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1 2 3 4 5	PLATTE RIVER RECOVED Water Advisory C C'Mon I Octo	RY IMPLEMENTATION PROGRAM ommittee Meeting Minutes nn – Casper, WY ober 25, 2011
6 7 8	Meet	ing Attendees
9 10 11	<u>Water Advisory Committee (WAC)</u> State of Wyoming Mike Besson – Member	Executive Director's Office (EDO) Jerry Kenny, Executive Director (ED) Beorn Courtney
12 13	Matt Hoobler – Alternate	Steve Smith Sira Sartori Matthew Welsh
15 16	Suzanne Sellers - Member	Bruce Sackett (call-in)
17 18 19	State of Nebraska Pat Goltl – Alternate	
20 21 22 23	U.S. Fish and Wildlife Service (Service) Tom Econopouly – Member Jeff Runge – Alternate	
24 25 26 27	Bureau of Reclamation (BOR) Mahonri Williams – Member Brock Merrill – Alternate	
28 29 30 31 32	Downstream Water Users Cory Steinke – Member (WAC Chair) Duane Woodward – Member Jeff Shafer – Member Mike Drain – Alternate	
55 34 35 36	Colorado Water Users Jon Altenhofen – Member	
37 38 39 40	Environmental Groups Duane Hovorka – Alternate Larry Hutchinson – Alternate	
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45 46 47		

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PRRIP - ED OFFICE DRAFT

48 Welcome and Administrative: Cory Steinke, WAC Chair

- 49 Introductions were made. There were no agenda modifications. Sartori stated that all requested
- 50 changes to the Draft July WAC Minutes were incorporated into the current version. Altenhofen
- 51 requested a grammatical revision to lines 74 and 75. The July WAC Minutes were approved
- 52 with modifications discussed during the meeting.
- 53

54 Hydrologic Conditions Data: Sira Sartori, ED Office

- 55 Sartori explained the Draft Hydrologic Condition Designation Memorandum that was distributed
- to the WAC by the ED Office prior to the meeting. The ED Office has compiled annual and 56 57 periodic hydrologic designations that are used to determine Service target flows. Periodic
- 58 designations are at monthly to tri-monthly time-steps. Sartori explained the methodology that
- 59 was used by the Service to develop the annual designations from 1947 to 1994 data. Since 1994
- 60 the hydrologic condition has been based on designated flow thresholds for the applicable period.
- 61 Periodic designations from June 2007 through present are available on the PRRIP website under
- "Hydrologic Conditions." Don Anderson, formerly with the Service, calculated the periodic 62
- 63 designations from 1994 to 2009, and the ED Office has calculated the periodic designations since
- 64 December 2009. Altenhofen requested that the ED Office post the Memorandum on the PRRIP
- 65 website.
- 66
- 67 Woodward stated that CPNRD requested this information from the ED Office. Courtney added
- that several other Program partners have also requested the historical monthly designations and 68
- 69 explained that monthly information is not available before 1995. Econopouly asked whether the
- 70 ED Office could compare Anderson's pre-2006 monthly designations to the designations that
- 71 would be calculated using the current methodology. Sartori was unsure whether the necessary
- 72 data would be available. Econopouly requested that the ED Office attach Anderson's 2006
- 73 Journal of American Water Resources Association (JAWRA) article explaining the periodic
- 74 hydrologic condition designation approach as an appendix to the Memorandum. Steinke asked
- about the current "normal" designations given the relatively wet conditions. Sartori explained 75
- 76 that there are only "dry" and "not dry" designations for some periods; in these instances the ED
- Office labels "not dry" as "normal" as was done by Anderson. The ED Office will update the 77
- 78 Hydrologic Condition Memorandum and post it to the PRRIP website on the hydrologic conditions page.
- 79 80

