



PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM
Water Advisory Committee Meeting Minutes
Lake McConaughy Visitors Center – Ogallala, NE
August 14, 2012

Meeting Attendees

Water Advisory Committee (WAC)

State of Wyoming

Mike Besson - Member

State of Colorado

Suzanne Sellers - Member

State of Nebraska

Pat Goltl – Alternate

U.S. Fish and Wildlife Service (USFWS)

Tom Econopouly – Member

Bureau of Reclamation (BOR)

Brock Merrill – Alternate

Downstream Water Users

Cory Steinke – Member (WAC Chair)

Duane Woodward – Member

Jeff Shafer – Member

Mike Drain – Alternate

Tyler Thulin

Nolan Little

Landon Shaw

Upstream Water Users

Dennis Strauch – Member

Colorado Water Users

Jon Altenhofen – Member

Environmental Groups

Duane Hovorka – Member

Larry Hutchinson – Alternate

Executive Director’s Office (ED Office)

Jerry Kenny, Executive Director (ED)

Beorn Courtney

Steve Smith

Matthew Welsh

Bruce Sackett

Scott Griebing

Contractors

Bill Hahn – Hahn Water Resources

John Henz – Dewberry

National Weather Service

Jessica Brooks



48 **Welcome and Administrative:** *Cory Steinke, WAC Chair*
49 Introductions were made. There were no agenda modifications. **The May 2012 WAC Minutes**
50 **were approved with the modifications in the current version.**

51
52 **Water Action Plan (WAP) Project Updates:** *Beorn Courtney, ED Office; Duane Hovorka,*
53 *Nebraska Wildlife Federation; Duane Woodward, Central Platte Natural Resource District; Jon*
54 *Altenhofen, Northern Colorado Water Conservancy District*

55
56 **General and J2 Regulating Reservoir:** *Beorn Courtney, ED Office*

57 Courtney gave an overview of the WAP projects and explained that the projects were
58 separated into three tiers based on likelihood of implementation, cost, and other factors. The
59 Program is focusing on the top two tiers. Courtney explained that the project implementation is
60 not a static process and evolves based on feasibility study results, budgeting, and permitting
61 issues. The J2 Regulating Reservoir, for example, will need a large amount of money in the next
62 few years for land and construction, likely requiring funding for other projects to be postponed in
63 order to balance the budget. While the WAP projects have not provided large amounts of wet
64 water in the river to date, substantial progress is being made and the Program is still on track to
65 meet or exceed the 50,000 acre feet 1st Increment milestone.

66
67 Courtney updated the committee on the progress of the J2 Regulating Reservoir,
68 indicating that the GC representatives have been making progress with the Agreement between
69 CNPPID, the Program, and Nebraska DNR. Kenny indicated that Besson will take Purcell's
70 previous position as chair of the J2 Agreement Committee. Courtney went on to say that the
71 contract for the engineering review of the feasibility study by RJH is underway and a site visit
72 and kickoff meeting was held last week. RJH's review should largely be completed by the end of
73 the year and their conclusions will provide the needed information to move forward with the J2
74 Regulating Reservoir project. Altenhofen asked how much the review will cost and what the
75 status of the permitting is. Kenny replied the cost will be \$250,000 and Drain indicated that
76 CNPPID is moving forward on permitting to allow modifications to their system operations.

77
78 **NCCW:** *Duane Hovorka, Nebraska Wildlife Federation*

79 Hovorka explained that however the numbers are evaluated, NCCW is expensive water.
80 He is investigating if there is any way to provide at least a portion of the NCCW to the Program
81 at an affordable price. Drain agreed and indicated they are meeting with the EDO Special
82 Advisor, George Oamek, to evaluate the economics.

83
84 **Tamarack:** *Jon Altenhofen, NCWD*

85 Altenhofen was happy to report that the water right for the Tamarack projects was finally
86 decreed without going to trial. The project had been operating under a temporary substitute
87 waters supply plan since 1995. The project will now start to develop an additional seven ground
88 water recharge wells along the South Platte. Courtney asked about the likelihood of the
89 Tamarack III project providing water to the Program as projected in the WAP. Altenhofen
90 explained the availability of Tamarack III water for Program use will depend on future



91 hydrology and the Program’s decision on the best strategy for using excess flows. It may be
92 better to store excesses closer to Grand Island in the J2 Regulating Reservoir. The available
93 excesses being used for Tamarack I have yielded less than 10,000 acre feet over the past several
94 years (however, with historic hydrology, Tamarack 1 capacity yields 10,000 ac-ft), and the
95 Tamarack III project may not be able to provide as much water as was estimated in the Water
96 Action Plan.

