PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM

Water Advisory Committee Meeting Minutes

Nebraska Game and Parks Commission – Lake McConaughy Visitor's Center, NE

April 26, 2011

Attendance (call-in)

Cory Steinke – WAC Chair, CNPPID
Beorn Courtney – ED Office/Headwaters Corp
Steve Smith – ED Office/Headwaters Corp
Sira Sartori – ED Office/Headwaters Corp
Doug Hallum – NDNR
Jon Altenhofen – Northern Colorado WCD
Mike Drain – CNPPID
Rich Holloway – Tri-Bain NRD
Brock Merrill – Bureau of Reclamation
Matt Rabbe – U.S. Fish and Wildlife Service
Mike George – U.S. Fish and Wildlife Service
Mahonri Williams – Bureau of Reclamation
Suzanne Sellers – Colorado Water Conservation Board
Duane Woodward – CPRND
Matt Hoobler – Wyoming SEO
Mike Besson – Wyoming Water Development Office
Jeff Shaffer – NPPD
Bill Taddicken – Audubon – Rowe Sanctuary
Ron Bishop – CPNRD
Duane Hovorka – Nebraska Wildlife Federation

Other Attendees

Deb Ohlinger – Olsson Associates
Eric Dove – Olsson Associates
Kevin Prior – Olsson Associates
Matt McConville – HDR
Mike Applegate, Applegate Group, Inc.
Tim Golka – Olsson Associates
Clint Carney – Olsson Associates
Jeremy Wesely - NWS Hastings (call-in)
Jennifer Schellpeper – NDNR (call-in)

Welcome and Administrative: *Cory Steinke, WAC Chair*

Introductions were made. There were no agenda modifications. **The February WAC Minutes were approved with modifications circulated prior to the WAC meeting. Cory Steinke was re-elected as WAC Chair.**

WAP Project Updates: *Beorn Courtney, ED Office*

Ground Water Recharge –The workgroup had a conference call on April 14th and they received an update on the numerical model. The field work has also been completed for the ground water recharge site. Based on the information from the numerical model and field work, the workgroup concluded a pump test is not necessary. The sensitivity to hydraulic conductivity is not significant at this time, based on this information.

An amendment to the scope of work will be presented to the Finance Committee May 5th to allow for additional drain monitoring in the vicinity of the recharge test sites and further west along the canal (to test recharge from canal). The consultant recommended 2 pilot recharge project sites; the workgroup is still discussing whether 1 or 2 sites are appropriate. The project will require a lot of instrumentation so the cost may help determine whether 1 or 2 pilot ponds will be constructed. Total cost for the amendment is approximately equal to the approved budget for the optional pump test that will not be conducted. As a result, there is no impact to the total project cost. Steinke filed a permit to use excess flows in the Platte River as a temporary water source for the pilot project. Steinke is also in the process of submitting a permit to use EA water as a temporary source. In the event the surface water sources are not approved by the DNR, there may be potential in using ground water as a water supply, which would require a permit from the Tri-Basin NRD.

Choke Point Update: *Steve Smith, EDO*

A fully calibrated hydraulic and sediment transport model for the North Platte choke point has been completed. The model stretches 10 miles from approximately 5 miles upstream of the Highway 83 Bridge to 5 miles downstream of the Bridge. The Finance Committee approved the 3rd and final amendment to HDR's existing modeling contract to help assess choke point solutions. The work will include a literature review and alternatives identification/ranking, and also modeling the three most feasible alternatives using the existing hydraulic and sediment transport models. Gary Lewis, HDR, will complete the literature review and list/rank potential solutions. Tetra Tech (sub to HDR) will then model the top 3 alternatives to assess the ability to increase the hydraulic capacity to 3,000 cfs at the choke point. Smith discussed that the alternatives are focused downstream of the Highway 83 Bridge and include alternatives such as hydraulic improvements and sediment management. HDR will finish the alternatives at the end of May and provide a technical memo of the results.

J2 Reregulating Reservoir Feasibility Study: *Beorn Courtney, EDO and Deb Ohlinger, Olsson Associates*

Courtney gave a brief status update on the J2 Reregulating Reservoir. CNPPID, the ED Office and Olsson have been working on the combined reservoir operations with hydrocyling mitigation. The workgroup accepted the Olsson findings at a meeting on April 15th. Courtney mentioned some initial thoughts on a new reservoir scenario that the workgroup is interested in exploring to provide CNPPID operational flexibility during the irrigation season. CNPPID proposed the idea that Area 2 could be used for irrigation regulation and hydrocyling mitigation

while Area 1 could be for PRRIP purposes during the irrigation season. In the winter months, both Areas 1 and 2 would be used for PRRIP purposes. The potential for budget and schedule implications of the new scenario have been discussed with the workgroup, CNPPID, the ED Office and Olsson. A scope and budget will be presented to the workgroup and then the Finance Committee at the May 26th meeting.

