**Platte River Recovery Implementation Program**

**North Platte Chokepoint Planning Workgroup**

**Virtual Meeting – February 1, 2023**

**DRAFT MEETING NOTES**

Attendance:

|  |  |
| --- | --- |
| Department of the Interior   * Brock Merrill, USBR * Matt Rabbe, USFWS   State of Wyoming   * Jeff Cowley, WY SEO * Michelle Gess, WY SEO   State of Colorado   * Kara Scheel, CWCB * Emily Zmak, CWCB   State of Nebraska   * Jesse Bradley, NDNR * Jeremy Gehle, NDNR * Jim Ostdiek, NDNR * Jennifer Schellpeper, NDNR   Colorado Water Users   * Jason Marks, Denver Water * Kyle Whitaker, Northern Water   Downstream Water Users   * Mike Drain, CNPPID * Nick Lee, NPPD * Jeff Shafer, NPPD * Cory Steinke, CNPPID * Tyler Thulin, CNPPID * Dave Zorn, CNPPID | Environmental Entities   * Jacob Fritton, TNC * Melissa Mosier, Audubon * Carrie Roberts, Crane Trust * Rich Walters, TNC   Executive Director’s Office   * Justin Brei, EDO * Libby Casavant, EDO * Jason Farnsworth, ED * Malinda Henry, EDO * Chad Smith, EDO * Tim Tunnell, EDO * Seth Turner, EDO * Ed Weschler, EDO   Other Participants   * Matt Daniels, River Design Group * Connor Kelley, Houston Engineering * Sara Mechtenberg, Houston Engineering * Chris Nelson, River Design Group |

Discussion Notes:

