



— BUREAU OF —
RECLAMATION

Low Flow Conveyance Channel Bureau of Reclamation Perspectives

Meeting of the Water and Natural Resources Committee
August 26, 2024

San Acacia Reach Conveyance Improvements

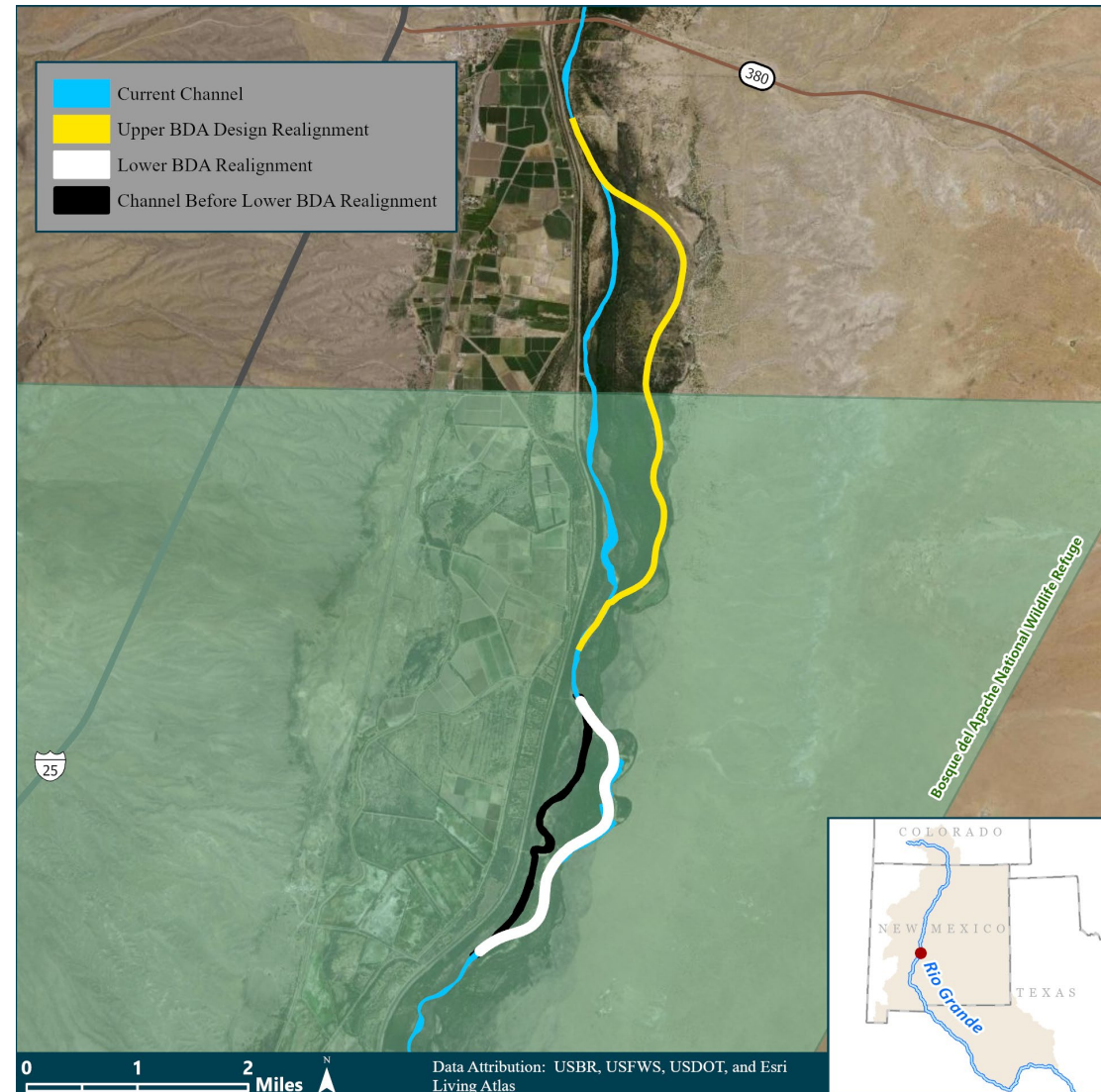
- Lower Bosque del Apache Re-Alignment
- Upper Bosque del Apache Re-Alignment
- River Mile 60 Project
- Bosque del Apache Conveyance Improvements
- Lower San Acacia Reach Improvement Project
- Low Flow Conveyance Channel



Bosque del Apache River Realignment

BDA Lower Realignment

- Sediment plug during 2019 runoff moved flow to new alignment
- BDA Pilot Realignment construction completed April 2021
- Adaptive maintenance of BDA Pilot Realignment
 - Additional mechanical adjustment of bed slope
 - Initiated October 2022
 - Completed February 2023



Bosque del Apache River Realignment

BDA Upper Realignment

- Upstream of Lower Realignment; extends from RM86 to RM82
- Half of project on Refuge land, half falls onto private (eastern edge of the alignment)
- Approaching 90% design completion
- NEPA work ongoing
- Construction start planned for 2025