Ohlinger presented a synopsis of the J2 Reregulating Reservoir project status and presented information on the best alternative from Olsson's Investigation of Reservoir Combined Operations Report dated March 2011. In the report, Olsson concluded the reservoir can be used for both hydrocyling mitigation and PRRIP purposes with little impact to the PRRIP yield. The purpose of the March 2011 Report was to provide additional information from the September 2010 version.

Ohlinger went over the model development and the analysis using hourly synthetic data during the irrigation season. The use of synthetic data was an update from the September 2011 report which used historical data. CNPPID provided daily flows of preferred operations to Olsson, which Olsson converted to hourly data. This synthetic dataset provided for more consistent operations. Olsson compared the PRRIP yield and hydrocyling release fluctuations before and after hydrocyling mitigation. There were 3 main variables evaluated: the Phelps Canal capacity, Area 2 pump capacity, and outlet gate widths. Ohlinger discussed the findings and graphs presented in the most recent version of the Combined Operations Report. Ohlinger discussed the reasons why 100% hydrocycling mitigation could not always be achieved. Olsson recommended increasing the capacity of the Phelps Canal for more successful hydrocyling mitigation operations. Olsson suggested some future model refinements such as developing a multiple-day model.

Ohlinger discussed the status of the Tasks 1-5 under Olsson's contract. Although the schedule is behind, Olsson has completed some items from future tasks, such as the development of a HEC-RAS model. Also, in the next steps, the workgroup has requested Olsson to investigate additional operational scenarios discussed by the workgroup. The timeline will be extended for this additional modeling. The existing schedule is projected to be completed in approximately November 2011, but this will be updated to approximately end of 2011 or beginning of 2012 based on the additional modeling request.

The WAC had a discussion on the new scenario Olsson will model for Areas 1 and 2. Besson suggested the reservoir storage volume should be based on hydrocyling mitigation, outside of storm events. Steinke suggested the canal capacity should be based on the hydrocyling mitigation optimal rate of approximately 1,675 cfs. Based on the new scenario Olsson will evaluate, Steinke doesn't believe the entire canal will need to be improved to hold this rate. Steinke described the new scenario will keep 2 cells (Area 1 and 2) and Area 2 would be either an on-canal reservoir or an off-canal reservoir adjacent to the canal with inlet/outlet structures. The impact to the PPRIP yield for this new scenario was discussed. Steinke doesn't anticipate much impact but this will be modeled and discussed further. Area 1 may be enlarged as well to

hold more water for PRRIP purposes during the irrigation season. There will not be pumps in Area 2 in this scenario as it will function as a regulating reservoir with minimal storage fluctuations during the irrigation season.

Taddicken asked if the sediment load would be an issue; Steinke said there is little excess sediment in the system. Besson noted that the property acquisition is the biggest hurdle. Altenhofen suggested Sackett and Kenny from the ED Office should come to a Governance Committee (GC) to request faster action on land acquisitions. Besson suggested CNPPID should attend the GC meeting to show their support for the project as well. **The ED Office will discuss land acquisitions with the GC at the June meeting. Courtney suggested WAC members inform their GC representatives about the J2 Reregulating Reservoir project and the importance of approving land acquisitions in a timely manner.**

Elm Creek Reservoir Feasibility Study*: Beorn Courtney, EDO, Ron Bishop, CPNRD, Kevin Prior, Olsson Associates and Clint Carney, Olsson Associates*
Courtney discussed the overview memo from the ED Office on the Elm Creek Feasibility Study. Olsson looked at 33 scenarios and narrowed them down to a couple of best alternatives based on yield and life-cycle cost. Elm Creek has come to the end of the feasibility study as scoped but there may be additional questions that need to be answered before a decision to move forward can be made. The GC has not had a presentation on Olsson's findings yet.

