

# Development of Inter-Agency Regional Effluent Management Planning Guidance Document

Northern Nevada Water Planning Commission  
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# Development of a Regional Effluent Planning Guidance Document

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## Background

Under direction from the Regional Effluent Management Team (REMT), develop immediate and long-term effluent management scenarios for the Truckee Meadows Service Area (TMSA).



# Development of a Regional Effluent Planning Guidance Document

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## Approach

- Work closely with the REMT and extract understanding and insight
- Establish the framework and expectations of the document
- Develop effluent management goals from Regional, Municipal and Facility perspectives
- Assemble and review existing documents and reports relating to effluent generation use and practices
- Define and evaluate present conditions
- Evaluate effluent management scenarios from an agency and regional perspective



# Development of a Regional Effluent Planning Guidance Document

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## Document Framework

1. Support TROA and maintain regional and downstream uses that comply with state and tribal water quality requirements
2. Effectively manage the water resources we have
3. Adequately plan, build, and treat so that effluent management will not be a limiting factor in regional growth
4. Within a regional approach to effluent management, each agency must plan for self-management of effluent generated within their jurisdiction
5. Ensure that effluent management goals are consistent and coordinated with long-term water supply planning for the region to the extent possible
6. Continue managing effluent as an asset rather than a liability



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## Regional Goals

1. Develop sustainable solutions to effectively and reliably manage effluent
2. Develop redundancy & resilience with respect to effluent reuse
3. Evaluate treatment technologies capable of producing exceptional quality (A+) effluent
4. When ready, execute a regional approach to introduce the concept of A+ water to the community



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## Agency Goals

1. Work proactively using a coordinated/cooperative approach with respect to effluent management with regional planning agencies, city and county staff and commissions
2. Develop and test alternate treatment and effluent management options for short and long-term use and reliability
3. Minimize the risk associated with effluent management to an acceptable level through planning and infrastructure
4. Evaluate the concept, cost, social and environmental factors associated with the innovative use of effluent
5. Define, resolve and finalize regional water-rights strategies related to effluent management alternatives and return flow, consistent and coordinated with long term water supply plans and operating agreements
6. Convey the importance and urgency of effluent management to agency decision makers



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## Facility Goals

1. Proactively maintain the full functionality/operation of the existing treatment and reuse systems
2. Plan for growth and implement treatment plant and system improvements
3. Anticipate, plan and best manage future NDEP permit requirements and constraints (i.e., numerical limits, flowrates, etc.)
4. Develop succession plans related to the loss or retirement of critical agency staff or contractors



# Development of a Regional Effluent Planning Guidance Document

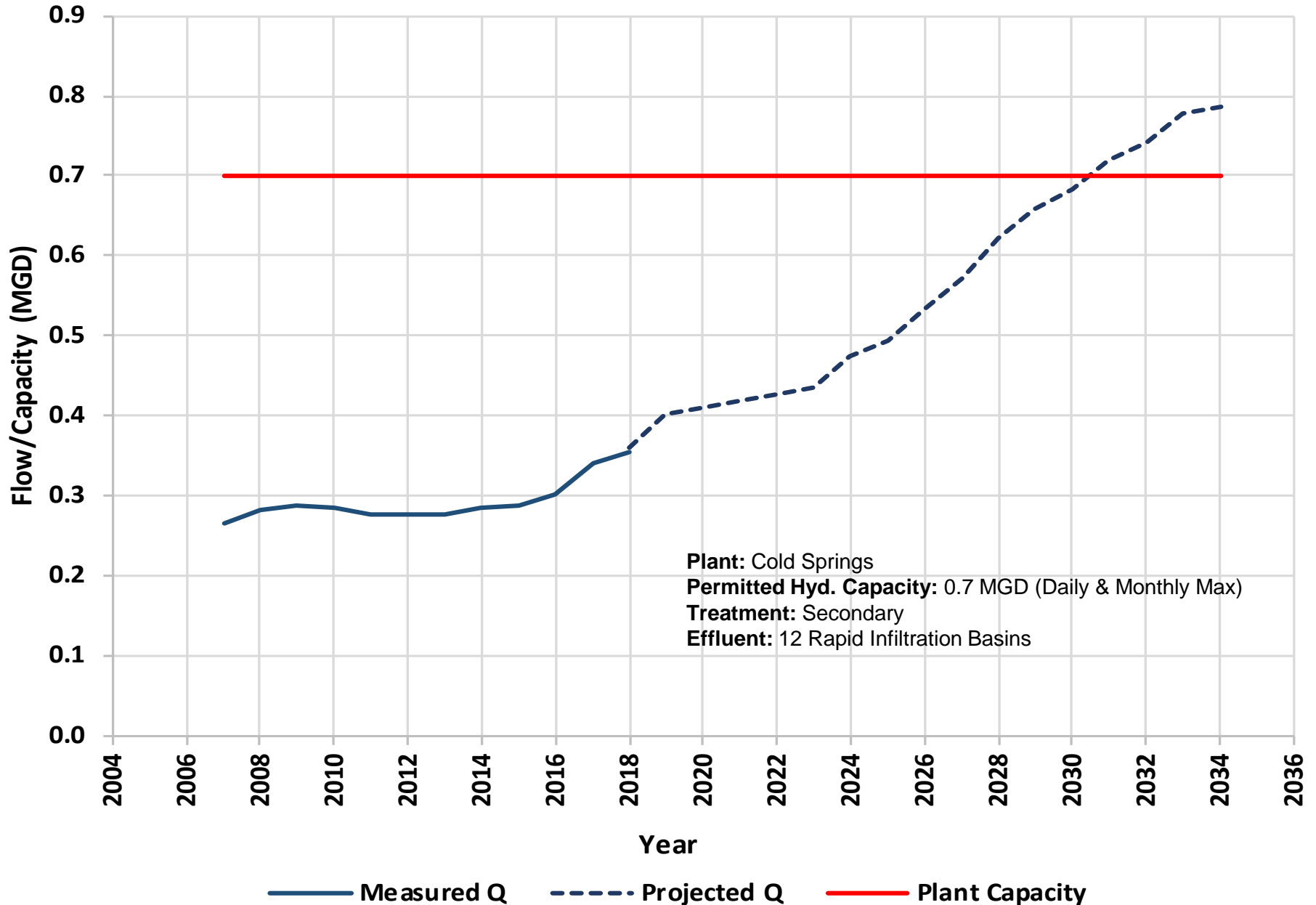
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## Evaluate Present and Future Conditions

