

# Moving Beyond the Low Flow Conveyance Channel

Daniel Timmons  
Rio Grande Waterkeeper &  
Wild Rivers Program Director

August 26, 2024



Photo credit: Javier Gallegos

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Source: U.S. Bureau of Reclamation, Rio Grande and Low Flow Conveyance Channel Modifications, Draft Environmental Impact Statement (July 2000)

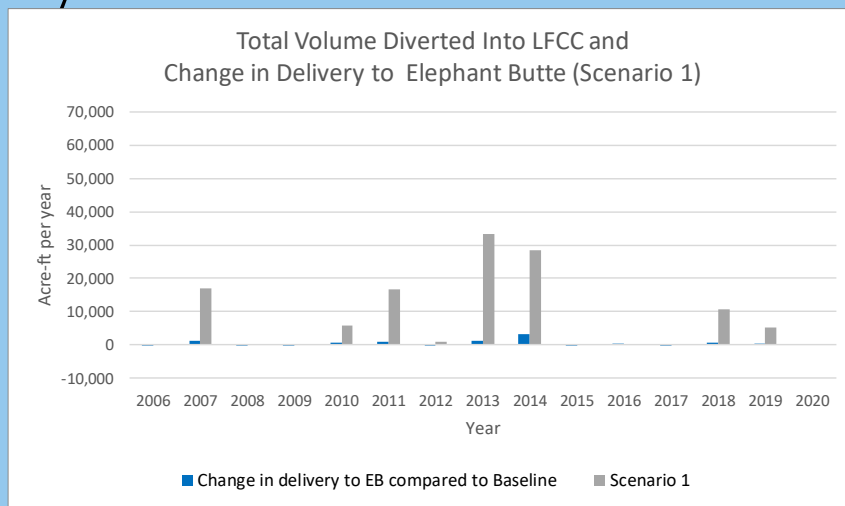
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Source: U.S. Bureau of Reclamation, Draft Lower Reach Plan (June 2018)

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## Total Volume Diverted vs Change in EB Delivery – Scenario 1