Bishop gave a brief overview on the project and Olsson gave an update on the project status, study goals and analysis findings in the January 2011 Feasibility Study. The report is framed as a single use program for PRRIP purposes. Prior discussed the dam structure, storage scenarios, capital costs, Elm Creek outlet improvements, and dam/reservoir impacts to land uses/roads/ground water, etc. Carney discussed the ground water mound simulations and the steady state analysis of the Elm Creek dewatering wells. The cost of dewatering is included in the dam costs because it is necessary to mitigate impacts. Olsson looked at multiple water supply options for the Dawson County Canal, ground water wells along the Dawson County Canal, Platte River Pump Station, and Kearney Canal Diversion/Pump Station at different rates.

Prior went over the structures and canal improvements and ground water pumping analysis. Carney talked about the different well scenarios (pumping in non-irrigation season) and the impacts as shown in several maps with the contours of water table decline. Besson asked about whether Olsson evaluated the drawdown and associated costs for local irrigation wells, etc. Olsson has not evaluated the impact to other wells users specifically.

Olsson completed a preliminary environmental review including impacts to wetlands, streams/rivers, threatened and endangered species, and cultural/historical resources. Prior went over regulatory requirements. The yield in the main body of the report is water released from the reservoir during periods of shortage, but does not reflect conveyance losses or score discounts associated with the return to the Platte River downstream of Overton. [Note from ED Office after meeting: some of the appendices contain additional information related to yield at Grand

Island]. Project cost was based on 50-yr life cycle cost, and includes costs for construction, design and permitting, land acquisition, operation and maintenance, pumping, and equipment replacement.

Sellers noted that the shoulder season in the overview memo from the ED Office and the shoulder season in the Applegate NPPD Winter Operations Report are different. The ED Office may have provided Olsson with initial assumptions for the Elm Creek Reservoir which were subsequently revised in the Applegate Report. However, Prior indicated that water is being taken through the canal or pumped whenever excesses are available. The Applegate NPPD Winter Operations report results were not available until the end of Olsson's analysis but Olsson could look at the relationship closer if requested.

Olsson discussed the best alternative is using the Dawson County Canal and Dawson County Canal wells to supply water to a 19,850 acre-foot or 12,000 acre-foot reservoir. The life-cycle cost per acre-foot is the same for each storage volume in the best alternative so the total reservoir cost is dependent on the size. It was determined in the analysis that the best use of the reservoir is for target flow releases as the cost to improve Elm Creek is cost-prohibitive above a 1,400 cfs release capacity, which does not allow for an SDHF release goal of 2,000 cfs. Olsson concluded this reservoir is a feasible project to reduce shortages to target flows with no fatal flaws.

There were some suggestions made by WAC members that a more detailed, transient ground water model is needed to model the impacts and associated costs to other local users as well as impacts to the river (this was not in the initial scope of work for this phase of the project). Altenhofen and other members expressed concerns about the impact on ground water. Altenhofen mentioned the projected cost of the reservoir project and noted that it will be difficult for PRRIP to pay for two reservoir projects with the Water Plan budget. The costs are not clear in the Olsson report. If the reservoir costs $70 million and requires miles of canal ~~impacts~~improvements, that may be a fatal flaw. Rabbe suggested the WAC keep in mind that the Elm Creek Reservoir is below the FSM location and will not be effective for SDHF. The reservoir will be used for reductions to target flow shortages and supplemental SDHF releases only. The score will also need to be discounted since releases from the reservoir do not impact the entire habitat. It was noted that the J2 Reregulating Reservoir can provide the necessary release for an SDHF and is located above Overton.

There was a discussion among the WAC members as to how the wells along the Dawson County Canal will be permitted. Hallum suggested they may be considered new depletions and offsets would be required. Olsson completed an initial water balance to estimate a net accretion/depletion to the river of zero, and suggested there would be no impact to the river from well pumping. The WAC still had questions on whether pumping seepage water is appropriate and how to ensure there are no depletions.

Mike George commented that reservoir projects retime flows and merely flatten out the hydrograph, which may create other impacts in the future. Both reservoir projects are used to

retime excess flows and the availability of excess flows has been modeled separately for each project. George said the USFWS would like to see other projects such as conservation that are not retiming projects. George indicated that the USFWS supports the J2 Reregulating Reservoir project, but is not excited about the Elm Creek Regulating project. Courtney commented that Elm Creek could provide supplemental storage when the EA in Lake McConaughy is full and would provide storage close to the habitat area.