Picture - Pilot/Lower BDA realignment

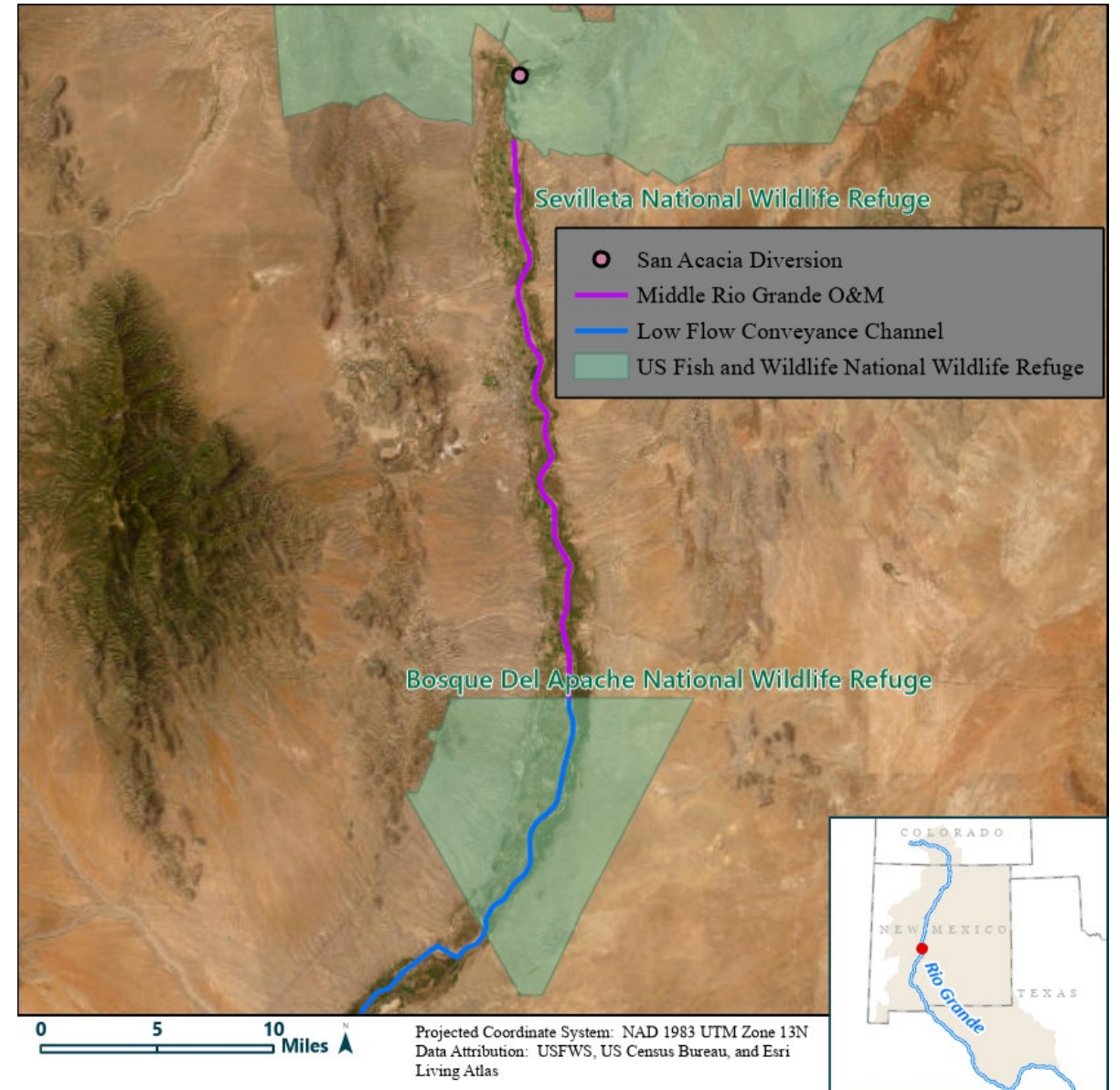
Low Flow Conveyance Channel (LFCC) History

- Constructed between 1951 to 1959 to aide the State of New Mexico in making compact deliveries
- The LFCC starts at the San Acacia Diversion Dam and ended at the Narrows of Elephant Butte, a distance of about 70 miles
- The channel's original purpose was to convey up to 2,000 cfs, maintain effective valley drainage and manage sediment
- When Elephant Butte filled sections within the reservoir were silted in and the LFCC effective length shortened to about 55 miles in the 1980's (15 miles no longer maintained)
- Since mid 1980's, the LFCC collects subsurface drainage water, irrigation return flows, and ephemeral storm runoff and has locations that have a limited capacity of up to 500 cfs



