



PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM (PRRIP -or- Program)

2025 Governance Committee (GC) Policy Framing Document:

Addressing the North Platte Chokepoint During the Remainder of the First Increment Extension

4

Key Understanding

Over many years, the Program invested considerable resources in numerous studies and construction of flood-proofing projects to increase channel capacity at the chokepoint to 3,000 cfs. Flood proofing projects reduced nuisance flooding through North Platte but the NWS declined to increase flood stage, citing groundwater impacts. Other studies have not indicated feasible options to increasing channel capacity given current Program constraints. As such, the chokepoint can limit deliveries of EA and Program water during the summer months when irrigation deliveries take up available capacity.

This Framing Document summarizes key Program findings to date, anticipated ongoing Program monitoring activities, and GC direction for the Program related to the chokepoint for the remainder of the First Increment Extension.

Background

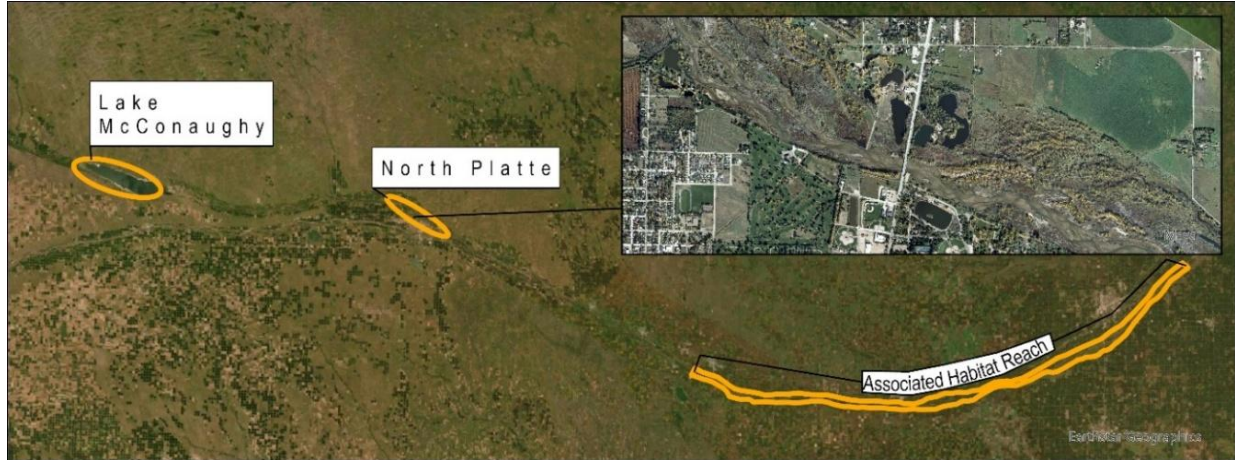
The North Platte chokepoint (“chokepoint”) is the reach of the North Platte River extending upstream and downstream of the Highway 83 bridge at the City of North Platte. Flow capacity through this reach declined in recent decades due to altered flow and sediment regimes caused primarily by operations at Lake McConaughy and the Tri-County Canal Diversion (TCCD), resulting in channel aggradation and ultimately reduced hydraulic capacity near Highway 83. This reach is important because it can constrain the ability to deliver water from the Lake McConaughy Environmental Account (EA) to the Associated Habitat Reach (AHR), particularly in drier years when most of the limited flow capacity is utilized to deliver irrigation water.

The 2006 [Program Document](#) (Section III.E.2.d.iii) and the 2017 Addendum to the Program Document (Section II.B) set forth a goal to “aggressively continue to implement channel conveyance improvements at the North Platte choke point through efforts directed toward achieving and maintaining at least 3,000 cfs conveyance capacity while remaining below flood stage, with additional capacity developed as practicably achievable with available resources.”¹ At the time of Program

31

initiation in 2007, flow capacity at minor flood stage was around 1,500 cfs. Shift-adjusted capacity from mid-2020 through the end of 2024 averaged 1,715 cfs. The most recent study conducted by the Program indicates that the reach has been in a quasi-equilibrium for roughly 20 years and is expected to remain in this state into the near future. This state is dependent upon and includes the ability of CNPPID to continue dredging operations to prevent further declines in channel capacity above the TCCD.