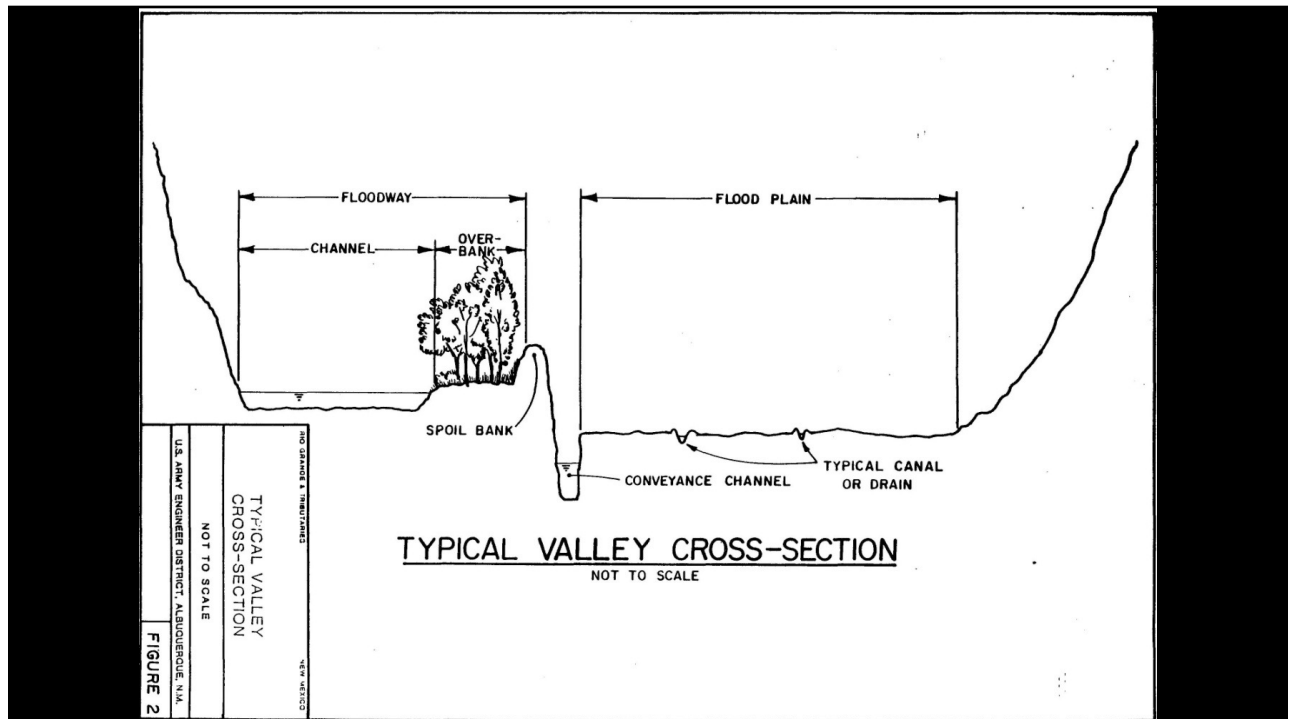


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Photo Credit: Daniel Timmons, WildEarth Guardians (July 23, 2023)

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Photo Credit: Daniel Timmons, WildEarth Guardians (July 23, 2024)

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## Lower San Acacia Reach Improvements Project

Goals

- Improve water delivery to Elephant Butte Reservoir
- Create aquatic and riparian habitats as required under the Endangered Species Act and the 2016 Biological Opinion
- Increase the benefits of maintenance actions by working with geomorphic trends




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## Other Compact Compliance Strategies

- Strategic Water Reserve
- Municipal, industrial, & agricultural water conservation
- Incentives to shift crop patterns to high value, low water-use crops
- Efficiency improvements in irrigation infrastructure (on- and off-farm)
- Shortage sharing and/or enforcement of water rights
- Adequate staffing to support regional water planning
- Support environmental flow protections & let the Rio flow!

Photo Credit: Adriel Heisey



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Photo credit: Adriel Heisey


## Thank you!

Contact Info:

Daniel Timmons

Rio Grande Waterkeeper &  
Wild Rivers Program Director

(505) 570-7014  
[dtimmons@wildearthguardians.org](mailto:dtimmons@wildearthguardians.org)



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**Testimony to the New Mexico Legislature  
Interim Water and Natural Resources Committee**



Daniel Timmons, M.S., J.D.  
WildEarth Guardians  
August 26, 2024

Good afternoon, Mr. Chair and members of the Committee. My name is Daniel Timmons, and I am the Rio Grande Waterkeeper and Wild Rivers Program Director with WildEarth Guardians.

Thank you for the invitation to present today regarding the Low Flow Conveyance Channel, or Low Flow. My testimony here will provide some background regarding historic use of the Low Flow, outline some of the key questions and environmental threats posed by its potential reoperation, and describe some alternative approaches for New Mexico to meet its Rio Grande Compact obligations.

First, some background. The Low Flow was constructed in the 1950's after major flooding in the 1940's had deposited sediment in the lower river, plugging the river channel, and making it challenging to deliver water to Elephant Butte reservoir.

Authorized in 1951 as an emergency measure to bypass the plugged lower river, the Low Flow was expected to have a lifespan of only about 10 years.<sup>1</sup> Construction proceeded in stages between 1951 and 1959, with nearly all river flows less than 2,000 cubic feet per second sent through the Low Flow starting in 1960. The Low Flow operated at full capacity from 1960 until 1975 when sedimentation caused the lower part of the LFCC to silt up. Portions of the Low Flow was partially reoperated periodically in the 1980's and 1990's, but river flows have not been diverted into the Low Flow for the past 20+ years.