**VESPR report overview presentation and discussion**

* The Vision for an Ecologically Sound Platte River (VESPR) selected consultant River Design Group (RDG) of Whitefish, Montana, to do a new investigation of the North Platte chokepoint reach. FYRA (now Houston Engineering) conducted a peer review of the study results. The final report of the study was provided to North Platte Chokepoint Planning Workgroup members in advance of this meeting.
* Daniels and Nelson of RDG gave a presentation on the objectives, methods, and findings of the study. The purpose was to bring new perspectives to long-term efforts to increase flow and sediment transport through the chokepoint reach. The study identified the Tri-County Canal diversion dam as a primary cause of sediment buildup through the reach, as there is nearly continuous sediment delivery. Several concepts were modeled, including bridge widening, vegetation removal, and dredging up to 7 miles of river channel to achieve the equilibrium slope. Dredging a channel 200 ft wide would produce about 1.5 million yd3 of sediment.
* Farnsworth noted that the Program had provided both 1D and 2D models and asked why the 2D model was not used. Daniels said it was looked at but using the 2D model was not achievable with the available funds for the study.
* Farnsworth also talked about the Program and VESPR having somewhat different objectives for the chokepoint. The Program is specifically trying to achieve a flow capacity of 3,000 cfs at or below the 6.0 ft flood stage at the gage near the Highway 83 bridge. Issues identified by National Weather Service during the 2020 chokepoint flow test were about a mile upstream of the bridge. What are the prospects for any of the proposed fixes working in that area? Daniels said the dredging scenarios were extended through the whole reach, including upstream of the bridges, and modeling indicated an increase in capacity and the bridge and through the reach. Specifically, modeling indicated that dredging 200 ft wide to the 0.12% equilibrium slope would result in lowered water surface elevations to about 2 miles upstream of the Highway 83 bridge, with the 3,000 cfs surface being 1.6 ft below existing conditions at 1 mile upstream.
* Farnsworth asked about the potential for 2D sediment transport modeling to be successful, in particular the ability to account for lateral migration of sand bed rivers. Daniels said it’s great to have the 2017 topobathymetric LiDAR. The biggest challenge is the length of the reach; 2D models have improved for working with large reaches, but it would still be coarse at the scale of the full chokepoint reach. RDG has worked with the iRIC model developed by USGS, specifically on work with Jonathan Nelson on the Kootenai River, which is a sand bed river. Jonathan Nelson is the premier expert on this and would be worth contacting; he developed the 2D FaSTMECH model that has been shown to be useful in analysis of lateral migration and bed/bar mobility studies related to sand bed rivers. Daniels noted that this is a tool that can be used to address questions but still requires interpretation of results.
* Marks asked if the results from the Program’s chokepoint flow test were used in the study. Daniels said the results were reviewed but not used. Chris Nelson added that given the limitations of scope and budget, RDG focused on using the existing model, which appeared to be well calibrated and was the right tool to answer the study questions at a high level. The 1D model was adequate at flows of 3,000-4,000 cfs and was useful for comparisons since you could see relative differences.
* Drain reiterated Farnsworth’s point about differences between PRRIP and VESPR goals at the chokepoint and asked if there would be more options if the sole focus was on increasing flow capacity and not on moving sediment through. Daniels said with the supply of sediment, it seemed unlikely that you’d accomplish one goal without the other. Nelson concurred and added that under current operations, sediment is being stockpiled. In order to deliver high flows sustainably over the long term, sediment has to be addressed. Drain asked about removal of sediment versus moving it past the diversion dam. Daniels said the question of where the sediment ends up is a big one, whether dredged and stockpiled or moved downstream by flow, but it needs to be moved out regardless.
* Drain asked about maintaining existing irrigation diversions and the proposed connection from NPPD’s return canal to CNPPID’s canal. Were capacities considered? NPPD capacity is only about 70% of CNPPID’s capacity, so how can canal diversion rates be maintained? Daniels said the concept was not considered at that level of detail.
* Continuing this theme, Shafer noted that NPPD needs a river return for irrigation deliveries that are above CNPPID’s capacity and asked whether NPPD would still have a river return or only the connection to the CNPPID canal? Daniels said both would be possible, but that level of detail wasn’t considered. Shafer then asked if the canals were connected, would the idea be to remove the Tri-County Canal diversion dam entirely? Daniels said not necessarily, the idea would be to either remove the dam or at least modify operations to pass sediment through the dam or bypass it entirely. Shafer asked whether the dam gates are currently low enough to accomplish this. Daniels acknowledged the question but reiterated that RDG’s objectives were to identify causes of the chokepoint capacity problems, and they did not have the time or funds to evaluate proposed solutions at this level of detail. That would have to be a subsequent phase of work.
* Shafer asked if there was sufficient water to move sediment past the diversion dam. Daniels said it was RDG’s understanding that the CNPPID canal has a capacity of 2,000 cfs but at that flow there is flooding in North Platte. Drain clarified that the CNPPID canal has a capacity of 2,200 cfs and NPPD’s return canal (to the South Platte River) is around 1,400-1,800 cfs. There isn’t a problem getting 2,200 cfs to CNPPID’s canal because there is adequate North Platte River capacity through the chokepoint to make up the difference for CNPPID’s purposes. The problem is getting the extra few thousand cfs (for Program purposes) on top of that.
* Drain noted the references to limited resources and asked how much was spent on the study and peer review. Mosier said about $60,000 and 9 months combined for the study and peer review.

