



1                                   **PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM**  
2                                   **Water Advisory Committee Meeting Minutes**  
3                                   Nebraska Game and Parks Commission – Lake McConaughy Visitors Center  
4                                   May 3, 2016

7                                   **Meeting Attendees**

9                                   **Water Advisory Committee (WAC)**

10                                  **State of Colorado**

11                                  Suzanne Sellers – Member

13                                  **State of Wyoming**

14                                  Matt Hoobler

16                                  **State of Nebraska**

17                                  Jessie Winter – Member

19                                  **U.S. Fish and Wildlife Service**

20                                  Tom Econopouly – Member

21                                  Jeff Runge – Alternate

23                                  **U.S. Bureau of Reclamation**

24                                  Brock Merrill – Alternate

26                                  **Downstream Water Users**

27                                  Cory Steinke – Chair

28                                  Duane Woodward – Member

29                                  Jeff Shafer – Member

30                                  Landon Shaw – Member

31                                  Nolan Little

32                                  Tyler Thulin

34                                  **Colorado Water Users**

35                                  Jon Altenhofen – Member

36                                  Luke Shawcross

38                                  **Upper Platte Water Users**

39                                  Dennis Strauch – Member

41                                  **Environmental Groups**

42                                  Jacob Fritton – Member

43                                  Bill Taddicken – Member

44                                  Duane Hovorka – Member

9                                   **Executive Director’s Office (ED Office)**

Jerry Kenny, ED

Scott Griebeling

Sira Sartori

Kevin Werbylo

Justin Brei

Jason Farnsworth

19                                  **Contractors**

Mike Applegate (Special Advisor) – Applegate  
Group, Inc.

Dmitry Smirnov – Dewberry

Stuart Geiger – Dewberry

Rick Wilson – JEO

Jake Miriovsky – JEO

James Cannia – Aqua Geo Frameworks

Matt McConville – HDR



48  
49 **Welcome and Administrative:** *Cory Steinke, WAC Chair*  
50 Introductions were made. There were no agenda modifications. Some edits were reported on the  
51 February 2016 WAC meeting minutes. Motion to approve meeting minutes was made by Shafer,  
52 seconded by Woodward, unanimously approved.  
53

54 **WAP Projects and Other Brief Water Updates**

55 ***J-2 Regulating Reservoirs: Cory Steinke, CNPPID***  
56 Steinke said the CNPPID is in negotiations to amend the Three-Party Agreement to make the  
57 reservoir one cell. The CNPPID is looking at a slurry wall concept and the preliminary findings  
58 look positive.  
59

60 ***Phelps Groundwater Recharge and Recapture Project: Sira Sartori, ED Office***

61 Sartori gave an update on the Phelps recharge project – deliveries for recharge went through  
62 mid-April. The Cook tract recapture well was constructed and the electrical work and dissipation  
63 structure should be completed by the summer (the project will be operational at that time).  
64

65 ***No-Cost NCCW Score: Sira Sartori, ED Office***

66 The Governance Committee (GC) assigned a score to the No-Cost Net Controllable Conserved  
67 Water (NCCW) project at the March 2016 meeting. The accepted score is 260 acre-feet per year  
68 (AFY) at Grand Island.  
69

70 ***CPNRD Water Leasing: Duane Woodward, CPNRD and James Cannia, Aqua Geo***

71 ***Frameworks***

72 Woodward provided an updated on the surface water leasing project. The CPNRD is working on  
73 finalizing the surface water transfer permits with the NDNR for this year. The CPNRD diverted  
74 excess flows into their canals for recharge operations in March and April.  
75

76 Woodward reported the CPNRD and Twin Platte NRD have a grant through the Nebraska  
77 Environmental Trust for subsurface data collection in the Central Platte. Cannia from Aqua Geo  
78 Frameworks, the contractor completing the work, provided a brief presentation on the data  
79 collection process. Electromagnetics are used to measure the resistivity of materials, such as  
80 clays and gravels, to map the subsurface layers of material. The data is then calibrated using well  
81 logs from test holes in the area. The price of the work includes data analysis, groundwater  
82 modeling inputs, mapping inputs and a final report. The Program may also request extra data  
83 collection for the J-2 Reservoir area or potential recharge sites. This can help the Program  
84 determine if there are any thick clay layers for storage projects, or sand/gravel deposits that may  
85 support recharge facilities.  
86

87 ***NPPD Water Leasing: Jeff Shafer, NPPD***

88 Shafer reported the surface water transfers applications are still pending with the NDNR.  
89



90 Kenny talked about the NPPD’s recharge projects in the Dawson County and Gothenburg Canals  
91 using excess flows. The project is already permitted through the NDNR and the NPPD is  
92 offering an affordable price. The Program has leased some recharge water already and is looking  
93 at a 2016 water service agreement with the NPPD.  
94