81 WAP Project Updates: Beorn Courtney, ED Office

- 82 Courtney thanked Besson and Hoobler on behalf of the WAC for yesterday's tour of Pathfinder 83 Reservoir.
- 84
- 85 J2 Reregulating Reservoir – The Program and the Nebraska Department of Natural Resources
- 86 (NDNR) are continuing to negotiate a three-party sponsorship agreement with the CNPPID.
- 87 Courtney explained that Olsson and the ED Office have been evaluating CNPPID's request to
- 88 use the J2 Reregulating Reservoir during the irrigation season to improve system efficiency. The
- 89 recommended alternative for meeting CNPPID's request is to dedicate Area 2 of the
- 90 Reregulating Reservoir to irrigation operations from June 15 to August 31. If Area 2 is



91 unavailable to the Program during that period, Olsson's model shows the average yield will be
92 reduced by approximately 6%. The costs associated with this alternative are relatively small as
93 compared to the other alternatives presented by Olsson. The J2 Reregulating Reservoir project

- 94 will continue into the feasibility design stage with short duration high flows (SDHFs), target
- 95 flows, hydrocycling mitigation, and irrigation season uses by CNPPID. The yields from a total
- 96 of nine scenarios have been compared to the baseline yield, evaluated at an hourly time-step with
- 97 Olsson's model. Courtney stated that the hourly analyses are maximizing the capabilities of the
- 98 current models. Olsson is evaluating incremental costs related to the expansion of the J2
- 99 Reregulating Reservoir.
- 100

101 The next step of the project is a feasibility level design and opinion of probable costs, anticipated

- to be complete in early 2012. CNPPID and the ED Office have started working on the water
- supply permitting process. Altenhofen asked about the capacity of the pumping plant. Steinke
- reported that the capacity would be 300 cfs. Several scenarios are still being considered and the
- 105 ED Office will be following up with Olsson and the workgroup in the coming week.
- 106

107 *Ground Water Recharge* – Courtney reported that Bill Hahn, special advisor to the ED Office,
 108 has completed the numerical modeling for the project. The excavation of the recharge basin was

- 109 completed in late September. Recharge operations commenced on October 3rd. CNPPID and
- 110 EA Engineering, Science, and Technology (EA) are collecting the monitoring data. The
- 111 preliminary data suggests that the infiltration rate of the recharge basin is approximately one-half
- of what was predicted, while the infiltration rate of the Phelps canal is approximately double
- 113 what was predicted. The meter on the line to the recharge basin will be replaced since the 114 pumping rate is at the low end of the operating range for the meter currently installed. Courtney
- 114 pumping rate is at the low end of the operating range for the meter currently installed. Courtney 115 discussed the status of the proposed Data Evaluation Plan. EA will complete the Data
- 116 Evaluation Plan with preliminary check point submittals. The workgroup has a field visit to the
- 117 project site scheduled for November 8th. Steinke has agreed to provide intermittent preliminary
- field data to the workgroup as often as possible. Altenhofen asked about the details of field work
- 119 to date. Steinke elaborated on the observed problems with the propeller meter that is being used
- 120 to measure flows to the recharge basin and explained that the new meter will be installed soon.
- 121 Steinke reported that the infiltration rate in the canal is approximately 5 cfs per mile. There is
- 122 approximately 40 to 50 cfs being diverted to the Phelps canal, as measured with the Parshall 123 flume. The water level in the canal is approximately 0.5 feet below the top of the canal to
- 125 nume. The water level in the canal is approximately 0.5 feet below the top of the car 124 provide a buffer for precipitation events.
- 125
- 126 Water Leasing & Water Management Incentives (WMI) – The Water Leasing and Water 127 Management Incentives workgroups had a combined conference call on October 3, 2011. The 128 purpose of the call was to discuss the general status of these two Water Action Plan projects, to 129 receive input from workgroup members on future activities, and to discuss methodologies to 130 evaluate yield from potential projects. Two landowners with property located in NPPD's system 131 are interested in leasing water to the Program. The water right is under NPPD, and therefore 132 NPPD would need to submit a temporary transfer for the relinquished acres to an instream use 133 for the PRRIP. Woodward has been assisting with the analysis of these potential lease



