

PURGATOIRE RIVER ASSESSMENT REPORT: INTRODUCTION

2019-2020

Report Contributors:

This 3-part report was made possible through the collaboration of a host of local and regional partners and stakeholders.

We are incredibly grateful for everyone's hard work and input on this report.

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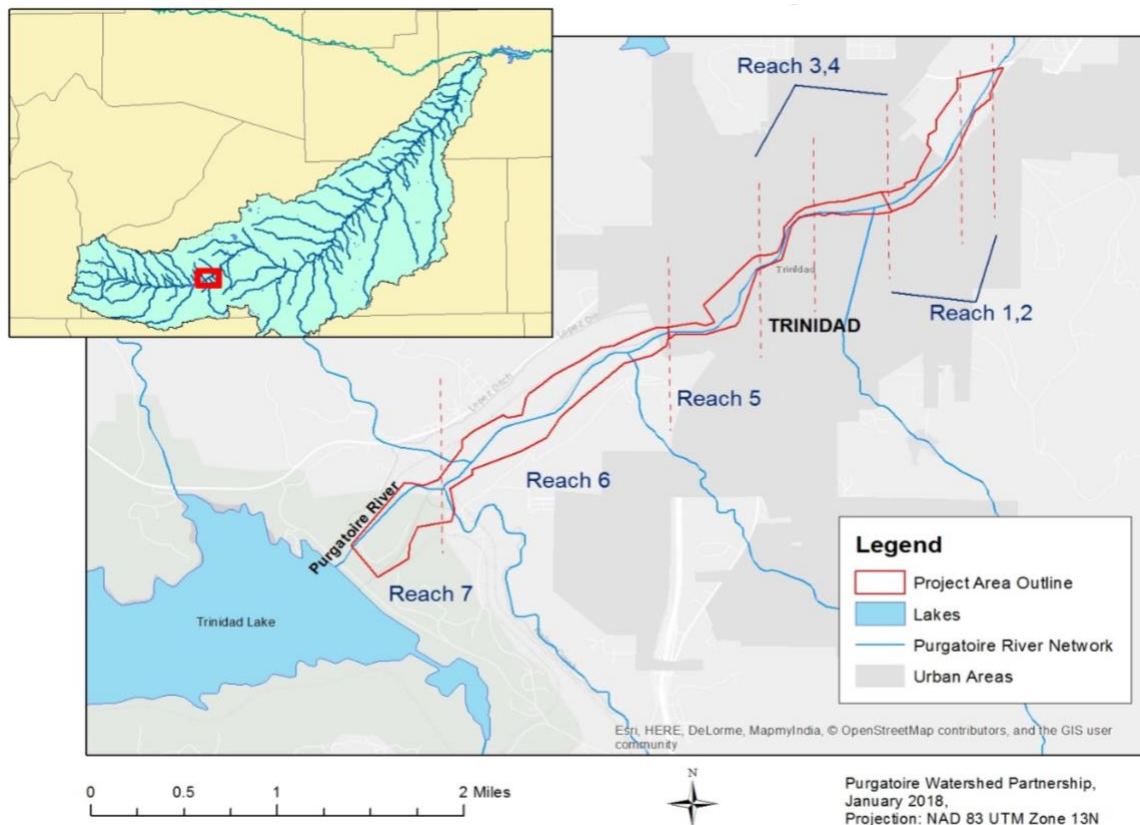
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INTRODUCTION & PROJECT BACKGROUND

In December 2016, the Purgatoire Watershed Partnership (PWP) with support from the Arkansas Basin Roundtable (ABRT) convened a group of diverse stakeholders to determine management priorities for a 4.5 mile stretch of the Purgatoire River as it flows from Trinidad Dam through the City of Trinidad. This stretch of river contains important value for recreation, agricultural uses, property developers, rural economic development, and wildlife habitat. With these values in mind, PWP invited stakeholders to group meetings to reflect the community of interests that rely upon the river.

Through these meetings, the working group settled on six management priorities:

1. Minimize flood risks through river modifications
2. Restoration of riparian and aquatic habitat
3. Improved recreational opportunities
4. Education, safety, and security (headgates, jetty jacks)
5. Management of winter flow releases
6. Preservation of water rights and agricultural heritage

The PWP determined that the next steps towards tackling these priorities would be to conduct a Purgatoire River Assessment effort within the prioritized Project Area. The Project Area is shown below and includes a 4.5 mile stretch of the Purgatoire River beginning at the base of Trinidad Dam and flowing downstream through the center of the City of Trinidad and continuing to the Highway 350/160 bypass.

This Purgatoire River Assessment effort was conducted from 2019-2020 and focused on the following components within the Project Area:

- **Overall River Habitat & Fishery Biology Assessment** - *Assessment of the effectiveness of previously installed river structures in improving fish habitat, stream channel stabilization, and overall condition of the river, and providing recommendations for future river and fishery enhancement*
- **Winter Flows for Fish Assessment** - *Determination of the winter flows needed to support healthy fish populations in the Purgatoire River, and development of flow recommendations*
- **Storm Water Release & Municipal Infrastructure Assessment** - *Determination of how best to manage the controlled release of storm water from Trinidad Reservoir with the goal of preparing for the potential maximum release of 5,000 cfs, assessment of potential flood impacts on municipal infrastructure if a 5,000 cfs release from Trinidad Reservoir were to occur, and determination of recommended improvements*
- **Irrigation Infrastructure Assessment** - *Assessment and documentation of irrigation infrastructure needs including those required to protect against potential flood impacts if a 5,000 cfs release from Trinidad Reservoir were to occur.*

- **Bank Stability Assessment** - *Assessment and documentation of significantly steep/potentially unstable river bank sections in the Project Area including those of concern if a 5,000 cfs release from Trinidad Reservoir were to occur*
- **Historical Flood Control Infrastructure (Jetty Jack) Assessment** - *Assessment of flooding extent into areas containing jetty jacks if a 5,000 cfs release from Trinidad Reservoir were to occur, mapping and prioritization of jetty jacks, and determination of next steps towards removal/mitigation of jetty jacks*
- **Woody Invasive Species Management & Riparian Forest Thinning Assessment** - *Assessment of woody invasive species management and riparian forest thinning needs to improve water delivery and reduce potentially catastrophic impacts from flooding, as well as for fuels mitigation, improvement of overall forest health and wildlife habitat, and to improve river access and public safety.*
- **Recreational Improvements and Public Safety Assessment** - *Assessment and documentation of stakeholder-determined recreational improvements and public safety needs interwoven with the other assessments above.*

The Purgatoire River Assessment efforts included field surveys and data collection monitoring, data analyses and modeling efforts, stakeholder interviews and discussions, and summarization of results and findings. Parts 1 and 2 of the report also included the development of recommendations based on assessment findings. Part 3 of the report focused primarily on assessment and documentation of findings. These efforts were conducted by multiple partners in collaboration with stakeholders.

The Final Products resulting from this Purgatoire River Assessment effort include:

- Purgatoire River Assessment Report – Parts 1, 2, and 3 (and Part 1 Appendices)
- Updated Purgatoire River Hydraulic Models (1D & 2D) for the Project Area
- Purgatoire River Management Plan (Watershed Restoration Plan) for the Project Area