



1 PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM
2 Water Advisory Committee Meeting Minutes
3 Nebraska Game and Parks Commission – Lake McConaughy Visitor’s Center, NE
4

5 April 26, 2011
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7 Attendance (call-in)

- 8 Cory Steinke – WAC Chair, CNPPID
9 Beorn Courtney – ED Office/Headwaters Corp
10 Steve Smith – ED Office/Headwaters Corp
11 Sira Sartori – ED Office/Headwaters Corp
12 Doug Hallum – NDNR
13 Jon Altenhofen – Northern Colorado WCD
14 Mike Drain – CNPPID
15 Rich Holloway – Tri-Bain NRD
16 Brock Merrill – Bureau of Reclamation
17 Matt Rabbe – U.S. Fish and Wildlife Service
18 Mike George – U.S. Fish and Wildlife Service
19 Mahonri Williams – Bureau of Reclamation
20 Suzanne Sellers – Colorado Water Conservation Board
21 Duane Woodward – CPRND
22 Matt Hoobler – Wyoming SEO
23 Mike Besson – Wyoming Water Development Office
24 Jeff Shaffer – NPPD
25 Bill Taddicken – Audubon – Rowe Sanctuary
26 Ron Bishop – CPNRD
27 Duane Hovorka – Nebraska Wildlife Federation
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29 Other Attendees

- 30 Deb Ohlinger – Olsson Associates
31 Eric Dove – Olsson Associates
32 Kevin Prior – Olsson Associates
33 Matt McConville – HDR
34 Mike Applegate, Applegate Group, Inc.
35 Tim Golka – Olsson Associates
36 Clint Carney – Olsson Associates
37 Jeremy Wesely - NWS Hastings (call-in)
38 Jennifer Schellpeper – NDNR (call-in)
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40 Welcome and Administrative: *Cory Steinke, WAC Chair*

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



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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 hydrocycling 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 hydrocycling mitigation



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

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93 Ohlinger presented a synopsis of the J2 Reregulating Reservoir project status and presented
94 information on the best alternative from Olsson's Investigation of Reservoir Combined
95 Operations Report dated March 2011. In the report, Olsson concluded the reservoir can be used
96 for both hydrocyling mitigation and PRRIP purposes with little impact to the PRRIP yield. The
97 purpose of the March 2011 Report was to provide additional information from the September
98 2010 version.

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

112

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

120

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



130 hold more water for PRRIP purposes during the irrigation season. There will not be pumps in
131 Area 2 in this scenario as it will function as a regulating reservoir with minimal storage
132 fluctuations during the irrigation season.
133

134 Taddicken asked if the sediment load would be an issue; Steinke said there is little excess
135 sediment in the system. Besson noted that the property acquisition is the biggest hurdle.
136 Altenhofen suggested Sackett and Kenny from the ED Office should come to a Governance
137 Committee (GC) to request faster action on land acquisitions. Besson suggested CNPPID should
138 attend the GC meeting to show their support for the project as well. **The ED Office will discuss
139 land acquisitions with the GC at the June meeting. Courtney suggested WAC members
140 inform their GC representatives about the J2 Reregulating Reservoir project and the
141 importance of approving land acquisitions in a timely manner.**
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143 **Elm Creek Reservoir Feasibility Study:** *Beorn Courtney, EDO, Ron Bishop, CPNRD, Kevin*
144 *Prior, Olsson Associates and Clint Carney, Olsson Associates*

145 Courtney discussed the overview memo from the ED Office on the Elm Creek Feasibility Study.
146 Olsson looked at 33 scenarios and narrowed them down to a couple of best alternatives based on
147 yield and life-cycle cost. Elm Creek has come to the end of the feasibility study as scoped but
148 there may be additional questions that need to be answered before a decision to move forward
149 can be made. The GC has not had a presentation on Olsson's findings yet.
150

151 Bishop gave a brief overview on the project and Olsson gave an update on the project status,
152 study goals and analysis findings in the January 2011 Feasibility Study. The report is framed as
153 a single use program for PRRIP purposes. Prior discussed the dam structure, storage scenarios,
154 capital costs, Elm Creek outlet improvements, and dam/reservoir impacts to land
155 uses/roads/ground water, etc. Carney discussed the ground water mound simulations and the
156 steady state analysis of the Elm Creek dewatering wells. The cost of dewatering is included in
157 the dam costs because it is necessary to mitigate impacts. Olsson looked at multiple water
158 supply options for the Dawson County Canal, ground water wells along the Dawson County
159 Canal, Platte River Pump Station, and Kearney Canal Diversion/Pump Station at different rates.
160

161 Prior went over the structures and canal improvements and ground water pumping analysis.
162 Carney talked about the different well scenarios (pumping in non-irrigation season) and the
163 impacts as shown in several maps with the contours of water table decline. Besson asked about
164 whether Olsson evaluated the drawdown and associated costs for local irrigation wells, etc.
165 Olsson has not evaluated the impact to other wells users specifically.
166