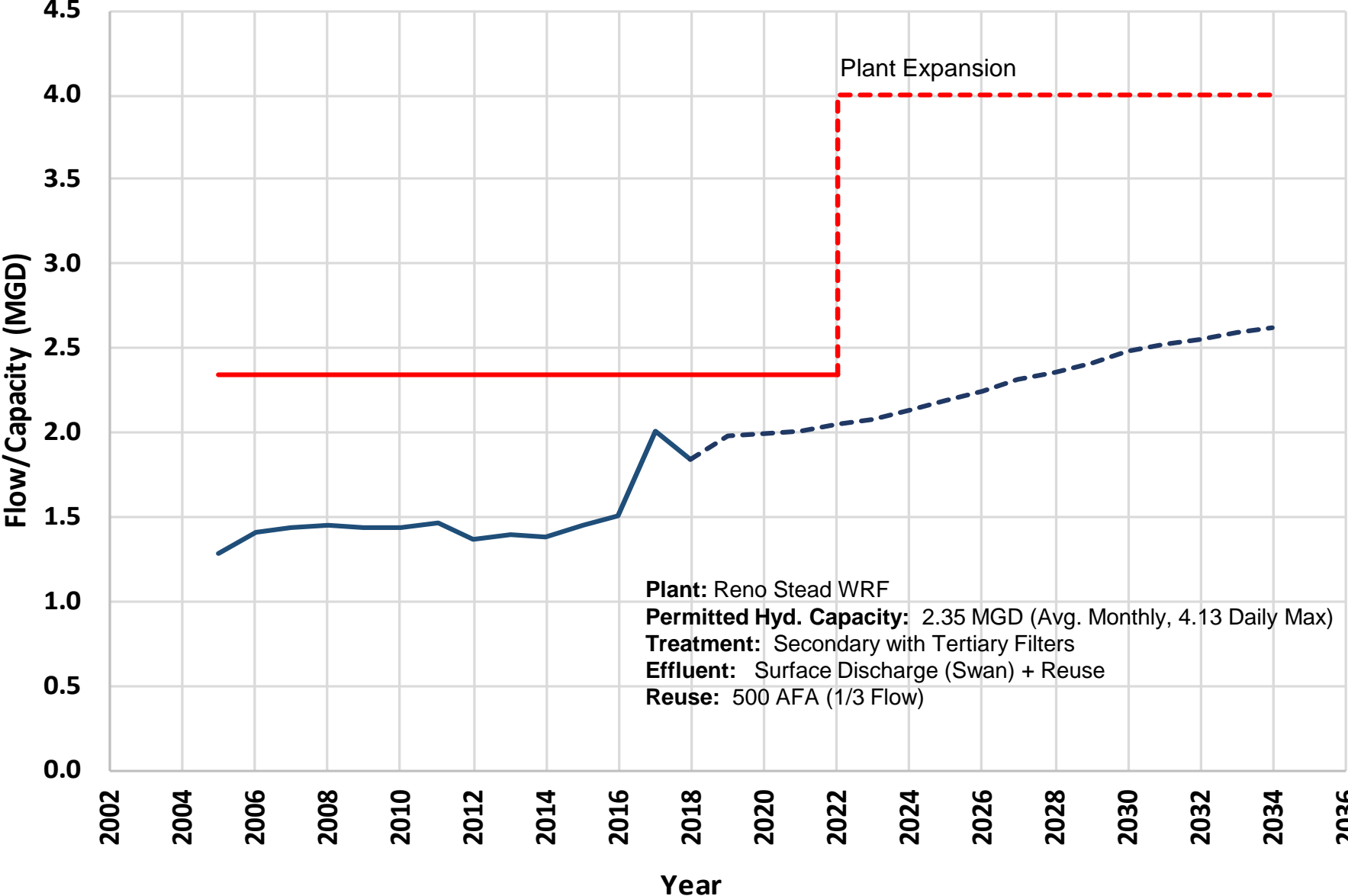
- Used future wastewater generation projections developed by the Truckee Meadows Regional Planning Agency (TMRPA)
- Used the average of the Consensus Forecast model and the Population and Employment Model (PEM)
- Update TMRPA projections when available
- Include trigger points where known