I'm here today because over the past couple of years the Middle Rio Grande Conservancy District and the Interstate Stream Commission have been floating the idea of restarting diversions of Rio Grande flows back into the Low Flow to help address New Mexico's Compact debt to Texas. These entities were initially pushing for what they deemed a "study proposal" that would have restarted diversions into the Low Flow last summer, just a few months after being unveiled to the environmental community. That fast-track approach wasn't tenable given the need for federal environmental review, particularly in light of the potential impacts on species listed under the federal Endangered Species Act. But while the effort appears to have slowed, the push to restart diversions into the Low Flow has not stopped.

While everyone recognizes the importance of Compact compliance, I am here today to tell you that reoperating the Low Flow Conveyance Channel is not the easy or obvious solution that this proposal has been made out to be. There are significant questions that would need to be

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<sup>1</sup> U.S. Bureau of Reclamation, Lower San Acacia Reach: Geomorphology and Alternatives Description, Tech. Rep. No. ENV-2023-101 (Sept. 2023).

answered before any such proposal moves forward, and ultimately there are likely much more cost-effective, sustainable, and durable solutions to addressing New Mexico's Compact debt and balancing the state's water supply and demand for the long-term.

I'll start with a fundamental question: Will reoperating the Low Flow actually provide a significant boost to water deliveries to Elephant Butte, and if so, by how much?

Estimates of water salvage during the 1950's to 1970's range widely, generally lack scientific credibility, and are not readily transferable to today's much different conditions. But Reclamation recently ran some statistical analysis that found no correlation between historic amounts of water diverted to the Low Flow and New Mexico's ability to meet its Compact obligations.<sup>2</sup> And it's also important to recognize that while there is certainly seepage from the river channel in the lower reach of the river, we are not facing the same situation as the late 1940's where the river channel was completely plugged up.

Further, no quantitative estimates of water savings from MRGCD's and ISC's monsoon diversion proposal have been provided to the public, but ISC's internal modeling estimates – from the ISC's consultant hydrologists using the ISC's own MIKESHE model – show pretty modest delivery benefits at best. Looking backwards to 2006 to 2019 and applying the basic framework of the monsoon diversion proposal, ISC's consultants projected that 118,000 acre-feet of water would have been diverted out of the river over those 14 years, but only about 8,000 acre-foot of additional water would have made it to Elephant Butte.<sup>3</sup> So on average taking out more than 8,000 acre-feet of water from the river each year, for less than a 600 acre-foot increase in deliveries.

Other scenarios show that diversions to the Low Flow could actually lead to reductions in deliveries to Elephant Butte, due to the loss in efficiency of having a two channel system.<sup>4</sup>

Second, the fiscal costs of this proposal are uncertain, but potentially very significant. The legislature has already allocated tens of millions of dollars over the past few years for maintenance of the Low Flow and other activities to improve conveyance through the San Acacia reach. We have yet to see any estimates of how much it would cost to study, much less implement, any proposal to divert river flows into the Low Flow.

Third, the environmental impacts could be devastating. The fundamental premise of this monsoon diversion proposal is that once any portion San Acacia reach has dried, this entire 60 mile stretch of river can be treated as an environmental sacrifice zone. The proposal treats any water that does not make it to Elephant Butte as wasted. But reality is more complicated.

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<sup>2</sup> U.S. Bureau of Reclamation, Lower San Acacia Reach: Geomorphology and Alternatives Description, Tech. Rep. No. ENV-2023-101 (Sept. 2023).

<sup>3</sup> GeoSystems Analysis, Inc. & Integrated Hydro Systems, LLC, Simulation of Two Low-Flow Conveyance Channel Scenarios using the MRG MIKESHE Model, Presented to NMISC (June 30, 2023)

<sup>4</sup> GeoSystems Analysis, Inc. & Integrated Hydro Systems, LLC, Simulation of Two Low-Flow Conveyance Channel Scenarios using the MRG MIKESHE Model, Presented to NMISC (June 30, 2023)

Now we have to understand that this is an ecological system already under great stress. And much of that is directly attributable to the Low Flow Conveyance Channel. Even when the river is not being actively diverted into the Low Flow, this massive ditch remains the lowest point in the valley, capturing not just irrigation return flows, but also shallow groundwater and seepage from the river. On average 10 feet below the bottom of the river, the Low Flow lowers the water table, which causes the river to lose more water through seepage.<sup>5</sup> So the Low Flow is one of the primary factors that cause portions of the San Acacia reach to dry nearly every year.