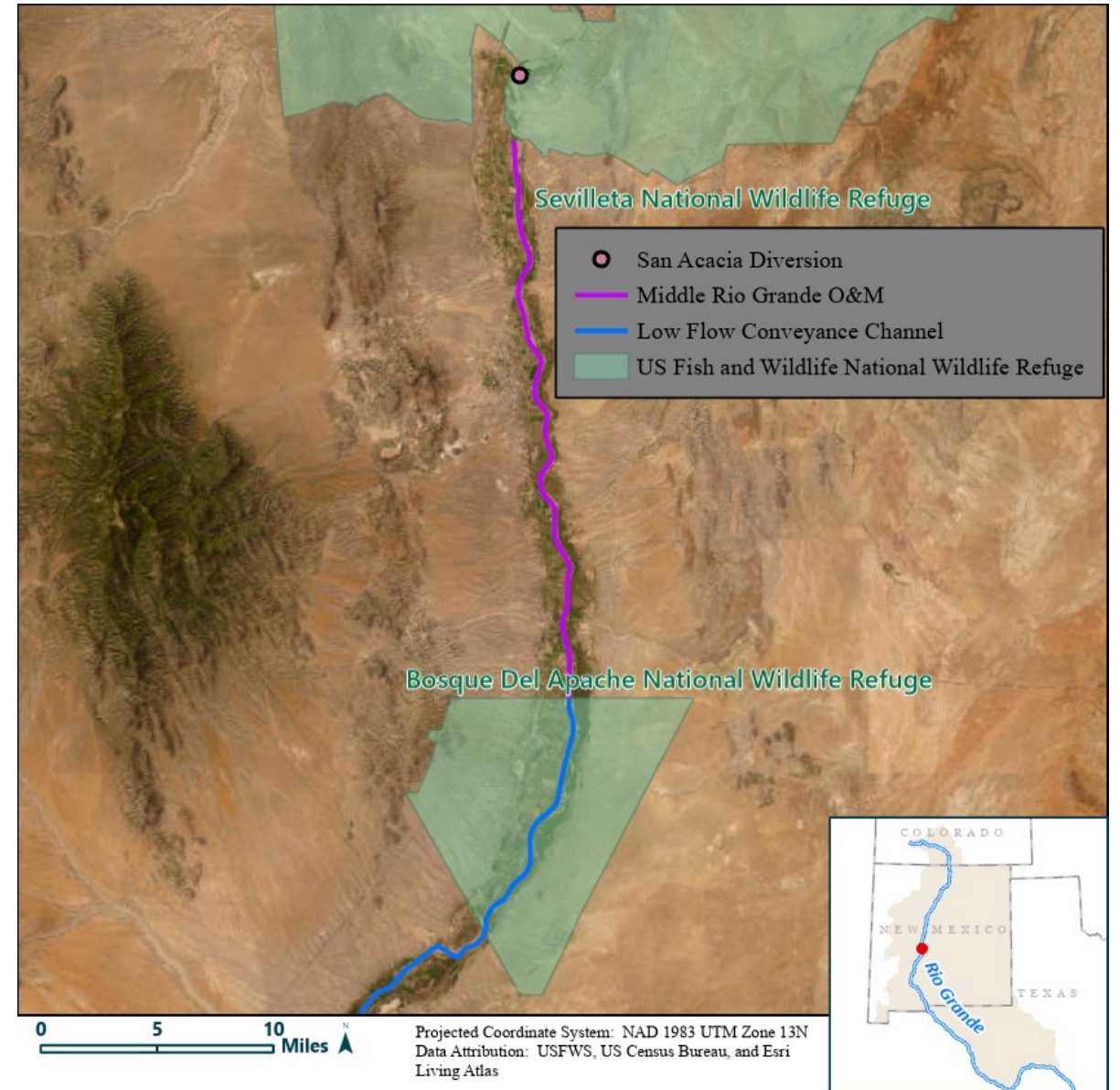
LFCC Current Purpose and Operations

- Delivers drain and return flows to MRGCD farmers and Bosque del Apache National Wildlife Refuge
- Lowers groundwater table to benefit some MRGCD farmers
- Still collects subsurface drainage water, irrigation return flows, and ephemeral storm runoff, but not used as an alternative to Rio Grande channel for compact deliveries
- As of August 1, 2021 – O&M transferred to MRGCD from San Acacia to their Southern boundary
- However, any changes to O&M of the LFCC requires advanced, written authorization and agreement from the United States and compliance with any applicable federal, state, and local laws and regulations.