# CSWRF Past and Projected Flows

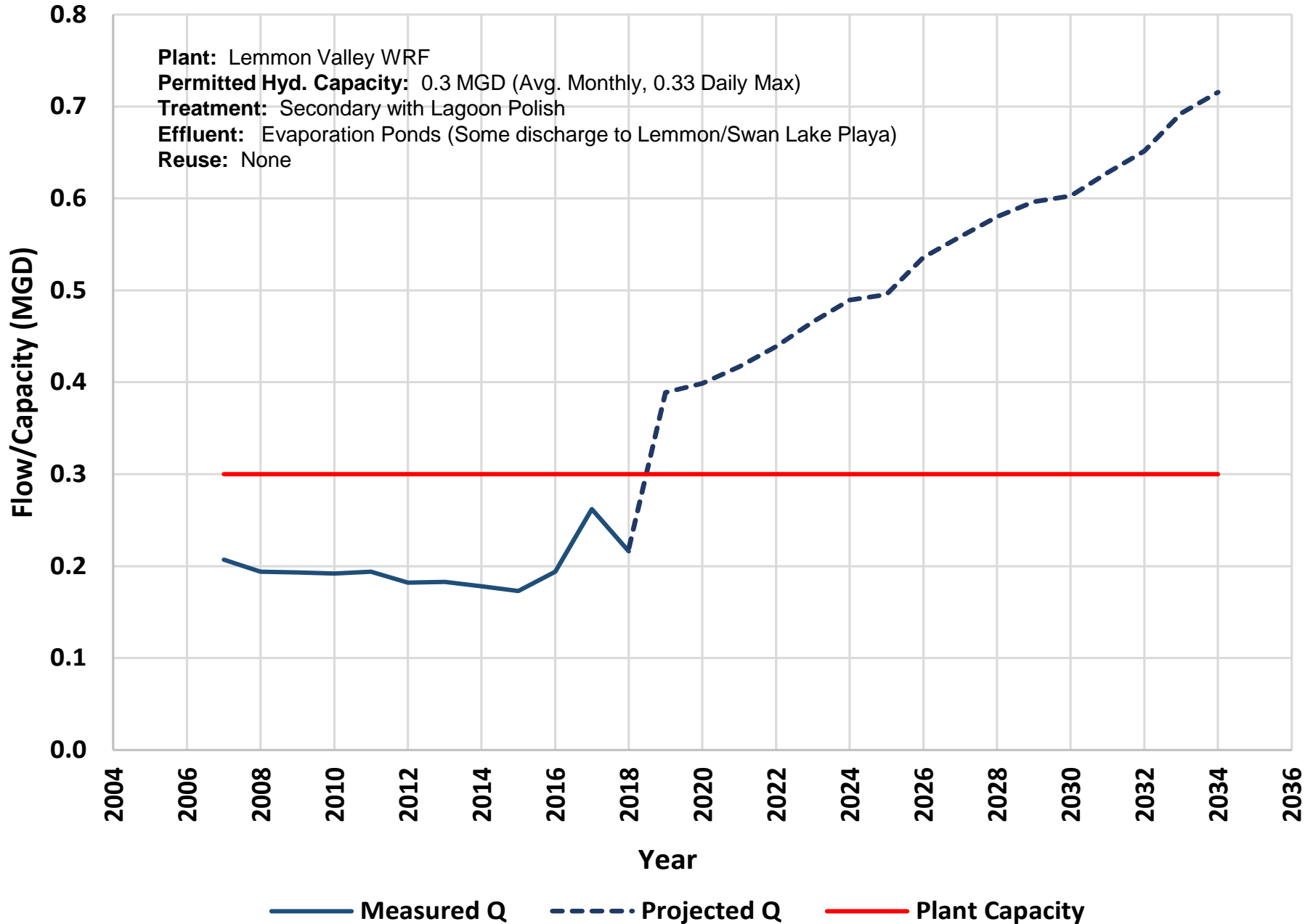


# RSWRF Past and Projected Flows