95 ***CNPPID Water Leasing: Jerry Kenny, ED***

96 There are no new updates from the last meeting. The Program hopes to try water leasing with  
97 irrigators in the future and will talk with the CNPPID and GC about 2016 leases. Since it is a  
98 new concept, it may take irrigators a year or two to get comfortable with the project.  
99

100 ***CPNRD Groundwater Market: Jerry Kenny, ED***

101 Kenny noted the official term used is “exchange” instead of market. The CPNRD Groundwater  
102 Exchange is a blind exchange where sellers and buyers both put in offers for groundwater, and  
103 then a matching software is used to make transactions. The Program was a bidder and did a  
104 tiered bidding strategy to try to understand the demand curve for water. Unfortunately, the  
105 Program did not have any accepted bids. There were successful transactions within the exchange;  
106 however, they were farmer to farmer transactions. The Program asked the CPNRD to consider a  
107 post-exchange framework for negotiations to add more flexibility in the future. The Program  
108 likely did not offer high enough bids, due to the reduced yield for the Program based on the  
109 scoring process.  
110

111 ***Wet Meadows Update: Scott Griebing, ED Office***

112 Wet meadows monitoring will continue through the spring. Griebing said the atmometers are  
113 installed, bubbler staff gages will be installed (to accommodate high flows) and soil moisture  
114 monitoring continues.  
115

116 ***COHYST Update: Scott Griebing, ED Office***

117 COHYST is nearing completion – the GUI (graphical user interface) is almost complete for the  
118 integrated model run (surface water, groundwater and watershed models). The model will soon  
119 go from 1947 through 2010.  
120

121 **Broad-Scale Recharge and Slurry Wall Concept: Sira Sartori, Scott Griebing and Kevin  
122 Werbylo, ED Office and Jerry Kenny, ED**

123 Sartori gave an overview of the documentation on broad-scale recharge provided to the WAC  
124 and requested the WAC review and provide comments to the ED Office (white paper and status  
125 update memorandum). Econopouly said he would like the ED Office to add a section on the risks  
126 and uncertainties of the project (e.g., permitting and upstream competition for excesses).  
127

128 Werbylo gave updates on the feasibility testing at the Cottonwood Ranch site for potential broad-  
129 scale recharge operations. Infiltration test pits were constructed on the Cottonwood Ranch site at  
130 the end of February/early March this year. One is an excavated test pit and one is a bermed test  
131 pit. Testing will run from March through June or July. Preliminary results show average  
132 infiltration rates of 0.3 ft/day for the bermed pit and 0.1 ft/day for the excavated pit. The U.S.



133 Geological Survey (USGS) is scheduled to start a survey this week to evaluate the site's  
134 subsurface material using an OhmMapper. This data will be used to assess the potential of  
135 recharge pond construction and operations at the site.

136  
137 The ED Office is also developing a groundwater model of the Cottonwood Ranch site to assess  
138 the feasibility. Griebing briefly described the model construction, extent of area modeled and  
139 the anticipated schedule to complete modeling. Little noted there is some high groundwater in  
140 the area to be aware of.

141  
142 Runge asked the ED Office when the Technical Advisory Committee (TAC) and Land Advisory  
143 Committee (LAC) would have a chance to review the project. Kenny said that after feasibility  
144 testing is complete, the concept can be introduced to other committees.

145 Sartori introduced a new concept of constructing slurry walls around gravel pits to construct  
146 below-grade reservoirs. This would be another way to use excess flows and retine water, as the  
147 Cottonwood Ranch infiltration rates are lower than expected. The Program could either purchase  
148 existing pits with potential for slurry wall construction, or hire a company to mine out a new site.

149  
150 Kenny discussed how projects have evolved over time, since the J-2 Reservoir size and yield are  
151 less in the one-cell option, than in the original two-cell option. The ED Office evaluated broad-  
152 scale recharge to compensate for the reduction in yield from the J-2 Reservoir. Cottonwood  
153 Ranch emerged as a potential site for recharge operations, as the site is an appropriate distance  
154 from the river and the Program owns or manages the properties and can easily gather  
155 information. The Program is moving forward studying the feasibility of recharge beginning with  
156 infiltration tests, stratigraphy surveys and groundwater modeling. Since the groundwater is high  
157 and infiltration rates are low at Cottonwood Ranch, a broad-scale recharge project may not yield  
158 what was anticipated during the project conception. The concept of using existing gravel pits as  
159 storage facilities developed as an alternative way to capture and retine excess flows. A  
160 combination of small gravel pit reservoirs could be constructed along the Platte River. Excess  
161 flows would be retimed similar to the J-2 Regulating Reservoir.