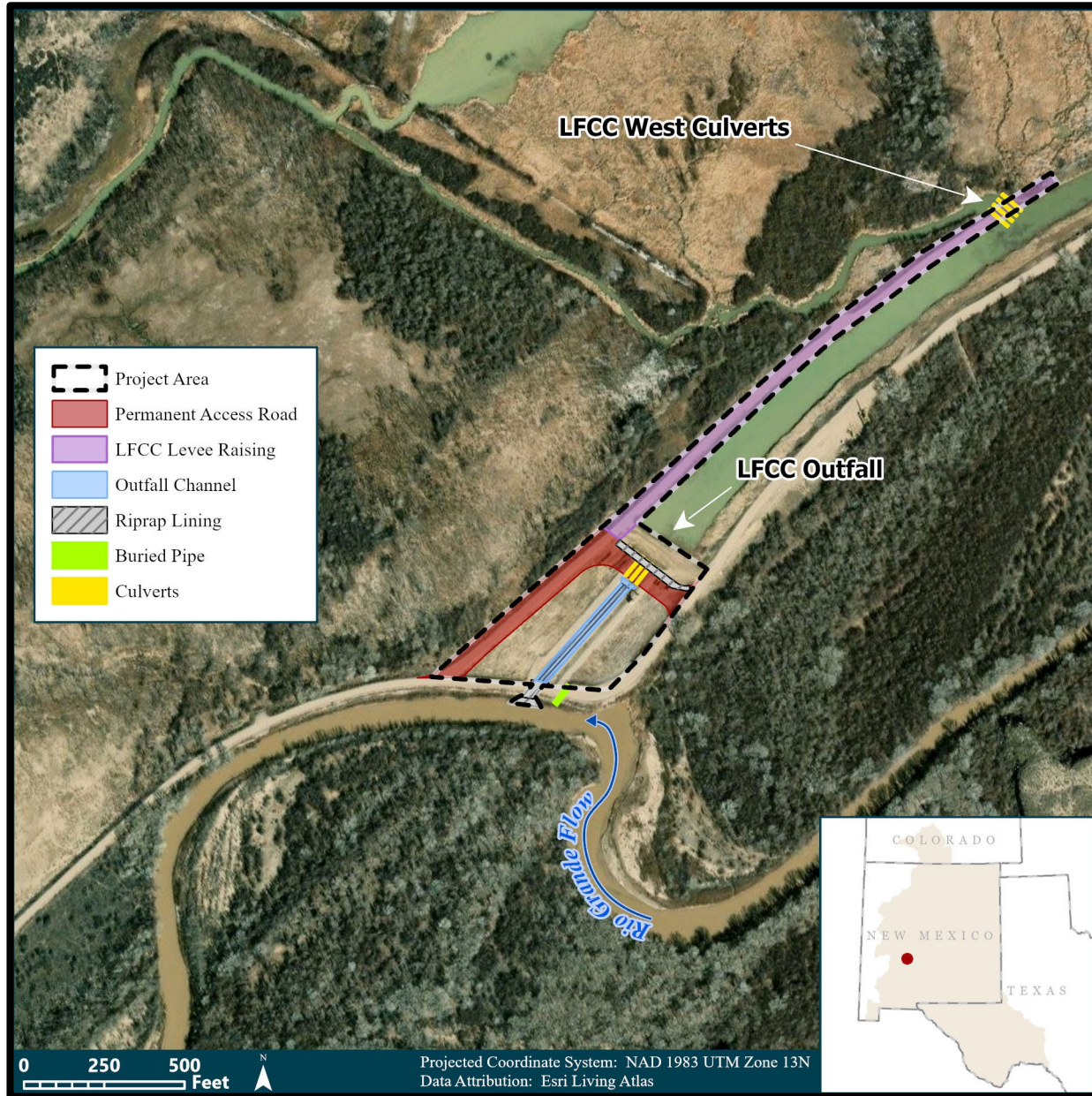


LFCC Potential Future Options Considerations

- Reclamation is conducting a feasibility study as part of the Lower San Acacia Reach Improvements project that will identify a location for a new permanent outfall
- Reclamation will consider plans that analyze benefits and impacts for alternate LFCC operations
- Reclamation constructed a temporary outfall at river mile 60 to improve water deliveries and is evaluating impacts through experimental operations



RM 60 Project



- Temporarily connects LFCC to Rio Grande with controlled outfall
- Goal: improve water delivery to EBR
- Constraint: avoid negative impacts to federally listed bird habitat
- Construction: Completed 2023
- Experimental operations (ops) and adaptive management plan developed 2023 with ops beginning Jan 2024



RM 60 Experimental Operations Questions



- Is it efficient to split flows between the river and the LFCC west considering different discharges?
- Does the reduction of flows to the West LFCC impact federally listed bird suitable/critical habitat (habitat)?
- What is the lowest flow that can be sent to the LFCC west that will not negatively impact the habitat?
- Does the culvert operations impact water levels in the upstream LFCC and the pond at RM 61?



Updates to the 2023 Operations Plan

- MRGCD, Reclamation and USFWS worked together to update the 2023 operations plan and implemented new plan July 2024
- Updates:
 - Reduce flows in spring and summer from 300-350 cfs to 125-175 cfs
 - Reduce flows in fall from 250 cfs to 100 cfs
 - Reduce flows in late fall and early winter from 50 cfs to 20 cfs
 - Reduce flows in late winter from 150 cfs to 125 cfs
- In July 2025, analyze previous years updated flows and potentially propose updates to plan