¹ PRRIP Adaptive Management Plan (Program Document, Attachment 3, Section II.A) specifies that “management of Program water will not cause flows above the flood stage as defined by the National Weather Service.”



Early in the First Increment, the Program completed a series of studies, model analyses (both channel hydraulics and sediment transport), and conceptual designs to address flooding issues at the chokepoint, culminating in the completion of two flood-risk reduction projects that were designed to alleviate the flooding impacts observed at river stages of approximately 6.0 - 7.0 ft. Specifically, the [Whitehorse Creek Drainage Project](#) (2014) involved installation of driveway culverts along North River Road to direct stormwater and high groundwater to the east of Highway 83 towards Whitehorse Creek. The [State Channel Berm Rehabilitation](#) (2018) restored a low berm that directs high flows away from the north bank neighborhood towards the main North Platte River channel.

In July 2020, the Program completed a flow test to evaluate the performance of these flood-risk reduction projects. The flow test demonstrated that the projects successfully eliminated flooding along the north bank, but the National Weather Service (NWS) declined to raise minor flood stage due primarily to reports of groundwater-related impacts at residences along the south bank upstream of Highway 83. Specific impacts of note included malfunctioning septic systems and water encroaching into storm cellars.

The Program Document stipulates efforts to improve capacity to 3,000 cfs are to continue as long as deemed appropriate by the Governance Committee (GC) or until alternative means of providing similar benefits to the Program’s target species are developed. Additional conveyance capacity is to be developed “as practicably achievable with available resources.” Accordingly, the Executive Director’s Office (EDO) and the Chokepoint Planning Workgroup reconvened in 2021 to revisit all First Increment work in an attempt to find an alternative solution. According to [this 2021 memo](#), the only alternative guaranteed to permanently eliminate the capacity constraints of the chokepoint would be to construct a large-capacity bypass canal.² The EDO revisited the bypass canal concept with the GC in June 2022, noting any large-scale engineering project would likely require use of eminent domain given the number of landowners and individual parcels involved.

GC members, including those representing local stakeholders, stated they were not supportive of condemning land, citing the Program’s Good Neighbor Policy and concerns about damaging

² PRRIP Executive Director’s Office. 2021. North Platte Chokepoint Alternatives. Memorandum to North Platte Chokepoint Planning Workgroup, April 6.



relationships with irrigation districts and other entities. GC members also questioned the 3,000 cfs flow capacity requirement and whether Extension science might clarify the capacity that is necessary to achieve target species objectives in the AHR. Later in 2022, the Program was presented with the opportunity to purchase a tract of land at the North Platte chokepoint occupying the entire width of the river channel a short distance upstream from the Highway 83 bridge. The GC authorized acquisition of the property, recognizing that a single property purchase would be insufficient to address the chokepoint but that the purchase was an indication of the GC's commitment to addressing the capacity limitations, and the EDO was directed to develop a scope of work for a consultant to complete one more comprehensive evaluation of alternatives to increase conveyance capacity at or around the North Platte chokepoint. In the spring of 2023, a team led by Anderson Consulting Engineers (ACE) was selected to conduct this study.

The ACE team concluded that altered flow and sediment downstream of Lake McConaughy and the Tri-County Diversion Dam, constructed just below the confluence of the North Platte and South Platte rivers in the 1940s, created persistent backwater effects that resulted in the formation of an extensive sediment wedge in the North Platte River channel. Over many decades, that sediment wedge extended all the way upstream to or past the Highway 83 bridge and eventually reduced conveyance capacity in the vicinity of the North Platte River at North Platte stream gage. Compared to rapid declines in conveyance capacity during the 1990s, the capacity through the chokepoint reach has remained relatively stable since the start of the Program, leading the ACE team to conclude the reach is likely in a state of quasi-equilibrium. This quasi-equilibrium includes persistent past and ongoing dredging conducted by CNPPID at the TCCD. In absence of dredging, further declines to the hydraulic capacity would be expected.