162  
163 Altenhofen asked how the NDNR would deal with gravel pit seepage. Kenny responded that the  
164 Program would work closely with the NDNR on the dam safety requirements; however, the  
165 NDNR has determined that seepage into gravel pits is not a depletion, so there shouldn't be any  
166 issues with that aspect. Slurry walls key into bedrock, or at least a low-permeability layer, so  
167 seepage should be negligible. It creates a volume of below-grade storage that is isolated from  
168 the surrounding groundwater. Mike Applegate mentioned the Colorado State Engineer's Office  
169 has guidelines for lining criteria/allowable seepage into gravel pit lakes, as this has been a  
170 popular concept in Colorado.

171  
172 Hovorka asked if these storage basins could be used to store leased water rights that return to the  
173 river during times when the Program doesn't need water, during excesses. Kenny said yes, one of  
174 the benefits of gravel pit lakes is that they could be constructed at various locations. Plus, the  
175 Program doesn't need large areas of land at specific locations, like at the J-2 Reservoir site. Mike



176 Applegate was selected as a Special Advisor to the ED Office to help in the evaluation of gravel  
177 pit lakes and slurry walls in the Central Platte Basin.

178  
179 **Gravel Pit Slurry Walls for Storage:** *Mike Applegate (Special Advisor), Applegate Group, Inc.*

180 Applegate provided an overview presentation on the general concept of slurry wall construction  
181 and the concerns regarding seepage and groundwater impacts of these types of projects.

182 Applegate discussed the two methods to construct slurry wall trenches and the basic  
183 requirements to appropriately select sites, including evaluating the bedrock and subsurface  
184 materials. Data collected for the design includes geotechnical properties of the soil, survey data,  
185 estimates of on-site materials, groundwater table data, bedrock data and floodplain maps. He  
186 emphasized the importance of quality assurance/quality control during the design and  
187 construction phases of the projects. A contiguous layer of impermeable or low permeable  
188 materials to serve as the reservoir bottom for the slurry wall to key into is imperative in site  
189 selection. Applegate discussed some of the requirements for seepage rates used by the State  
190 Engineer's Office in Colorado. It is unknown whether slurry walls have been used in Nebraska;  
191 however, they are very common along the South Platte in Colorado.

192  
193 **Excess Flow Analysis:** *Scott Griebeling, ED Office*

194 The excess flow analysis was presented to the WAC by Griebeling. He presented various graphs  
195 of annual/monthly gage excesses, excess distribution characterized over various time periods and  
196 showed the annual/monthly trends of excesses. A comparison of OpStudy hydrology excesses  
197 (used in the score model) and actual gage data was presented. The key points from the analysis  
198 include:

- 199 • There is a wide variation in the distribution of excess flows; most years experience below  
200 average excesses, meaning high flows skew the average volume upwards.
- 201 • Most of the excesses come in short periods of time during high flow events.
- 202 • There are no clear trends in the distribution of excesses over the 1947 to 2015 analysis  
203 period.
- 204 • OpStudy does a reasonable job of estimating gage excesses.
- 205 • It may be best to capitalize on large flow events with storage and large diversion  
206 capacities.

207  
208 Hovorka stated that since the high flow events don't occur often, it places more emphasize on  
209 drying up land and using the consumptive use credit for yield. Based on the cost increases of  
210 retiming and storage, other projects may start looking better for the Program.

211  
212 **Nebraska Depletions Plan Update:** *Jessie Winter, NDNR*

213 Winter went over the permitted uses including groundwater transfer permits, new well permits,  
214 groundwater variance permits and surface water permits. She described the net impact at the  
215 river through 2019. Kenny requested the calculations of the permitting activities and the  
216 mitigation efforts. Winter said the NDNR is working on compiling the data. There was some  
217 discussion about how a smaller J-2 Reservoir size may impact the NDNR's mitigation of  
218 activities.



219

220 **Hydroclimatic Indices Update:** *Stuart Geiger and Dmitry Smirnov, Dewberry*

221 Overviews of the Phase I and Phase II Hydroclimatic Indices Reports were given by Geiger and  
222 Smirnov. Phase II focused on developing quantitative forecasts of streamflow in the North and  
223 South Platte Basins including streamflow estimates at Kersey, Julesburg and Lewellen.

224 Refinements in the Hydroclimatic Indices included the addition of modeling locations and an  
225 expansion of the condition designations to include more categories.