- 134 agreements because the parcels will subsequently be irrigated with groundwater. The
- workgroups agreed that it will be beneficial for the ED Office to continue working through the 135
- 136 water leasing process for these projects. The workgroups discussed opportunities to collaborate
- 137 with Platte Basin Habitat Enhancement Project (PBHEP). Kenny stated that the ED Office has a
- 138 meeting with PBHEP scheduled in January 2012. Woodward suggested that Kenny speak with
- 139 Mark Czaplewski at CPNRD about PBHEP collaboration. Kenny stated that PBHEP
- 140 collaborates with NRCS programs that provide incentives and funding to farmers for removing
- 141 lands from irrigation or crop production on a temporary or permanent basis. Most Federal
- 142 programs usually have a 10 to 15 year agreement, while PBHEP allows for more permanent
- 143 agreements. Kenny stated that most PBHEP agreements have been tied to acreage and that water
- 144 yields still need to be quantified. Altenhofen asked whether the NPPD water could be stored in
- 145 the Environmental Account in Lake McConaughy. Shafer stated that the surface water available
- 146 for lease is a natural flow right and could not be stored in Lake McConaughy.
- 147
- 148 Altenhofen asked if CPNRD would evaluate the effects of increased groundwater pumping
- 149 associated with the irrigation of the lands formerly irrigated with NPPD surface supplies.
- 150 Woodward responded that wells have existed on these lands for a number of years. Since
- groundwater use will increase, they will use COHYST to evaluate the stream depletion 151
- 152 associated with historical and future conditions.
- 153

154 WAP Projects & Lake McConaughy Storage: Beorn Courtney, ED Office and Mike Drain, 155 **CNPPID**

156 Drain described the types of permits that CNPPID has for the Environmental Account and other storage rights in Lake McConaughy. He also explained that in Nebraska you need an additional 157 158 permit to actually use the stored water. The Environmental Account is a storage use permit. There is not a separate storage permit for the Environmental Account, as all of CNPPID's 159 160 storage rights are pooled together. NPPD has a storage appropriation that allows water to be 161 exchanged from Sutherland Reservoir to Lake McConaughy. CNPPID had to modify their 162 storage use permit to allow use for fish and wildlife and instream flows. The volume of 163 Environmental Account storage in Lake McConaughy is calculated as 10% of the storable 164 natural inflows with 100,000 ac-ft and 200,000 ac-ft caps. Drain added that the Program 165 Agreement also has language regarding the storage of water from Tamarack, Net Controllable Conserved Water (NCCW), and Wyoming projects. For example, water from the Pathfinder 166 167 Reservoir will be released and stored in Lake McConaughy. When Lake McConaughy is 168 spilling, the Environmental Account resets to 100,000 ac-ft. Drain reported that NCCW has 169 been stored in the Environmental Account for seven years. Drain indicated that there are legal 170 questions with regard to whether NPPD's water can be transferred to CNPPID's Environmental 171 Account. All water stored in the Environmental Account is lumped together regardless of the 172 source, as it would have been difficult to fairly account for which water was spilled when the 173 account resets to 100,000 ac-ft after spilling.

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This document is a draft based on one person's notes of the meeting. The official meeting minutes may be different if corrections are made by the Water Advisory Committee before approval. PRRIP WAC Meeting Minutes



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177 <u>Choke Point</u>: Steve Smith, ED Office

178 Smith gave an update on the analyses of the North Platte choke point and Kearney area flow 179 capacity. Flow capacity is important because it may limit SDHF releases from the 180 Environmental Account in Lake McConaughy. Smith indicated that the goal is to have a SDHF 181 release in 2013. Smith reviewed the ranked alternatives that were presented at the July WAC 182 meeting. As requested at the July WAC meeting, Smith completed sensitivity testing with the 183 sediment transport model. Smith summarized the recent shifts to the stage-discharge curve for 184 the North Platte River at North Platte gage and stated that the NDNR plans to revise the official 185 rating table in November. The shifts suggest that capacity at the flood stage of 6.00 feet 186 increased during high flows of summer 2011. The maximum flood stage capacity was 187 approximately 2,300 cfs and the current capacity is approximately 1,800 cfs. Drain noted that 188 the increased capacity may have been a short-term phenomenon and may not exist after flows 189 decrease and the stream bed aggrades.

