating Reservoir – this was not analyzed in Phase I but may provide an attractive cost-effective option.

Two draft scopes of service from Olsson were provided to the WAC, one for the field work and one for this intermediate/incremental step to be completed prior to full feasibility. Courtney also discussed concurrent related work being conducted by the ED Office working with the GC Scoring Subcommittee. The group discussed the proposed intermediate step budget in Olsson's draft contract ($141,531) and the impact on the full feasibility budget (total reregulating reservoirs budget is $750,000). Courtney noted that one of the most time intensive portions of Olsson's Phase II work would be if we brought many alternatives forward and need to complete full hydrologic/operations analysis on them all. This intermediate phase is intended to cut down on alternatives to reduce uncertainty and streamline the next phase. Altenhofen expressed concerned about only using three representative year types in lieu of a continuous simulation period. Courtney noted that as part of the work it is completing for the GC Scoring Subcommittee, the ED Office has already run a continuous period using daily OPStudy hydrology (1947-1994, adjusted, three state). Belanger noted that the results are very comparative to Olsson's Phase I results and that the reservoir capacity appears to be the driver of the yield. **The ED Office will provide the WAC with the spreadsheet analysis once it has been approved by the GC Scoring Subcommittee.**

Dove discussed the level of detail needed for the intermediate phase. Excel can be used but that is limited. HEC-ResSim could be used to start developing operations. Dove reviewed the pre-feasibility results which showed that the J-2 Alternative 2, Area 1 & 2 combination (which can provide three days of 2,000 cfs to augment SDHF) was the preferred alternative. He noted that Elwood could potentially be used to provide lower supplemental flows (~350 cfs) using existing inlet and outlet works and Plum Creek for delivery if used prior to Elwood being filled for irrigation season. Elwood could have target flow and SDHF augmentation benefits but there is power interference for two power stations (J-1 and J-2 hydros). The interaction and potential competition between projects/reservoirs for excess flows was discussed and will continue to be considered, as identified in the WAP Update Report.

Dove reviewed the field work scope. Soil borings need to be completed while the ground is frozen. They would also like to complete wetland delineation in the spring. Altenhofen asked about initial reservoir storage content assumptions for this work. With this approach, Belanger would provide Olsson initial storage contents for the three representative years based upon the continuous simulation results from the work performed for the GC Scoring Subcommittee. Olsson will survey Phelps Canal and review new LiDAR data under the field work scope. Proposed boring locations were reviewed. A GC special session is scheduled for Feb 25 to approve of the field work contract. Dove noted there is no engineering analysis in the field work contract.

Dove then reviewed the intermediate step (or "second") contract which would analyze hydrology/operations for new alternatives. Initial permitting contacts will be made to determine potential design impacts. Ideally both contracts would be approved by the GC at the same time so work could be completed concurrently. Preliminary results could be presented at the May 11 WAC meeting and a final memo completed in June or July. It may be possible to get a WAC recommendation for the GC in August to approve of the full feasibility phase. Dove also reviewed items that would be completed in feasibility.

Altenhofen said that there seem to be inconsistencies/overlap between the two contracts. Dove clarified that the field work contract is generally for data collection with full data analysis and reporting under the second contract. Altenhofen asked about additional details regarding hours and costs and Kenny clarified that the ED Office has reviewed this information but did not attached it to the contract. Altenhofen pointed out that the number of cross sections are not consistent between the two contracts. Under Exhibit A of the field work contract, **Page 1 Section 1.01 B. will be changed to seven rather than five cross sections to be consistent with the alternatives analysis contract, which will not increase the cost. Olsson will make this edit.** Altenhofen also asked about the language regarding land owner responsibility. **Dove noted that the intent was for the Program to be liable but agreed that the contract read as though the landowner is legally responsible so he will make edits to fix this in the field work contract. Dove also noted that paragraph 4 of Exhibit A of the intermediate phase contract will be removed in its entirety as this was moved to the field work contract.**

Besson moved that the field work contract be approved. Shaffer seconded it. **The motion to approve the field work contract was approved provided that the modifications noted above are made.**

The group then discussed the purpose of the second contract. Kenny said that the GC specifically requested to move ahead on the field work, so that is all the Finance Committee (FC) is being asked to approve tomorrow. Since the GC last met, the need for the intermediate step analysis has been identified by the ED Office and workgroup. Courtney said that this is almost a cost-benefit analysis of some other alternatives/configurations that hadn't been considered under Phase I. This information will define the alternatives that move forward to feasibility. The

intermediate step schedule and likelihood of getting the contract approved by the FC and GC was discussed.