Lower San Acacia Reach Improvements Project

Goals

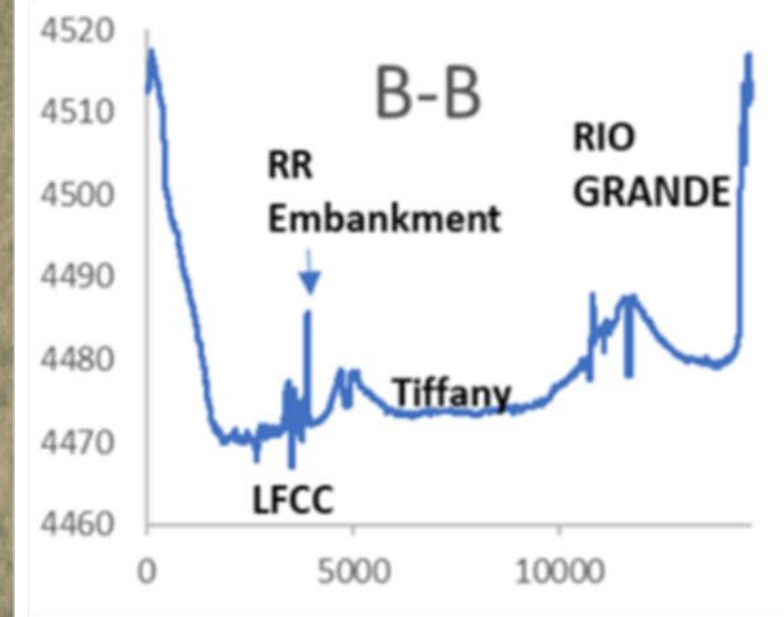
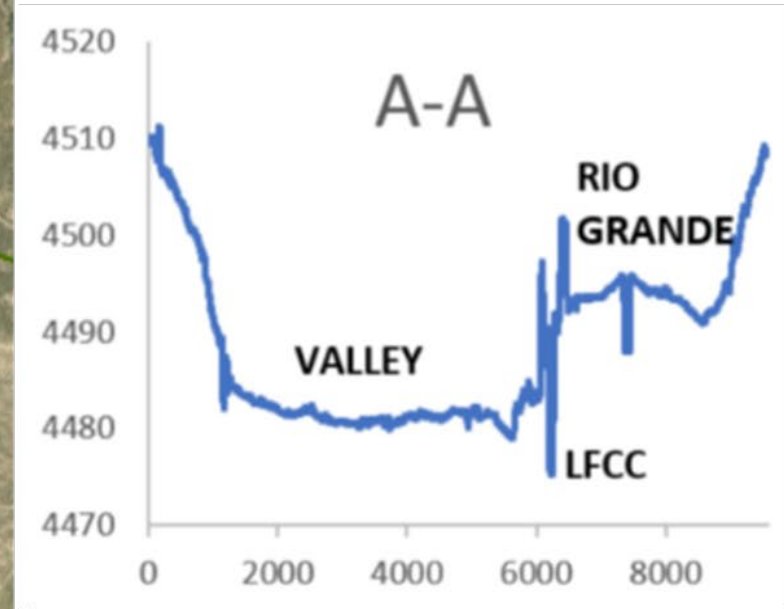