97
98 **Nebraska Water Leasing:** *Duane Woodward, CPNRD and Beorn Courtney, ED Office*
99 Woodward provided an overview of CPNRD’s projects involving the Thirty Mile,
100 Orchard-Alfalfa, and Cozad canals. CPNRD has offered to lease water to the Program that is
101 derived from the recharge of excess flows and the conversion from surface water to ground water
102 irrigation along these canals.

103
104 In 2011 CPNRD filed for intentional ground water recharge water rights for 100 cfs on
105 the Cozad and Thirty Mile canals and 75 cfs on the Orchard-Alfalfa canal, which will utilize
106 excesses to target flows. CPNRD is in the process of rehabilitating the three canals by clearing
107 trees and replacing structures.

108
109 Woodward provided summaries of the analyses that have been completed for the Cozad
110 Canal, which is further along in the process than the Thirty Mile and Orchard-Alfalfa Canals.
111 CPNRD has a lease agreement that extends through 2042 for 117.22 cfs, or 50%, of the 234.25
112 cfs of the 1894 water right for the Cozad Canal. Producers who previously used surface water
113 deliveries will convert to ground water supplies and CPNRD will transfer the natural flow
114 portions of the historical water deliveries to wildlife flow enhancement rights. Woodward noted
115 that the project has allowed CPNRD to extend benefits to canal employees.

116
117 Woodward explained that CPNRD is still assessing the availability of excess flow for
118 ground water recharge. The 2011 applications were based on OpStudy hydrology; however,
119 CPNRD plans to conduct future analyses using the natural flow availability tool being developed
120 for NDNR by HDR. Woodward indicated that NDNR issues water rights based on historical
121 hydrology through present, and the OpStudy hydrology dataset terminates in 1994. The diversion
122 rates in the permit applications represent the gross diversion at the river, not what actually seeps
123 into the ground, so a more realistic understanding of how much each diversion will recharge is
124 needed. CPNRD expects water will be available for lease by the Program and Twin Platte NRD;
125 agreements with both entities are still being developed.

126
127 Courtney presented an update on the potential leasing projects being pursued with
128 CPNRD, TPNRD, NPPD, and CNPPID. CPNRD is furthest along with the required analyses and
129 permitting, which is why it was requested that Woodward provide the presentation at today’s
130 meeting. The EDO has conducted some preliminary analyses of the CPNRD leasing project
131 based on currently available information from CPNRD. The CPNRD lease is being drafted to
132 yield up to a maximum of 20,500 acre feet of water at the river. This estimate by CPNRD has
133 already been adjusted to account for offsets of expanded ground water pumping after the



134 termination of surface water deliveries. Approximately 50% to 75% of the yield would come
135 from surface to ground water conversions, while 25% to 50% would come from recharge of
136 excess flows. The Program will always be offered at least 50% of natural flow available for
137 lease although that amount could be zero in any given year; the proportion of accretions from
138 ground water recharge available for lease by the Program may be more variable. Kenny indicated
139 that the Program has agreed to lease whatever water is offered.

140

141 Preliminary scoring estimated by the EDO for the CPNRD recharge indicates that an
142 annual amount of about 5,800 acre-feet from surface water to ground water conversion and about
143 4,900 acre feet from ground water recharge may be available at Grand Island at times of
144 shortage. Average excesses and estimated recharge efficiencies were used in this scoring
145 estimate by the EDO and the EDO will work to refine the scoring methodologies. The WAC has
146 not reviewed these scoring estimates.

147

148 The Program is in preliminary discussions with TPNRD and there is potential to use the
149 infrastructure associated with this lease to provide capacity for Short Duration High Flows. The
150 net yield is yet to be determined. The Program continues to discuss leasing opportunities with
151 NPPD and CNPPID.