The group then discussed the option of moving forward with a full feasibility scope. Courtney asked the group if they support the general concept of the intermediate phase. Besson asked if the group could recommend this intermediate phase concept to the GC but not put the contract forward. Altenhofen said no, he thinks this needs to come from the GC. Drain asked if the ED Office can propose this to the GC. Kenny said yes. Kwapnioski noted that there are a lot of politics involved in moving ahead to full feasibility and that it would be easier to identify some intermediate steps to move in this direction. Drain said that he thinks the WAC agrees that this work, however it is presented, needs to be done. Kwapnioski stressed the impact of not moving ahead with a somewhat aggressive schedule. Runge asked Olsson about Elwood winter use and if modifications would be needed and environmental implications. Dove said minimal improvements are envisioned but that this next step would evaluate if using Plum Creek will be carried forward and clear water impacts would be evaluated under full feasibility. Runge suggested introducing some of these concepts to the resource/permitting agencies when the ED Office meets with them in March. Dove and others noted that it may be too early for this as the alternatives need to be defined first.

Steinke asked if the group thinks that this next phase of work needs to be done to narrow down the alternatives prior to full feasibility. He also asked the group to recommend the concept of narrowing down/better defining alternatives but not to approve of the draft contract. The intermediate step contract was not approved but **the group agreed that the ED Office should present the concept of the intermediate step work to the GC. Altenhofen asked that a simple one page memo describing the work be provided to the WAC and then the GC. The group will provide Courtney with any specific items they would like to see included in the memo, which Olsson will develop.**

Groundwater Recharge/Management Pre-Feasibility Update

Smith provided an update on the Nebraska groundwater recharge/management prefeasibility project. He noted that there are two Nebraska groundwater related projects in the WAP which are similar and/or could be operated together: Dawson/Gothenburg Canal groundwater recharge and Nebraska groundwater management. The two projects have significant areas of overlap, and concepts from the groundwater management project will be incorporated into the groundwater recharge project where beneficial. However, the two projects will remain separate projects. Smith reviewed the requirements used to identify six sites for pre-feasibility analyses for the November 2009 WAC meeting. He noted that he and Bill Hahn are working with a groundwater recharge technical work group which requested that additional project concepts be incorporated into the prefeasibility study, and that example project configurations and sample yield and costs estimates be developed for each groundwater recharge concept. Permitting issues should also be considered. Smith presented the four concepts including example project configurations and said they are developing cost and yield estimates for each of the four project concepts/configurations. Smith pointed out that the four concepts were developed with input from the groundwater

recharge technical work group, and that he believed that the working group agreed that these four concepts adequately represented the potential array of recharge operations. The only additional clarification provided by the technical work group was by Altenhofen, who noted that the Program should consider the potential for recharge occurring on Program owned lands with the added benefit of creating bird habitat (e.g., through recharge on wet meadows). He also noted that the concept of diverting excesses using alluvial wells and piping these diversions under I-80 would be very difficult to get approved and may be prohibitively expensive. Hallum asked whether historical high groundwater levels associated with CPNRD recharge at B-1 Reservoir would pose a problem for the Program's concept of using B-1 Reservoir for additional recharge. Woodward responded that problems with high groundwater related to recharge at B-1 Reservoir have been shown not to be a result of recharge at the reservoir, but were a result of unusually wet years in the 1990s. Additionally, problems with high groundwater were not at the B-1 Reservoir site, but were more an issue west and southwest of Overton. Smith noted that the project workgroup will be doing some the ground reconnaissance in the near future. They have also been working with Ann Bleed, who is serving as a special advisor to the ED Office, to identify permitting issues and needs. Permitting issues and protecting water (in the river and in the aquifer) were discussed. A stakeholder group will likely be held in April with interested parties including DNR, NRDs, and power and irrigation districts. The stakeholder meeting will provide an opportunity for stakeholders to voice interest, concerns, and suggestions about the Program groundwater recharge concepts, and will include participation by Bleed. A feasibility study will be initiated after the current prefeasibility study is complete. Feasibility analyses will include site investigations to determine site specific information (recharge and pumping rates), refined cost estimates, and demonstration projects (small scale recharge projects to determine the feasibility of construction and implementation of the recharge and management concepts). The current project schedule anticipates a draft prefeasibility report and feasibility study RFP to the WAC in June and a final prefeasibility report and feasibility RFP to the WAC in July. If approved by the WAC, a feasibility study RFP will be provided to the GC in September.