226

227 The forecasts for 2016 include:

- 228 • South Platte snowpack – average (19.0 inches SWE<sub>max</sub>)
- 229 • Kersey streamflow – high average (279,100 AF)
- 230 • Julesburg streamflow – high average (229,200 AF)
- 231 • Lewellen streamflow – high average (310,700 AF)

232

233 Dewberry is working on Phase III and anticipates completing a draft report in July or August.

234 The Phase III goals include exploring the driving mechanisms of the Palmer Drought Severity  
235 Index to confirm its relationship with the Platte hydrologic forecasts. Other aspects to be  
236 explored in Phase III include assessing the feasibility of earlier forecasts and developing a South  
237 Platte precipitation index forecast.

238

239 Runge said he would be interested in a workshop to integrate the hydroclimatic indices tools in  
240 the EA decision-making processes and suggested the fall EAC/RCC for the workshop. Steinke  
241 said the CNPPID and other districts would likely not depend on the forecast tool for operations,  
242 such as filling Lake McConaughy, but that it may be useful for the Program in determining how  
243 to manage EA releases. There was some discussion of whether the tools are easy to use. Smirnov  
244 stated all of the data is public and users have access to the methods and equations developed by  
245 Dewberry. Griebeling confirmed the analysis is straight-forward.

246

247 Kenny commented that it may take several years of evaluating the success rate of the  
248 hydroclimatic indices before groups begin to use the method. He noted that the group is much  
249 more interested in the potential of this tool than when the concept was initially introduced at the  
250 WAC. The tool provides a good lead time, with the potential for pushing initial forecasts in  
251 November of the previous year and Dewberry is working on improving quantitative forecasts.

252

253 **Choke Point Update:** *Justin Brei, ED*

254 Brei discussed the four choke point activities:

255

256 *State Channel*

257 The Program received a draft permit for the state channel project. The conditions include  
258 wetland mitigation of 3:1 with a buffer, plus a covenant on the property deed(s) with wetland  
259 mitigation. The ED Office will do the design and bid the project; completion is anticipated by the  
260 end of 2016. Mitigation is anticipated on the Program's Speidell tract. Mitigation areas will not  
261 be counted towards the Program's habitat goals. The next steps in the state channel project



262 include the design/bid for wetland mitigation, securing easements for the state channel footprint  
263 and creating management agreements with the Twin Platte NRD for maintenance of the site.

264

265 *Vegetation Control*

266 The Program is working on channel widening and disking as an initial way to increase the  
267 chokepoint capacity. The work will be completed during low flows when vegetation can be  
268 disked. Obtaining landowner agreements for disking on private property is underway. The  
269 Program is also working with Platte Valley Weed Management to spray phragmites this fall.

270

271 *Bypass Canals*

272 The status of using canals to route water from the North Platte to the South Platte in order to  
273 avoid the chokepoint is currently on-hold. The Program would need to increase the capacity of  
274 bottleneck points, such as laterals and waste ways, for the project to be useful. The Platte Valley  
275 Irrigation Canal/North Platte Canal has a large main capacity and is the canal with the most  
276 potential for bypass activities. The project may resume after channel widening/vegetation  
277 clearing is completed.

278

279 *USACE Section 206 Project*

280 The U.S. Army Corps of Engineers (USACE) offers partnerships to develop projects that  
281 enhance habitat for plants/fish/wildlife. The Program is evaluating whether there are projects that  
282 could be completed through this partnership, including chokepoint activities (such as  
283 constructing levees) for the benefit of species habitat in the Central Platte. The Program would  
284 likely use State funding for this project since the USACE would partially match funding and  
285 likely require non-federal funds for the match. The Program would also likely partner with the  
286 Twin Platte NRD as a local sponsor to ensure long-term maintenance of any project completed  
287 under this type of partnership.

288

289 **Federal Depletions Plan Update:** *Tom Econopouly, USFWS*

290 Econopouly reported the consultations in Colorado. There weren't any consultations in Nebraska  
291 or Wyoming.

292

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

294 Hoobler presented the three baselines, and current status of each, used in the Wyoming  
295 Depletions Plan. He reported the Platte River Basin Water Plan is to be completed in 2016 under  
296 the direction of the Wyoming Water Development Office.

297

298 **Colorado Depletions Plan Update:** *Jon Altenhofen, Northern Colorado Water Conservancy  
299 District & Suzanne Sellers, CO Water Conservation Board*

300 Sellers reported on the North Platte accounting in Colorado. Altenhofen discussed retiming water  
301 in the Tamarack project. In the past two years, the Tamarack project has exceeded the 10,000  
302 AFY goal.

303

304



305 **Additional Business:** *Cory Steinke, WAC Chair*  
306 The next WAC meeting is August 9, 2016.

307  
308 **Action Items**

309  
310 **General WAC**

- 311 • Review and provide comments on the broad-scale recharge white paper and gravel pit  
312 memorandum on the WAC website.

313  
314 **ED Office**

- 315 • Add a section in the broad-scale documentation white paper on potential difficulties with  
316 the project including permitting, future excess flows and other risks.

317