152

153 **Phelps Canal Ground Water Recharge & Monitoring:** *Matt Welsh, ED Office and Bill Hahn,*
154 *EDO Special Advisor*

155 Welsh gave an update on the status of last year's pilot project and summarized the
156 recharge plans for the upcoming non-irrigation season. With the exception of additional drain
157 flow measurements, the key recommendations in the EA Engineering report are being
158 implemented. As recommended by the WAC at the May 2012 meeting, recharge operations will
159 be extended to mile 13.3. Hahn has recalibrated the ground water model, which primarily
160 entailed the modification of a few drain parameters. While EA Engineering recommended that
161 10 additional drain flow measurements be collected, the EDO proposes that the additional flow
162 measurements be eliminated because the additional points are unlikely to improve the existing
163 stage-discharge relationships and additional recalibration of the model is not planned at this time.

164

165 CNPPID has applied for a temporary permit from NDNR to recharge excess flows, and
166 an additional application will be filed to recharge Environmental Account water if directed to do
167 so by the USFWS. USFWS has written a letter of support to NDNR. The one-year operating
168 Agreement with CNPPID was approved by the Finance Committee earlier this month.

169

170 Welsh outlined the proposed monitoring plan for the recharge operations during the
171 upcoming 2012-2013 non-irrigation season. Three primary data categories will be monitored: the
172 flume at mile 1.6, monitoring wells, and drains. CNPPID has implemented procedures to reduce
173 the uncertainty of flow measurements through the flume at mile 1.6 of the Phelps Canal; no new
174 instrumentation is proposed for the upcoming season. Besson indicated that Wyoming may have
175 a pressure transducer available to be installed in the flume. The network of monitoring wells
176 where continuous data are downloaded monthly will be expanded. In addition to the six existing



177 Program monitoring wells, data will also be obtained for nine Tri-Basin NRD wells. Eight wells
178 that are currently intermittently monitored by CNPPID will be equipped with new pressure
179 transducers. The wells are located in areas that are expected to be affected by recharge
180 operations. The total estimated cost for the pressure transducers and needed improvements is
181 approximately \$16,000, and CNPPID has agreed to split the costs with the Program and install
182 the new equipment.

183
184 Welsh reviewed plots of river flows at Grand Island and water levels from the Overton
185 and Elm Creek transect wells. The data indicate that current hydrologic conditions are more
186 favorable for recharge than during the pilot project, with respect to the potential for high ground
187 water problems (ground water levels are generally lower this year as compared to last year).
188 Hahn presented figures comparing observed and modeled water levels in the Program's
189 monitoring wells. Water levels on the terrace are below what is predicted using the model. The
190 model does not specifically incorporate pumping data, and the lower water levels relative to the
191 predictions are believed to be a result of above average ground water pumping in response to the
192 drought conditions. Water levels in the floodplain more closely match the predicted levels; Drain
193 noted that it is more important to have agreement in the floodplain where drains intercept and
194 convey return flows.

195
196 Steinke suggested that the data collection effort be coordinated between CNPPID,
197 TBNRD, and the EDO. **The EDO will discuss coordinated field data collection efforts with**
198 **CNPPID and TBNRD.**

199
200 Courtney indicated the ground water recharge project is still undergoing final scoring and
201 is moving toward implementation. Hovorka asked if the Program is guaranteed any water under
202 its temporary permit, and expressed concern over multiple projects competing for excess flows.
203 Goltl explained that all water rights will be administered according to priority date; the
204 permanent application needs to be filed to secure a priority date. Drain clarified that ground
205 water recharge in the Phelps Canal would be a new use for the J2 Return, which means a
206 separate permit is required. If there is limited water available in the system, CPNRD would have
207 the more senior right to divert excess flows for recharge, assuming rights are granted for their
208 2011 applications.

209
210 **OCSW Projects Depletions:** *Pat Goltl, NDNR and Matt Welsh, ED Office*

211 Welsh provided an overview of the off channel sand and water (OCSW) projects being
212 implemented by the Program as part of the Land and Adaptive Management Plans. These
213 projects are counted towards the target of 800 acres of non-complex land. They involve sand
214 islands surrounded by water, which is intended to provide a predator barrier for tern and plover
215 nesting habitat. According to the calculator that NDNR uses for these types of analyses, the
216 OCSW projects generally increase consumptive use (CU) in spring and fall and decrease CU in
217 the peak growing season because historical vegetation is replaced with sand. NDNR has
218 indicated that the Program must offset any increase in CU associated with the OCSW projects.