Courtney suggested this WAP project can be discussed at the GC level at the June meeting. Bishop suggested CPNRD may want to put this on the back burner if PRRIP doesn't want to make an action item at this time. Courtney will talk with Kenny to add this to the June GC meeting or a separate workshop to discuss the Reregulating Reservoir projects. The WAC has some questions on technical issues such as ground water impacts but Courtney suggested the GC may be able to address the policy questions such as whether two large reservoir projects retiming excess flows should be further considered at this time. Moving ahead or dismissal of a project must be done at the GC level. **The ED Office will document the WAC discussion on the J2 Reregulating Reservoir and Elm Creek Reservoir and provide this to the GC at the June meeting.**

Depletions Plan Section of PRRIP Website*: Sira Sartori, EDO*
Sartori discussed two new sections on the WAC website – the WAC Archive and Depletions Plans Section. The WAC Archive is an archive of final documents such as feasibility studies, final WAC meeting minutes and documentation on SDHF, etc. The Depletions Plans section has all the documents provided by each signatory. There is an inventory with a summary of the depletions plans files listed on the website. If you have any questions/comments, feel free to contact the ED Office.

Some WAC members suggested adding meeting information from the EAC/RCC meetings on the website, adding contractor documents in word files so the WAC can edit more easily than the current pdf format, and uploading individual project sections for Water Action Plan projects separately. **The ED Office will work on these website updates.**

Federal Depletions Plan Update*: Matt Rabbe, USFWS*
Rabbe discussed the Tier II Biological Opinions and forecasted depletions in the 2010 annual report. Rabbe described the Colorado MOA and SPWRAP. There have not been any federal depletion projects in Nebraska or Wyoming to-date.

Wyoming Depletions Plan Update*: Matt Hoobler, WY SEO*
Hoobler went over the annual report including information on the baselines for irrigated acreage, water related activities (WY received 100% reporting from major municipalities and industrial users) and South Platte Basin water uses. Hoobler noted that a water user is exceeding their baseline depletion amount and Wyoming requested the water user to develop a plan to reduce their depletions to the 1997 baseline if required. Wyoming as a whole is below their 1997 baseline. Wyoming has also provided guidance documents to hydraulically connected

municipalities describing the baseline depletion amounts to help inform them their supplies are not unlimited (specifically for selling water to oil shale developments). The Wyoming SEO and WWDO are developing a new consumptive use/depletions calculator for pre and post conditions for new uses using GIS (known as the Wyoming Depletion Calculator). This is still in the test phase.

There were some clarifications on terminology in the Wyoming plan. Sellers asked about the meaning of "intentionally irrigated area" and Hoobler responded this does not include sub-irrigation (terminology is based on the Modified North Platte Decree). Sellers also asked why the cumulative effect in the South Platte is zero and Hoobler responded that Crow Creek is the main tributary and often dried up and does not reach the South Platte, therefore, there is no effect.

Colorado Depletions Plan Update: *Jon Altenhofen, Northern Colorado WCD*
Altenhofen passed out the Colorado Plan for Future Depletions Annual Review 2010 document and discussed this document as well as the Annual Report from Sellers. Altenhofen described the changes over time in the State Demographers report for population growth estimates. The population growth is anticipated at 2% per year from the 2010 census. The future depletions and augmentation on the South Platte are based on population growth and the irrigated acreage cap from 1997. Colorado is not close to the 1997 acreage baseline because some wells without augmentation have been turned off since the 2002 drought. Altenhofen also described the costs of SPWRAP and Tamarack to be approximately $45 per acre-foot.

North Sterling/Prewitt Reservoirs sometimes dry up the South Platte River during reservoir fills; however, the river is gaining below those points so often times there is free river in the lower river. Recharge can divert in the lower river despite upstream calls, as long as the compact call and other senior calls are off. It is anticipated the reservoirs on the Plains will be full and there are high snowpack percentages for the South Platte this year. Altenhofen thinks a lot of water will be passed down the river to Nebraska.

Additional Business: *Cory Steinke, WAC Chair*
The next WAC meeting was scheduled for July 19, 2011, from 8:30 am – 2 pm (Mountain Time) at the Lake McConaughy Visitors Center.

There was no additional business.

Action Items
General WAC

- The ED Office suggested WAC members talk to their respective GC representatives regarding support for the J2 Reregulating Reservoir project and land acquisitions.

ED Office

- The ED Office will prepare a document to provide to the GC in June regarding the Elm Creek Regulating Reservoir discussions during this WAC meeting.
- The ED Office will also present information regarding the schedule to acquire land for the J2 Reregulating Reservoir to the GC at the June meeting.
- The ED Office will work on future updates to the website including posting EAC/RCC meeting information, providing word documents from consultants and uploading the Water Action Plan sections separately.