**PRRIP North Platte Chokepoint RFP Discussion**

* Farnsworth provided an update on the Program’s acquisition of a property upstream of the Highway 83 bridge at the North Platte chokepoint. Closing is expected on February 10 and no issues are anticipated.
* Prior to the meeting, the EDO re-circulated an April 2021 memo that summarized chokepoint efforts during the Program’s First Increment. Turner asked if anyone had questions about those studies and projects but there were none.
* Turner provided background information: the EDO is developing an RFP to revisit potential solutions to the conveyance capacity issues at the North Platte chokepoint (the Program objective is to achieve and maintain 3,000 cfs, shift-adjusted capacity over the past couple years is about 1,770 cfs). The approved budget for the study is $400,000. The RFP will be reviewed by the Finance Committee on February 21 and the Governance Committee on March 7-8. The GC will also appoint a selection panel. The RFP will be released for 4-5 weeks, with proposals due in mid-April. It is expected that consultant selection will be complete by the end of May.
* Turner presented preliminary study objectives for discussion by the workgroup: (1) update and calibrate baseline models; (2) identify alternatives to improve conveyance capacity and reduce flood risk through the chokepoint reach; (3) conduct detailed hydraulic and sediment transport modleing of selected top alternatives; and (4) assess feasibility of permitting and estimate costs for selected top alternatives.
* HDR and Tetra Tech completed an alternatives analysis and 1D HEC-RAS modeling for a 2011 study. Anderson Consulting did various analyses from 2012-2018 that included sediment transport modeling and 2D hydraulic modeling to evaluate performance of the State Channel Berm. Most previous modeling efforts pre-dated the 2017 topobathymetric LiDAR. The EDO envisions using the 2017 LiDAR as the basis for updating existing 1D and 2D models to represent current conditions at the chokepoint. Shafer asked if the models account for wet/dry hydrology. Turner clarified that consultant selection will be based on qualifications, and specific scope details will be worked out with the consultant, GC, WAC, and this workgroup. Alternatives will be focused on achieving 3,000 cfs but will likely start around 1,770 cfs and evaluate incremental changes.
* Turner said the focus would be on the Program’s capacity objectives; the VESPR focus on sediment removal wouldn’t be a specific focus but may be included in the alternatives analysis. Brei reiterated that the Program’s goal is conveyance, and sustainability is part of that. If the Program needs to use our own water for channel maintenance, that may be part of what we look at. Turner said the objective is to get the water the Program does have (in the Lake McConaughy EA) through the chokepoint and downstream to the habitat reach.
* Rabbe asked about costs for updating the models and how useful or necessary is that piece to the alternatives analysis. Brei said a lot of the budget will be for the model updates, which are critical for this study. The exact order of tasks/objectives will be determined as part of the scoping effort after consultant selection, but the modeling effort will be significant. Farnsworth clarified that for the RFP, the intent is to keep tasks and objectives general and find a consultant with expertise in a lot of different things. Then we can tailor what their focus should be so we don’t burn through all the budget on one objective and miss others.
* Cowley asked if another $400,000 study is actually going to find something that we haven’t already thought of. Turner said maybe, it’s unknown right now. With the alternatives analysis, everything from past studies is on the table. Maybe a piece of one past alternative could fit together with a piece from another. If we really do a comprehensive alternatives screening and formulate the best combination of solutions, it’s a valuable exercise to revisit at this point.
* Farnsworth said that from a Program policy perspective, this is our shot at gathering up everyone’s different thoughts about what could be done at the chokepoint. In the past we’ve looked for a silver bullet from specific alternatives evaluated at different times. The thought process is to gather every option, we have new thinking from RDG, we need to take a solid disciplined look at all these different pieces together. We have a specific objective, so maybe stacking up different pieces and parts could add up to achieving that objective. Eventually the GC needs to go through a structured decision making process to weigh the benefits of different pieces. Whatever they decide could then be written into the Program’s Second Increment. If we don’t do this now, there’s a chance we’d have to start over again with the chokepoint in the Second Increment. This would document a policy decision moving forward.
* Bradley said this is important to Nebraska. They’re moving forward with the Perkins County Canal, which has the potential for significant returns to the South Platte. As part of the alternatives analysis, there’s an opportunity to look at Perkins to see how it could be leveraged to help address the chokepoint issue. Rabbe asked how that plumbing would work? How do we get water from the Lake McConaughy EA to the Central Platte using that approach? Bradley said it could reduce the burden on the North Platte by routing water through the South Platte. This could potentially be accomplished with operational changes and exchanges.
* Bradley noted the importance of the selected consultant having a good understanding of the Platte system plumbing and operations.
* Walters asked for more detail on how the scope of work will be refined. Turner said it will be an integrated effort with this workgroup, the WAC, and the selected consultant. Farnsworth said it would be tasked to this group, if anyone else from the WAC is truly interested, they should join this workgroup. Smith added that this whole effort is to once and for all game out a top-tier set of alternatives to address the chokepoint. There have been a lot of past studies. The contractor needs to work closely with this workgroup and the EDO to work through the alternatives and develop a ranking scheme, but the GC ultimately makes decisions. The set of alternatives from this new study is a tool the GC can work through. We’re trying to find ways to give the best information to the GC, something that is manageable, realistic, and feasible. There will be frequent check ins with this workgroup, the WAC, and the GC.
* Farnsworth noted that in the past this chokepoint workgroup has gone beyond Program affiliates to include people from the city (North Platte) and county (Lincoln County). We should consider re-engaging them to make sure they’re on board with recommended alternatives. Turner added that during the planning for the chokepoint flow test, we had participation from the North Platte City Engineer and the Lincoln County Emergency Manager.