219



220 Goltl provided an overview of how NDNR evaluates these types of projects as part of the
221 Nebraska Depletion Plan. No offsets are required if projects are located outside of the “28/40”
222 line (28% stream depletion in 40 years). NDNR calculates the volume of offset water required by
223 summing all months with a net increase in CU and then assessing a one-time fee of \$2,850 per
224 acre foot, which is then deposited into PBHEP. No credit is given for months with a reduction in
225 CU. Goltl said the Program can choose to use this established method for calculating depletion
226 offsets or develop a separate method. The EDO has identified several sources of offset water
227 including retiring wells or other water from Program lands, counting ground water recharge
228 accretions, storing CU reductions during months with lower CU and releasing during months
229 with increased CU, or leasing water from another entity: however, using retired wells or other
230 water from Program lands is the preferred replacement option. Besson asked if the replacement
231 was for the consumptive use or actual depletions, noting the consumptive use may not equal the
232 stream depletion for some time. Courtney answered that the NDNR method requires
233 consumptive use offsets, but they are open to other proposals and it would be good to have
234 discussion with NDNR about issues such as this. Goltl explained that this method has
235 historically been applied to borrow pits alongside the river and consumptive use was an
236 appropriate measure due to the close proximity to the river. Goltl also explained that the NDNR
237 has not distinguished between gravel pits and Program uses, and is treating all off channel pits
238 equally. **The ED Office will continue to discuss offset plans with NDNR and will report back
239 to the WAC at a later date.**

240

241 **Choke Point Update:** *Steve Smith, ED Office*

242 Smith gave an overview of the status of the North Platte choke point. Current shifted
243 capacity at minor flood stage for the Platte River at Kearney Gage is 7,770 cfs (compared to
244 rating curve capacity of 7,090 cfs). Current shifted capacity at minor flood stage for the North
245 Platte River at North Platte Gage is 1,540 cfs (compared to rating curve capacity of 1,560 cfs).
246 The flood stage rating curve for Kearney and North Platte is not likely to change anytime soon,
247 based on the fact that there are minimal shifts from the rating curves at the two gages.

248

249 Proposals for the engineering, surveying, and permitting of North Platte flood proofing
250 projects were reviewed by the choke point workgroup, and EA was selected to complete the
251 work. EA’s budget of about \$64k is within the \$75k amount anticipated by the choke point
252 workgroup. The workgroup has discussed the potential for TPNRD sponsorship of flood-
253 proofing projects. The ED Office will request TPNRD board approval for project sponsorship at
254 the October 2012 TPNRD board meeting. EA’s schedule to complete design and permitting of
255 flood-proofing projects indicates completion by April 15th. However, that date assumes
256 Nationwide 404 permits will be obtained for flood-proofing projects. The actual date of
257 completion will be later if individual permits are required by the Corps of Engineers.

258

259 The choke point workgroup has met twice since the May 2012 WAC meeting and has
260 narrowed down proposed alternatives to increase the channel capacity at flood stage for the
261 North Platte gage to 3,000 cfs. Alternatives fall under three general categories: removing
262 affected properties, routing water around the choke point, and/or modifying the North Platte



263 channel. A combination of buyouts and easements were identified for the property removal
264 alternative. Buyouts and easements will require willing seller cooperation, and the ED Office
265 will be meeting with affected landowners in the next month to ask whether there is any interest
266 in being relocated.

267
268 For the routing water around the choke point category, three alternatives were
269 considered: a pipeline from the North Platte River to the South Platte River, use of existing
270 canals that divert from the North Platte River and return or waste back to the South Platte River,
271 and use of NPPD's system to move water around the choke point. A pipeline was investigated,
272 but capacity would be limited to about 20-25 cfs based on limited diversion rates of headgate
273 wells. Low capacity and high cost led the workgroup to discontinue consideration of a pipeline
274 to route water around the choke point. Three existing canals might be used to provide up to 300
275 cfs if improvements to the canals were made. This alternative was appealing as "low hanging
276 fruit" that could provide some excess capacity without requiring significant resources. Using the
277 NPPD system is another option to move water around the choke point. NPPD and the ED Office
278 met to discuss viable options for using NPPD's system, and the most feasible option would
279 involve constructing a new "Sutherland East Reservoir" and a new return to move water to the
280 South Platte River directly or via the Freemont Slough. The initial cost estimate for this option is
281 \$50-60 million. Steinke suggested investigating installing a bypass from NPPD's Paxton Siphon
282 that could return water to the South Platte near Paxton. This would include power bypass costs,
283 but still may be a cost efficient alternative to constructing a new Sutherland East Reservoir.
284 **Smith will look into this suggestion and discuss with NPPD.**