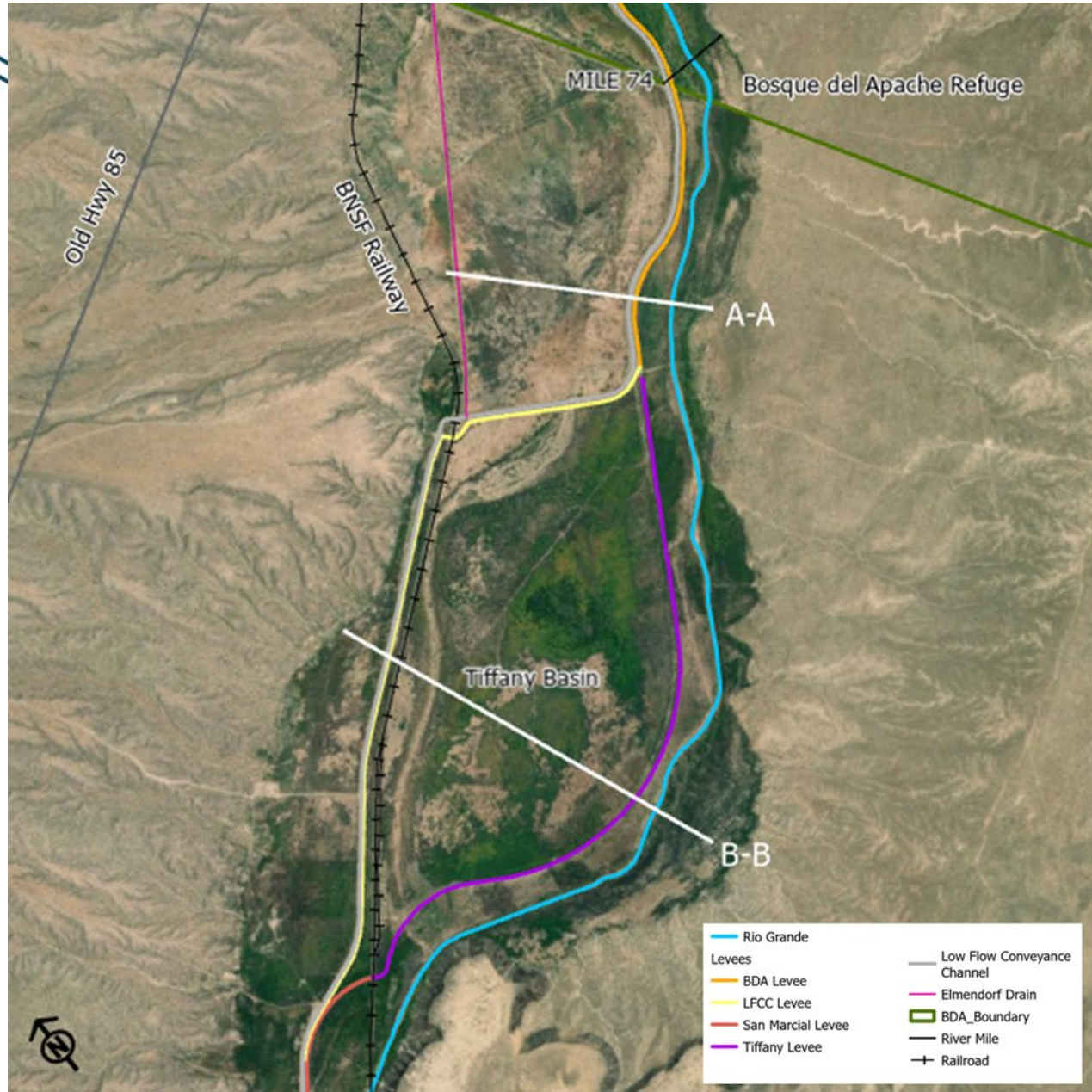
Improve water delivery to Elephant Butte Reservoir