190

191 The Program document states that releases, whether for SDHF or to reduce shortages to target

192 flows, cannot cause river flows to exceed the flood stage. The Army Corps of Engineers has

193 been documenting flood levels in North Platte, and Smith will compare their observations to the

6.00 feet flood stage that was defined by the National Weather Service. This will shed light on

195 who gets wet at what flows, and help to pinpoint problem areas. Drain stated that Nebraska law

requires reservoir owners to pay for damages caused by flooding. Therefore, releases from the

197 Environmental Account that have the potential to increase flows above the flood stage are

198 concerning for CNPPID. Sellers suggested that flood leases be considered for lands that would 199 potentially be flooded by Program reservoir releases

199 potentially be flooded by Program reservoir releases.

200

201 Smith reported on the results of the sensitivity analysis of the sediment transport model.

202 Sensitivity test results indicate that aggradation/degradation is consistently sensitive to sediment

203 inputs, but that results vary with hydrologic inputs (i.e., less aggradation in some areas but more

aggradation in other areas). Additionally, differences between sensitivity runs seem to

205 equilibrate near the Highway 83 Bridge, suggesting that the system is in sediment equilibrium.

206 This indicates that sediment management would not necessarily lead to an increased capacity at

207 the choke point. It was speculated that the proliferation of Phragmites in the 1990s may have

trapped the sediment. Steinke reported that the maximum flow through North Platte in 2011 was5,700 cfs.

210

211 Smith outlined potential structural and institutional solutions to the choke point. Structural

212 options include drainage improvements and levee construction. One drainage improvement

213 involves increasing the capacity of culverts along North River Road west of Highway 83 to

214 convey ponded water that gets trapped behind driveways to private properties in the area. These

new culverts could potentially restore a historic flow path along the north bank of the river, and

216 increase capacity at flood stage. The flows would be routed to the east under Highway 83 and to

- 217 an existing ditch that runs west to east along Hall School Road toward Whitehorse Creek.
- Lincoln County Roads has discussed this option with landowners who are agreeable to such a
- 219 project. But Lincoln County Roads does not have funding for these types of projects, and the



- 220 federal government will not provide assistance because they are county roads. Smith estimated
- that the improvements would cost approximately \$1,500 per culvert site, and assuming
- approximately 10 driveways, the total cost would be less than \$20,000. If pursued in greater
- detail, then Smith suggested that a local engineering firm be hired to evaluate potential sites and complete preliminary design during 2012. The landowners may be willing to cooperate and
- 224 complete premininary design during 2012. The fandowners may be willing to cooperate and 225 potentially share the cost given the recent flooding problems on their property. Kenny stated that
- 226 capacity increases associated with Phragmites removal has largely been maximized.
- 227

Besson asked whether this would subsequently flood downstream landowners. Kenny stated that there is a large undeveloped wet-meadow area downstream. Runge pointed out that a 404 permit may be needed for this type of project, and if there are enough sites then an individual permit may be required.

232

Smith presented earthen levees as another potential structural solution. Given that part of theflooding issues in this area are a result of ground water, the overall effectiveness of levees may

- be limited.
- 236

Institutional solutions include developing flood easements, modifying the Program document to
allow flows to go past initial flood stage to moderate or major flood stage; or modifying the
National Weather Service flood stage. Smith recommended pursuing drainage improvements
and modifications to the NWS flood stage. Smith will follow up with the Lincoln County Roads
Department about the feasibility of the drainage improvements.

242

243 The flood stage at the Kearney gage is also 6.00 feet. Flows have exceeded flood stage in 2008, 244 2010, and 2011. Smith indicated that local officials view 6.00 feet as overly conservative and 245 they do not get concerned with river levels until the stage exceeds 7.00 feet. The last event with 246 a stage in excess of 7.00 feet was in 2008. Even during 2008 high flows above 7.0 feet, there 247 were only minimal effects (access limited to some properties) that property owners were not 248 overly concerned about. The USGS doesn't plan to update the Kearney rating curve because 249 they do not think there is a trend in the data. Smith will follow up with the USGS on the shift 250 trends he is seeing, and get the USGS' interpretation of the trend.