And yet, this is still a Living River. When there's water, this is where the largest numbers of endangered Rio Grande silvery minnow can be found. There's also lots of good bird habitat along the river, well beyond Bosque del Apache, including designated critical habitat for bird species listed under the federal Endangered Species Act. This is not some dead zone that can be sacrificed without consequence.

As staffers for U.S. Fish & Wildlife Service and other scientists have pointed out, monsoon pulse flows through this reach during the hottest and driest time are likely very important to maintaining healthy riparian streamside vegetation, including designated critical habitat.<sup>6</sup> These pulse flows also are needed to support insect life which is the food supply for these imperiled birds. Modeling data also indicates that monsoon pulses are important to maintaining the water table, which if drained, will only lead to more water seeping out the bottom of the river when it eventually reconnects.<sup>7</sup>

Simply put, removing water out of a drying river could have catastrophic consequences for the entire ecology of a 60 mile stretch of river, with at best marginal benefits for downstream water delivery. There's got to be a better way.

And in fact, there is – by using the river itself to deliver water downstream.

As you've heard, the Lower San Acacia Reach improvements project could fill in significant portions of the Low Flow below Bosque del Apache and reconnect the river to the water table and floodplain.<sup>8</sup> Improving downstream conveyance by increasing perennial flows through the river channel is something we should all be able to get behind. Between the LSARI project and ongoing river realignment work through Bosque del Apache, Reclamation is already

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<sup>5</sup> U.S. Bureau of Reclamation, Lower San Acacia Reach: Geomorphology and Alternatives Description, Tech. Rep. No. ENV-2023-101 (Sept. 2023).

<sup>6</sup> U.S. Fish & Wildlife Service, Comments on Study Proposal for Use of the Low Flow Conveyance Channel During the Monsoon Season for the Purpose of Increasing Seasonal Deliveries of Water to Elephant Butte Reservoir (Oct. 10, 2023).

<sup>7</sup> K. McClain, Hydrologic Controls on Flow Conveyance Losses on the Middle Rio Grande, Master's Thesis, NM Tech (May 2022)

<sup>8</sup> U.S. Bureau of Reclamation, Middle Rio Grande Lower San Acacia Reach Improvements Project Environmental Impact Statement (Website), <https://www.virtualpublicmeeting.com/mrg-lsari-eis> ; U.S. Bureau of Reclamation, Lower San Acacia Reach: Geomorphology and Alternatives Description, Tech. Rep. No. ENV-2023-101 (Sept. 2023).



taking major steps to boost Compact deliveries by working with the Rio, instead of against it, further reducing any potential benefits from future diversions into the Low Flow.

More broadly, the legislature also needs to continue to support efforts to bring water demands into balance with the reality of reduced water supplies due to climate change and aridification. Tools like the Strategic Water Reserve are a great start, but we need long-term investments to permanently reduce water demands from municipal, industrial, and agricultural users and protect more water instream for environmental, recreational, cultural, and Compact compliance uses. We need incentives to shift crop patterns to higher value, lower water use crops; policies to support efficiency improvements and reduce water being diverted for irrigation use; shortage sharing or enforcement of water rights; and adequate staffing at our state agencies to support regional water planning and other long-term efforts.

New Mexico cannot rely on old ideas like the Low Flow Conveyance Channel to address the new reality of climate-driven reductions in water supply. We need to look forward, not backwards, to find solutions that are durable and sustainable for the long-term.

Thank you.