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

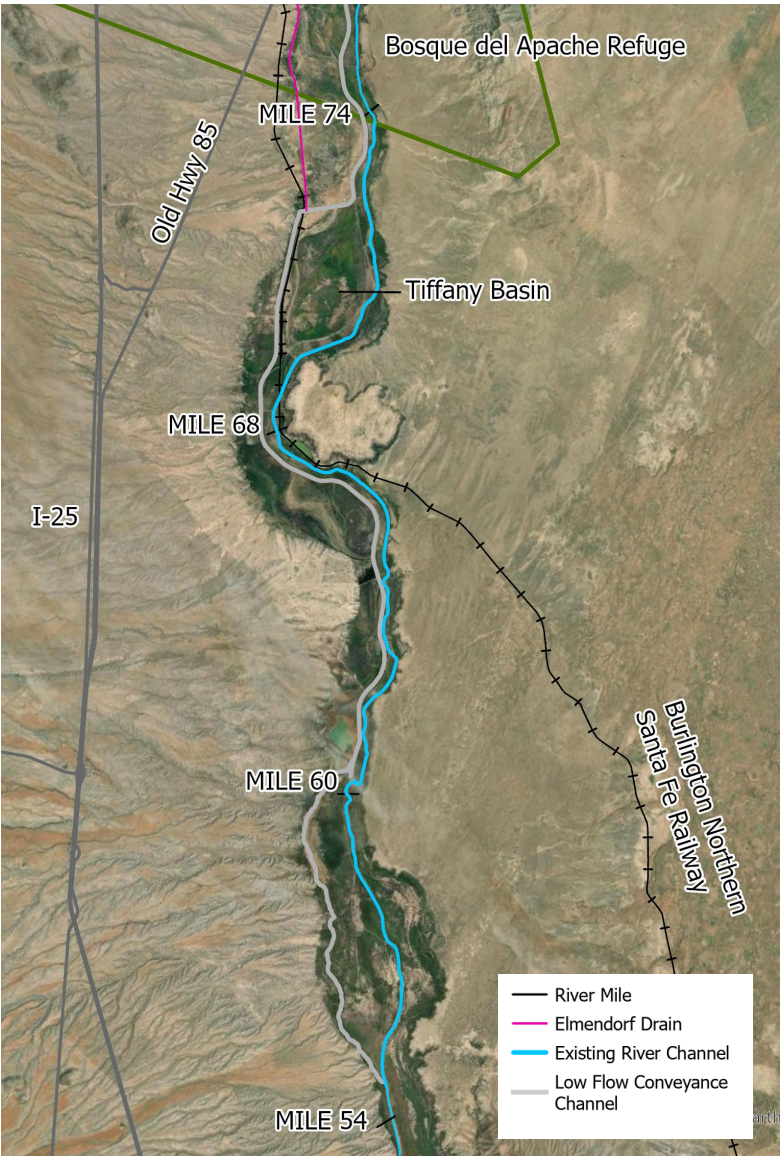


Current Conditions



Alternatives

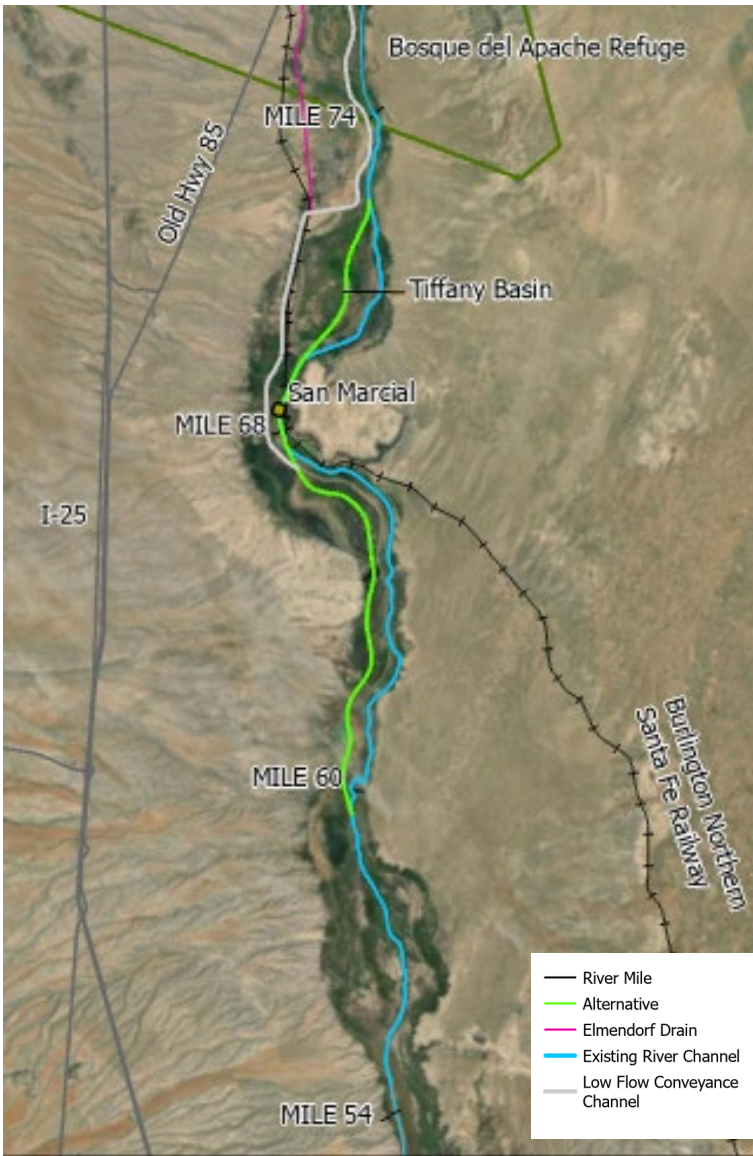
Alternative A - No Action



Alternative B



Alternative C



Current Condition

The Low Flow Conveyance Channel (LFCC) functions as a drain for the floodplain. Maintaining the LFCC does not improve the function of the river or associated habitat.

During low flows in the summer months, the river dries, negatively impacting fish populations and riparian vegetation.

The spoil levee confines the channel and sediment deposition to the east side of the valley.

The river is perched because the channel bank is above the adjacent floodplain, the channel bed is occasionally above the floodplain, and the main channel and active floodplain are both above the valley floor

Following high-flow events, surface water ponding in the floodplain causes fish stranding and decreases downstream water delivery.

The river is disconnected from the water table resulting in high rates of seepage loss.