251

252 Runge asked about the level of interest by Program participants to consider the acceptable level 253 of risk associated with EA releases for SDHFs. Given the five day travel time to Kearney, there 254 is potential for other operations or runoff events that could add to a Program release enough to 255 increase flow above flood stage at Kearney. Runge noted the long-term decline in flood channel 256 capacity at flood stage near Kearney. The channel capacity at flood stage was at 12,340 cfs in 257 1984, and there was a steady decline in capacity to 5,900-7,090 cfs in 2010. Runge also stated 258 that, since the decline in channel capacity is long-term, the observed short-term improvements 259 may be temporary similar to what was observed at the North Platte gage. Runge asked Smith to 260 continue monitoring trends in gage shifts at Kearney. Runge asked how much of the change in 261 capacity is related to sediment transport versus Phragmites removal through flows and weed

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- 262 removal. Kenny agreed that we should continue monitoring gage shifts. Goltl suggested that
- 263 Smith also look at 2009 and 2010 seasonal shifts at Kearney.
- 264

268

265 Kenny pointed out that the North Platte choke point has been the focus on ED Office's efforts 266 since it is more restrictive than Kearney. The ED Office will continue to monitor other choke 267 points, but will focus on the bigger issues.

269 Study of the Platte River Appropriation Status: Duane Woodward, CPNRD

270 Woodward presented on CPNRD and NDNR's investigation of the approach for fully 271 appropriated (FA) and over appropriated (OA) designations. This presentation was postponed 272 during the July 2011 WAC meeting due to time constraints.

273

274 Legislature Bill 962 that was passed in 2004 requires that appropriation statuses must be

evaluated annually before January 1st. If FA status is determined then an Integrated Management 275

276 Plan (IMP) must be completed within 3-5 years. CPNRD started working on the IMP in 2009

277 and needs to quantify the difference between FA and OA as required by LB 962. The existing

278 methodology does not determine the OA-FA difference, so CPNRD and NDNR have led the

279 effort to develop a standardized methodology. Their approach was to research what is being 280 implemented elsewhere in the western U.S., identify the desired elements of the method, and

- 281 develop a system for testing the method.
- 282

283 The proposed method involves creating a virgin flow hydrograph that is meant to reflect the

284 water supply without any diversions. Virgin flow is calculated by adding surface water

285 consumptive uses and ground water depletions to gaged streamflow data. The virgin flow

286 records are then used to create flow duration curves. All surface water and ground water

287 demands, including instream flows, are then compiled into a demand hydrograph and demand

288 flow duration curve. The demand curve is then compared to the virgin flow curve to evaluate the 289 percentage of time that the virgin flow exceeds the demands. If demands are less than the

290 supply, then the system is not fully appropriated. If demands exceed supply then the system may

- 291 be fully or over appropriated and additional analyses are required.
- 292

293 The interim report will be available for review and comment soon. Woodward expects the report 294 to be posted on the NDNR website. Once approved, the rulemaking process will begin.

295 296 Hutchinson asked whether there would be a peer review on the report being completed by HDR

297 and Flatwater. Woodward responded no, but public comment will allow for review during

298 rulemaking. Hovorka asked whether there would be a specific exceedance value that represented

299 OA and FA. Woodward explained that Texas uses a 75/75 exceedance rule (i.e., 75% of the

300 demands would be met 75% of the time) to define fully appropriated (total demands versus

301 virgin supply). Woodward's presentation is available on the NDNR website.

302

303 **2012 Draft Water Plan Budget**: Jerry Kenny and Beorn Courtney, ED Office



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Kenny reviewed the budget work plans that were distributed to the WAC prior to the meeting.
Some of the work plans have subsequently been updated since being distributed. The ED Office
will distribute the updated budget to the WAC. The 2012 budget will need to be approved at
the December Governance Committee (GC) meeting. There will be a preliminary GC meeting
on November 18th. There will be a Finance Committee session on the 2012 budget prior to the
November meeting. Kenny requested input from the WAC prior to the Finance Committee
meeting. Kenny summarized each of the Water Plan (WP) Implementation line items in the

- 311 2012 budget.
- 312

313 **WP-1**: This task relates to active channel capacity improvements and has two sub-tasks.