285
286 Potential modifications to the North Platte channel include adding jetties, bendway weirs,
287 Iowa vanes, or levees to train the flow and sediment transport capacity; or dredging the channel.
288 Based on modeling and discussions with several experts on hydraulic control structures, jetties,
289 bendway weirs, and Iowa vanes are not likely to solve the capacity problem and are not a
290 feasible application for the North Platte River. Levees would increase the North Platte River
291 water surface resulting in an increase in ground water levels that already aggravate the existing
292 flooding issues. Dredging appears to be the only channel modification option that would provide
293 the 3,000 cfs channel capacity. Modeling indicates that dredging would provide approximately 5
294 years of 3,000 cfs hydraulic capacity, and would cost approximately \$2 million with additional
295 dredging in subsequent years costing approximately \$500,000.

296
297 Smith outlined the recommended next steps, including meetings with landowners to
298 discuss buyouts and easements, continuing with flood proofing projects, pursuing North Platte
299 canal routing options, and developing a dredging plan and permitting process. **The ED Office**
300 **also will communicate the workgroup's recommended next steps to the TAC and GC.**

301
302 Additional monitoring is needed to identify where flood waters are coming from, and
303 how much of the flooding is caused by surface water vs. ground water. The ED Office will send
304 a document to the workgroup to explain monitoring locations and rationale, and to provide a



305 detailed scope of work and budget to complete monitoring. The approximate budget for
306 monitoring will be \$10k per year plus initial setup costs for the first year.

307 Brooks commented that the National Weather Service does not have much leeway to
308 change the flood stage unless there is data to demonstrate the effectiveness of flood-proofing
309 projects. They would love to see the proposed flood-proofing work reduce the number of flood
310 warnings they currently issue. **Brooks asked to be included in future communications.**

311

312 **Hydroclimatic Indices:** *Jerry Kenny, ED and John Henz, Dewberry*

313 Kenny introduced Henz and the white paper he wrote for the Program. Kenny outlined
314 the potential partnership between the Program and the CWCB to have Henz develop a predictive
315 hydroclimate indices tool for the Platte River basin. It would involve a 50-50 financial split,
316 costing the Program \$25,000 from the “miscellaneous water resources studies” budget line item
317 (WP-9).

318

319 Henz presented the findings from the white paper. Hydroclimate indices can be used to
320 predict hydrologic conditions. A decision support system would be developed for the Program
321 that predicts the potential of wet or dry conditions in the North and South Platte basins; each
322 basin would require its own predictive relationship according to the preliminary research. It
323 would compile information in October to predict conditions for the following June and should
324 have an accuracy of more than 75%. Kenny explained that this tool would primarily be used to
325 help identify wet and dry periods to aid in managing the EA and other Program water.

326

327 Econopouly asked how would this tool be different from the NOAA tool he currently uses, and
328 Henz explained that this tool would give a percentage chance of exceedance or non-exceedance
329 rather than an above average or below average distinction as well as a degree of accuracy of the
330 chance of exceedance/non-exceedance. Econopouly asked how potential climate chance might
331 affect this tool and Henz indicated that this tool would remain accurate for the twenty years but
332 would most likely need to be recalibrated after that. Henz requested that his presentation be
333 posted to the Program website; **the ED Office will post the presentation.**

334

335 Kenny indicated that he plans to move forward with discussions with the CWCB unless
336 anyone was opposed. No one voiced opposition. **Kenny will update the WAC on future
337 progress.**

338

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

340 The draft 2012 meeting schedule was discussed. **The next WAC meeting is scheduled for
341 October 16, 2012, from 9:30 am – 3 pm (Mountain Time) at the Lake McConaughy Visitors
342 Center.** No changes were requested.

343

344 **Action Items**

345 ED Office

- 346 • Work with TBNRD and CNPPID to coordinate the monthly data collection for the
347 ground water recharge monitoring.



- 348 • Continue to address OCSW offsets with NDNR.
- 349 • Discuss potential for South Platte Siphon bypass with NPPD.
- 350 • Include Brooks in Choke Point communications.
- 351 • Post John Henz’s presentation on the WAC website.
- 352 • Update the WAC on the progress of discussions with the CWCB regarding the
- 353 hydroclimate indices tool.