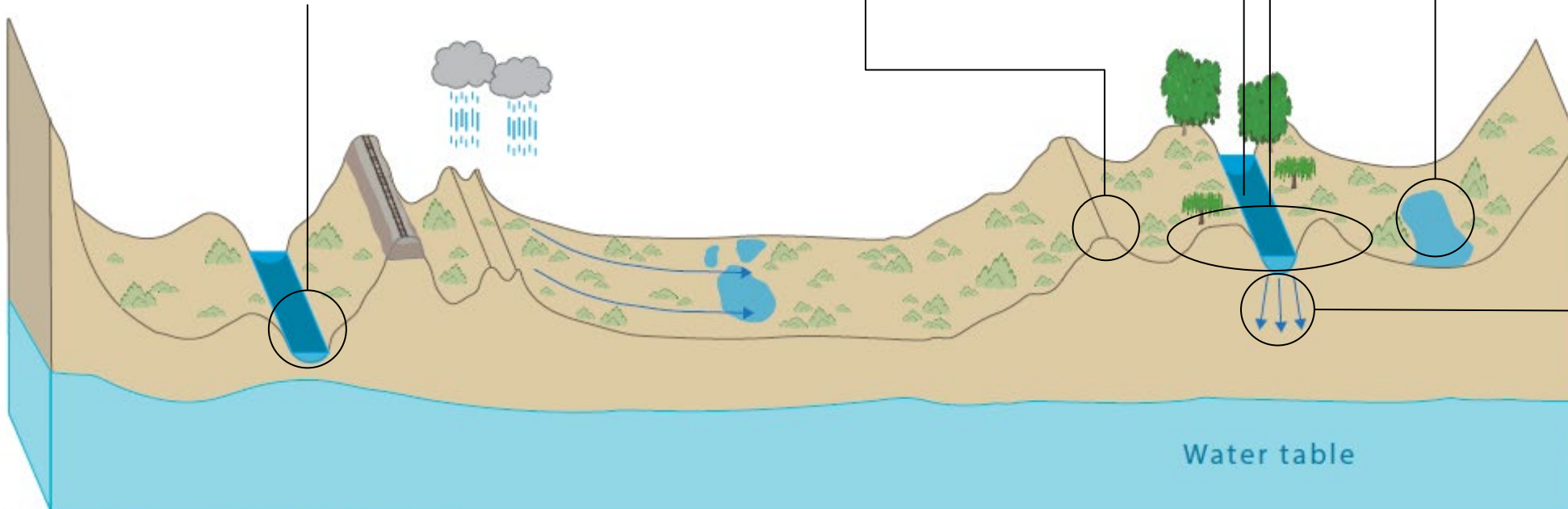


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Potential Future Condition

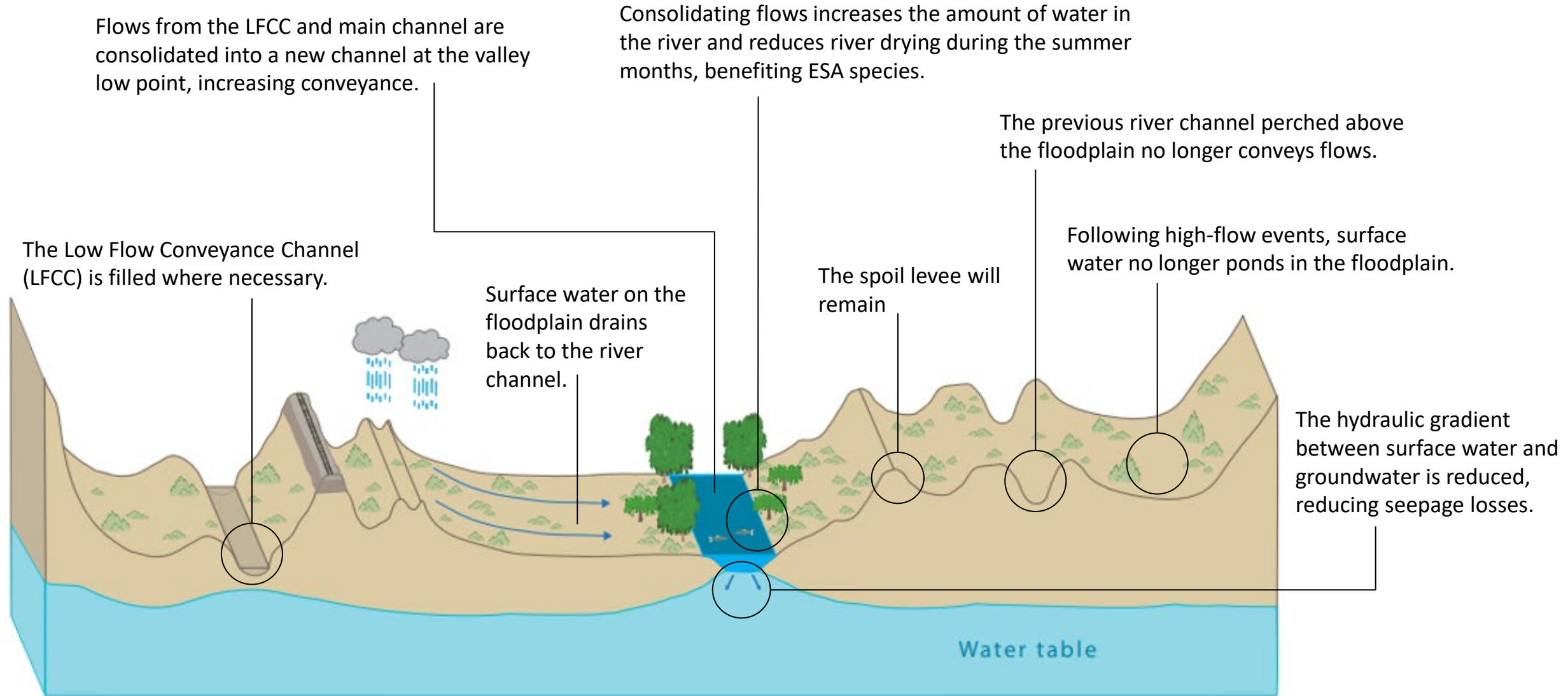


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Project Timeline

May 2023 – EIS Notice of Intent (NOI) published

June 2023 – Public Scoping

Fall 2023 thru Fall 2024 – Modeling and Evaluation of Alternatives

Fall 2024 – Compliance Surveys

Summer 2025 – Draft EIS will be available for public comment for 45 days

Summer 2026 – Public Notification of Final EIS and signing of Record of Decision

December 2026 – Construction anticipated to begin, assuming an action alternative is chosen as the preferred option



Bringing It All Together

- With unprecedented funding levels, Reclamation is able to implement large-scale conveyance improvement projects, not previously possible
- Since early 2000's Middle Rio Grande Project funding focused on largely on Endangered Species Act compliance
- If all San Acacia Reach Conveyance Improvement projects are successfully implemented, we believe this reach will improve Compact debit status while providing stable, effective habitat for decades



Questions?

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