- $\frac{WP-1(a)}{2}$: This sub-task pertains to the North Platte choke point. As evidenced earlier during the
- 315 meeting, future investigations are needed to evaluate opportunities to increase channel capacity
- through North Platte and other choke points. Drainage improvements discussed above may
- 317 require the hiring of a local engineering firm. Another consultant may also be needed to evaluate
- the hydraulics of the north channel. The budget request for this sub-task is \$200,000.
- 319 <u>WP-1(b)</u>: This sub-task pertains to the reach from the CNPPID diversion dam to Grand Island.
- 320 The budget request would provide for an additional year of contributions to the Platte Valley and
- West Central Weed Management Area. The budget request for this sub-task is \$200,000. The
- Program contributed funds in 2010 and 2011. The 2012 funding would allow the project to be
- largely completed. Funding after 2012 will be related to maintenance activities with a funding
 requirement between \$50,000 to \$100,000, declining over time to \$50,000 and then remaining at
- 325 that level.
- 326

327 Altenhofen requested that the ED Office include a summary of previous expenditures in the

- 328 WAP work plan summaries. Kenny referred Altenhofen to the GC summary spreadsheets that
- have the expenditures from previous years (distributed at each GC meeting). Kenny indicated
- that the work plan formats currently distributed reflect what was requested by the GC in previous
- 331 years. The more detailed spreadsheet with previous expenditures will be distributed along
- 332 with the future drafts of the Work Plan summaries, but not included in the work plan
- 333 summaries themselves.
- 334

335 In an October 18 e-mail, the Service requested additional funding under WP-1(b) to develop a 336 monitoring program, similar to WP-1(a), to ensure that channel capacity improvements are 337 providing the desired channel conveyance. Runge noted that, given the long-term decline in 338 channel capacity, it may be beneficial to have this monitoring in place. Members of the WAC 339 asked for clarification on the additional studies, and revisited the monitoring that was conducted 340 for the 2009 flow routing test. Kenny also noted there may be places in the budget as drafted to 341 support such studies upon further clarification by the Service and input from the WAC. The ED 342 Office will continue monitoring trends in gage shifts at the Kearney gage. Runge and Drain 343 discussed whether other choke points would warrant similar investigations in the future even if 344 3.000 cfs at North Platte is achieved.

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346 WP-4: Advancing WAP projects from the feasibility stage. Kenny indicated that the numbers 347 are hard to estimate due to unknowns of how far projects will actually advance, such as if the J2 348 Reregulating Reservoir project progresses. The Program has historically asked for a maximum 349 value in case projects advance faster than anticipated. Funds are disbursed very conservatively, 350 which leads to the perception that additional funds are not needed. There is a federal reserve that 351 needs to be drawn down or else it will be reassigned to other projects. The current estimate of 352 \$2,200,000 includes \$2,000,000 for the J2 Reregulating Reservoir and \$200,000 for ground 353 water recharge. Altenhofen asked what was spent in 2011. Kenny responded \$0. The J2 354 Reregulating Reservoir work to date has been under WP-6 since it has not progressed past the feasibility stage. Drain deferred to the recommendations being provided by the GC regarding the 355 356 best approach to maximizing federal funding. Williams inquired about the definition of new 357 money requested. Kenny explained that any unexpended money is not rolled over to the next 358 year. However, there is a "reserve" of unexpended federal dollars. As previously discussed, that 359 reserve will need to be drawn down before a large sum of new funds is requested. Colorado 360 keeps its money in the Nebraska Community Foundation holding entity. Wyoming keeps their 361 funds in their own account and disburses quarterly as requested by the Program. Federal funding 362 is appropriated, but an expenditure request must be submitted for a specific amount and then it is 363 electronically transferred. 364

WP-5: Management tool. Upon completion of COHYST, the Program may need to buy or be
trained to use software, or to build additional components into the model for the ED Office to
make such runs. COHYST will reportedly be completed before end of year with peer review
thereafter. Modeling will be useful for the Water Leasing and WMI projects. COHYST may not
provide the resolution required for specific projects. The budget request for this task is
\$200,000.