The geomorphic study informed the development of alternatives considered by the Anderson team, including no action, sediment removal over several different extents of the North Platte chokepoint reach, modification of the Tri-County Diversion Dam, and construction of a 1,500 cfs bypass canal diverting from the North Platte River and discharging to the South Platte River near Sutherland. The no action alternative assumed continuation of the current regime of vegetation treatment and dredging at the Tri-County Diversion Dam. Under this scenario, conveyance capacity through the chokepoint is not likely to continue decreasing, but the Program is still subject to potential capacity constraints during EA releases.

The sediment removal option with the best chance of sustainable success would cost an estimated \$37 million or more and would present significant challenges related to permitting, private property access, sediment disposal, constructability, and maintenance. With regard to modification of the Tri-County Diversion Dam, the existing radial gates have the capacity to pass at least 75,000 cfs, indicating that canal capacity necessary to passively erode the sediment wedge is not of issue, but rather that existing water deliveries and flows through this reach are insufficient to maintain a higher hydraulic capacity, and modifications to the diversion dam would interfere with current hydropower and irrigation operations. A dedicated 1,500 cfs bypass canal combined with existing capacity at the chokepoint could achieve 3,000 cfs at the confluence and the upper end of the AHR but costs are estimated to exceed \$31 million (plus long-term annual O&M of \$400,000). There would be significant issues with property acquisitions and/or easements and the need to construct many canal, roadway, and railway crossings. In summary, the potential solutions with the greatest likelihood of success would cost tens of millions of dollars, may not be permissible or



constructable, and have extensive private property issues that conflict with current Program policies.

Program Science Activities

The [Extension Science Plan](#) focuses on two water-related uncertainties:

- Ability to implement and effectiveness of germination suppression (summer inundation) flows of ~1,500 cfs during the month of June to prevent vegetation encroachment into the channel and maintain suitably wide unobstructed channel widths (UOCW) for whooping crane roosting
- Role of flow during whooping crane migration in 1) the decision to stop, 2) length of stay, and 3) differences in spring and fall use

Of the program's current water related management operation, chokepoint capacity constraints are most likely to affect the Program's ability to conduct germination suppression releases that overlap with the traditional start of irrigation season. Data collected during implementation of partial or full germination suppression releases from 2020-2024 indicate chokepoint capacity constraints can limit our ability to achieve 1,500 cfs in the AHR after mid-June in dry years due to irrigation demand.

Moving Forward – Chokepoint Focus During the Remainder of the Extension

In the June 7, 2017 Addendum to the Program Document, the GC agreed to “aggressively continue to implement channel conveyance improvements at North Platte chokepoint through efforts directed toward achieving and maintaining at least 3,000 cfs conveyance capacity while remaining below flood stage, with additional capacity developed as practically achievable with available resources.” As described above, the Program has aggressively pursued and implemented research and conveyance improvement efforts to improve chokepoint capacity under current implementation constraints. As such, and following discussion at the September 2024 GC meeting, the GC determines it has met the requirements of the Addendum to the Program Document. Absent changed facts on the ground or modifications of Program policies, the GC and the EDO intend to continue to focus on the science implementation activities described above and not devote additional resources toward chokepoint capacity improvements during the remainder of the Extension. However, this does not preclude stakeholders from independently investigating new or unique solutions as it is anticipated that discussions surrounding the need for EA water delivery solutions beyond the First Increment Extension, may be necessary for long-term ESA compliance in subsequent segments of the Program.

Acknowledging that previously agreed upon commitments to investigate options to improve capacity have been fulfilled, the GC will continue to monitor channel capacity conditions at the chokepoint and any changes in channel capacity in the future that may warrant additional discussion of those conditions and their impact on the ability to release EA water for the benefit of the target species. Any new alternatives or proposals to address conveyance capacity at the chokepoint or improve the ability to deliver EA water will be brought before the GC for discussion and consideration during the First Increment Extension for additional evaluation and potential action.