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



173 Island]. Project cost was based on 50-yr life cycle cost, and includes costs for construction,
174 design and permitting, land acquisition, operation and maintenance, pumping, and equipment
175 replacement.
176

177 Sellers noted that the shoulder season in the overview memo from the ED Office and the
178 shoulder season in the Applegate NPPD Winter Operations Report are different. The ED Office
179 may have provided Olsson with initial assumptions for the Elm Creek Reservoir which were
180 subsequently revised in the Applegate Report. However, Prior indicated that water is being
181 taken through the canal or pumped whenever excesses are available. The Applegate NPPD
182 Winter Operations report results were not available until the end of Olsson's analysis but Olsson
183 could look at the relationship closer if requested.
184

185 Olsson discussed the best alternative is using the Dawson County Canal and Dawson County
186 Canal wells to supply water to a 19,850 acre-foot or 12,000 acre-foot reservoir. The life-cycle
187 cost per acre-foot is the same for each storage volume in the best alternative so the total reservoir
188 cost is dependent on the size. It was determined in the analysis that the best use of the reservoir
189 is for target flow releases as the cost to improve Elm Creek is cost-prohibitive above a 1,400 cfs
190 release capacity, which does not allow for an SDHF release goal of 2,000 cfs. Olsson concluded
191 this reservoir is a feasible project to reduce shortages to target flows with no fatal flaws.
192

193 There were some suggestions made by WAC members that a more detailed, transient ground
194 water model is needed to model the impacts and associated costs to other local users as well as
195 impacts to the river (this was not in the initial scope of work for this phase of the project).
196 Altenhofen and other members expressed concerns about the impact on ground water.
197 Altenhofen mentioned the projected cost of the reservoir project and noted that it will be difficult
198 for PRRIP to pay for two reservoir projects with the Water Plan budget. The costs are not clear
199 in the Olsson report. If the reservoir costs \$70 million and requires miles of canal improvements,
200 that may be a fatal flaw. Rabbe suggested the WAC keep in mind that the Elm Creek Reservoir
201 is below the FSM location and will not be effective for SDHF. The reservoir will be used for
202 reductions to target flow shortages and supplemental SDHF releases only. The score will also
203 need to be discounted since releases from the reservoir do not impact the entire habitat. It was
204 noted that the J2 Reregulating Reservoir can provide the necessary release for an SDHF and is
205 located above Overton.
206

207 There was a discussion among the WAC members as to how the wells along the Dawson County
208 Canal will be permitted. Hallum suggested they may be considered new depletions and offsets
209 would be required. Olsson completed an initial water balance to estimate a net
210 accretion/depletion to the river of zero, and suggested there would be no impact to the river from
211 well pumping. The WAC still had questions on whether pumping seepage water is appropriate
212 and how to ensure there are no depletions.
213

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



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

222
223 Courtney suggested this WAP project can be discussed at the GC level at the June meeting.
224 Bishop suggested CPNRD may want to put this on the back burner if PRRIP doesn't want to
225 make an action item at this time. Courtney will talk with Kenny to add this to the June GC
226 meeting or a separate workshop to discuss the Reregulating Reservoir projects. The WAC has
227 some questions on technical issues such as ground water impacts but Courtney suggested the GC
228 may be able to address the policy questions such as whether two large reservoir projects retiming
229 excess flows should be further considered at this time. Moving ahead or dismissal of a project
230 must be done at the GC level. **The ED Office will document the WAC discussion on the J2**
231 **Reregulating Reservoir and Elm Creek Reservoir and provide this to the GC at the June**
232 **meeting.**

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234 **Depletions Plan Section of PRRIP Website:** *Sira Sartori, EDO*

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

241
242 Some WAC members suggested adding meeting information from the EAC/RCC meetings on
243 the website, adding contractor documents in word files so the WAC can edit more easily than the
244 current pdf format, and uploading individual project sections for Water Action Plan projects
245 separately. **The ED Office will work on these website updates.**

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247 **Federal Depletions Plan Update:** *Matt Rabbe, USFWS*

248 Rabbe discussed the Tier II Biological Opinions and forecasted depletions in the 2010 annual
249 report. Rabbe described the Colorado MOA and SPWRAP. There have not been any federal
250 depletion projects in Nebraska or Wyoming to-date.

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252 **Wyoming Depletions Plan Update:** *Matt Hoobler, WY SEO*

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



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

264

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

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272 **Colorado Depletions Plan Update:** *Jon Altenhofen, Northern Colorado WCD*

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

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

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290 **Additional Business:** *Cory Steinke, WAC Chair*

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

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294 There was no additional business.

295

296 **Action Items**

297 **General WAC**

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

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301



302 ED Office

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