371

Altenhofen asked where Runge's discussion items that were emailed to the WAC would be
included in the budget. (Runge's discussion items pertained to hydraulic modeling and
probabilistic modeling). Kenny stated that these types of projects could be funded by WP-2 or
under the special advisor task (WP-8) if they were completed by someone other than the ED
Office. The projects could also be viewed as a feasibility or miscellaneous study. Runge would
like to gauge the level of support for these projects prior to categorizing the requests.

378

WP-6: Feasibility studies. The Program will continue to evaluate water leasing and WMI
 projects (\$100,000) and groundwater management (\$100,000).

381

WP-7: Water acquisitions. If Pathfinder Reservoir is completed and the municipal agreement is
executed, then the upfront payment will be \$1,958,400. Other acquisitions may also become
available, so the total budget request for this task is \$2,500,000.

385

WP-8: Water advisors. The program intends to continue using three special advisors: Bill Hahn
for ground water modeling, George Omeck for economics, and Tara Schutter for civil. The
budget request for 2012 was reduced to \$150,000 based on previous expenditures.

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390 **WP-9**: Miscellaneous Water Resources Studies. The budget request for this task is \$50,000.

391

Kenny completed the 2012 budget discussion. Kenny encouraged WAC members to discuss thebudget items with their GC representatives.

394

395 Runge reinitiated the choke point discussion. Runge suggested potentially using HEC-RAS to 396 back-calculate release flow targets and confirm a realistic estimate for the SDHF target at 397 Overton. Hovorka recalled that 3,000 was a rough estimate at the time it was selected. Courtney 398 discussed similar investigations that were completed in the past. These were not hydraulic 399 models, but water budget models. Courtney asked if the objective was defined well enough to 400 warrant a new tool as opposed to modifying existing tools. Drain feels that the ED Office has 401 always been able to complete these types of analyses in an acceptable manner in the past. Runge 402 believes the new model would help identify other choke points. Smith noted that an unsteady 403 hydraulic model already exists. The consensus was that another consultant does not need to be 404 hired to complete this work. The ED Office will complete these types of analyses with 405 cooperation from involved entities.

406

407 Runge initiated a discussion about the willingness of the WAC to approach flood stage flows 408 with the SDHF and other Program releases. Econopouly added to the discussion about the time 409 lag between the release at Lake McConaughy to the habitat, and the potential effect of a 410 precipitation event during the transit period. Runge and Econopouly would like to quantitatively 411 evaluate the potential for a significant rainfall event during the transit period to determine what 412 buffer may be required between the SDHF release and the flood capacity for the Kearney, North 413 Platte, and other potential chokepoints. Runge believes such an analysis would be useful for 414 policy makers. Smith asked how much of this modeling has already been completed by the 415 NWS. Econopouly indicated that while NWS may be completing the analysis, it would be 416 helpful to have a consultant to advance the analysis. Drain stated that the Program has 417 historically assumed that NWS would evaluate the precipitation effects and define the buffer 418 required. Besson agreed. The WAC is reluctant to be involved with defining the buffer due to 419 liability concerns. Besson pointed out that this issue will need to be discussed extensively if 420 flood leases are pursued. Flooding was a major concern for all parties when the Agreement was 421 reached. Drain noted that the J2 Reregulating Reservoir has been the focus for SDHFs since it 422 does not involve flooding issues at the North Platte choke point. Econopouly is recommending 423 the development of a hydrologic model that uses a range of precipitation design storms to route 424 the flows to see the effect of precipitation. Steinke believes that these types of analyses were 425 completed for the flow routing test. The WAC requested more time to think about this issue, and 426 Steinke pointed out that the issue will come down to the GC's level of comfort with the buffer 427 size. Regarding future SDHF implementation, the WAC pointed out the importance of the J2 428 Reservoir project. 429 430 Hovorka asked what budget task includes NCCW funding. Kenny and Drain indicated that

431 water acquisition discussions are still underway.

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