Stage Change Study Update

Kenny reported that a draft report on the stage change study will be forwarded to the WAC by Courtney. The stage change study was a hydrology/hydraulics investigation and did not include species response. The main hydrology question was what potential impacts upstream Program actions might have on lower Platte flows. The main finding is that it will be hard to see impacts of central and upper Platte activities on the lower Platte. Most of lower Platte flows are from the Elkhorn River and the Loup River. During low flow periods in the lower Platte,; however, impacts from diversions upstream are perceptible so the Program needs to be careful in operations of projects diverting excess flows during these periods. A 1-D model in HEC-RAS was developed for the study from the Elkhorn River to the confluence with the Missouri.. In addition a 2-D model of a smaller segment of the river (~1/4 mile) was developed to look in greater detail at micro-habitats in that portion of the river based upon depth and velocity. A presentation of results will be made to the GC in March.

Water Management Incentives Scope

Kenny had hoped that Tom Riley of the Flatwater Group would be presenting the draft scope but it isn't ready. He reminded the group that the water management WAP project reduces consumptive use and then returns these flows to the river. Investigating and quantifying yields is more vague for this project than for some other WAP projects because the contributions are not point sources. This will be a modeling exercise. The model most likely to be used is the conjunctive management modeling tool currently under development. This team will be let by Flatwater Group with input from experts at the University of Nebraska (UNL). The focus will be on areas below Lake McConaughy and within five miles of the river to have a more immediate impact on the habitat. The first phase will be information gathering followed by honing in on which practices are quantifiable and most likely to provide the biggest cost-benefit. Economics will be an important part of the prioritizing of projects. The ED Office is also watching similar work and research being done in Colorado. The WAC provided input on research, projects and workshops they are aware of that might be of interest. Kenny hopes to have a scope to bring forward to the WAC in May.

1-D Hydraulic Model Update

Smith told the group that there is a Program RFP out for a 1-D HEC-RAS model which closes this Friday (2/12). The hydraulics portion of the model will include the North Platte and Platte River from Lake McConaughy to Chapman, with sediment transport modeled from Lexington to Chapman. The Adaptive Management group is leading this but wants to keep the WAC updated on the project. Smith noted that there are several existing tools, but that these have limitations (including geographic coverage), so a new model is needed for central Platte areas of interest. The new model will be built and calibrated in the latest versions of HEC-RAS and HEC-GeoRAS, which are public domain platforms usable by all Program stakeholders. The model will evaluate river processes (ex: flow, flow attenuation, sediment transport) and impacts on Program habitat (ex: vegetation, sand bars, depth of flow). It will also be used as a design aid tool for Adaptive Management Plan (AMP) experiments and to predict experiment effects. There may be other uses related to WAP project evaluations. The model is expected to be completed by the end of the year and will be made available to stakeholders, including a training workshop.

Additional Business

There was no additional business. The next WAC meeting is scheduled for May 11 from 9:30 a.m. to 3:00 p.m. in Ogallala. Annual depletions reports will be made at this meeting. No written reports are necessary.

The meeting was adjourned.

Action Items

ED Office

- Update the WAP Update with new Wyoming project routing once received
- Update the Nebraska Ground Water Recharge project description in the WAP Update based upon new information and describe overlap with the Nebraska Ground Water Management project
- Clarify footnote 8 on page 7
- Provide the WAC with updated version of the WAP Update prior to sending it to the GC
- Provide the WAC with the scoring spreadsheet analysis once it has been approved by the GC Scoring Subcommittee
- Present the concept of the CNPPID reregulating reservoir feasibility intermediate step to the GC. First develop a one page memo and provide to the WAC
- Forward draft stage change study report to the WAC

General WAC

- Provide Courtney with any specific items to be included in the GC CNPPID reregulating reservoir feasibility intermediate step concept memo

Wyoming

- Provide updated Wyoming WAP project routing information to the ED Office for WAP Update

Olsson Associates

- Make a final edits to the CNPPID reregulating reservoir project phase I report in response to new comments received. Finalize report
- Under Exhibit A of the field work contract, change Page 1 Section 1.01 B. to seven rather than five cross sections
- Edit the field work contract to clarify that the Program is legally responsible
- Remove paragraph 4 of Exhibit A of the intermediate phase contract in its entirety and move to the field work contract