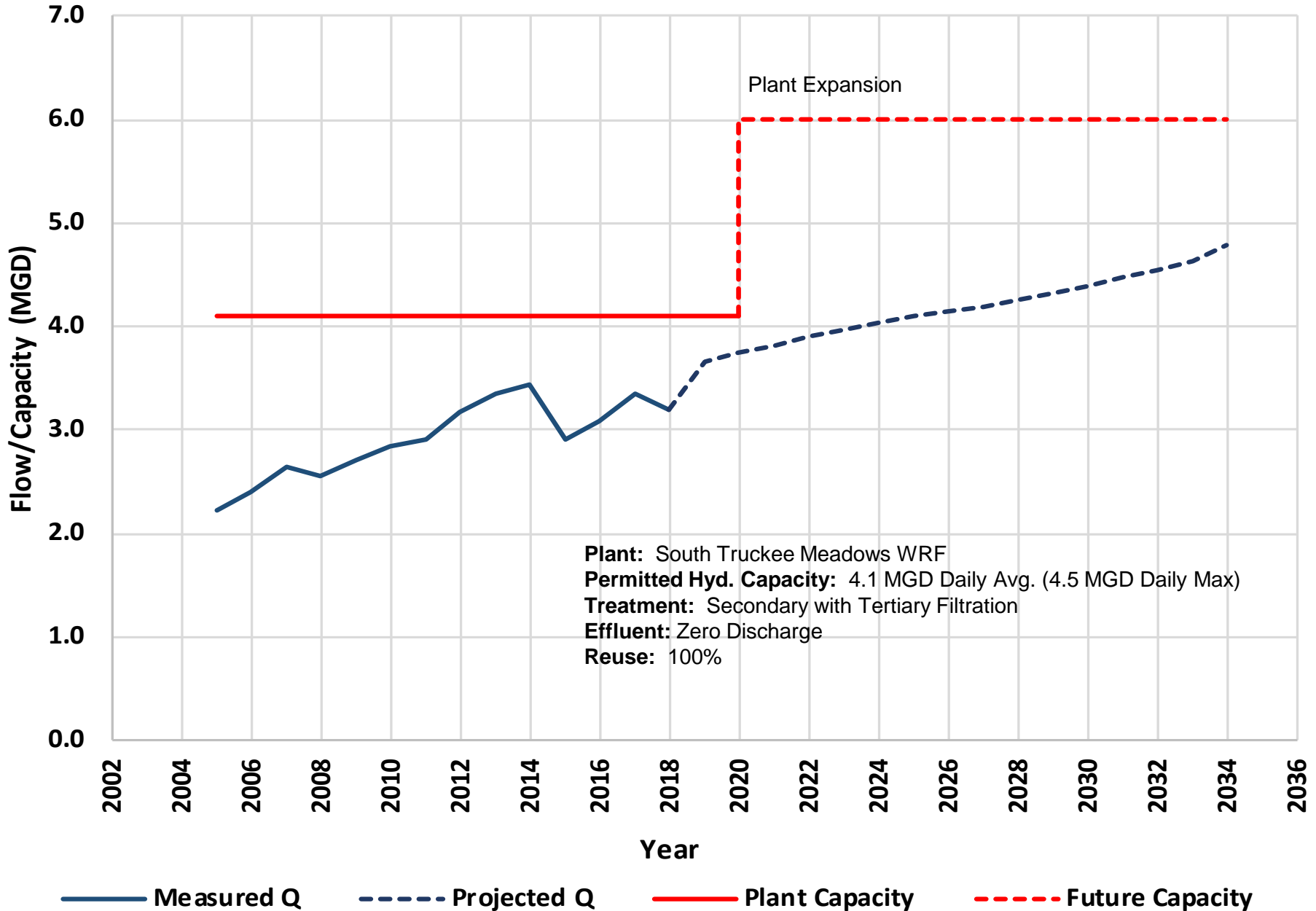


— Measured Q    - - - Projected Q    — Plant Capacity    - - - Future Capacity

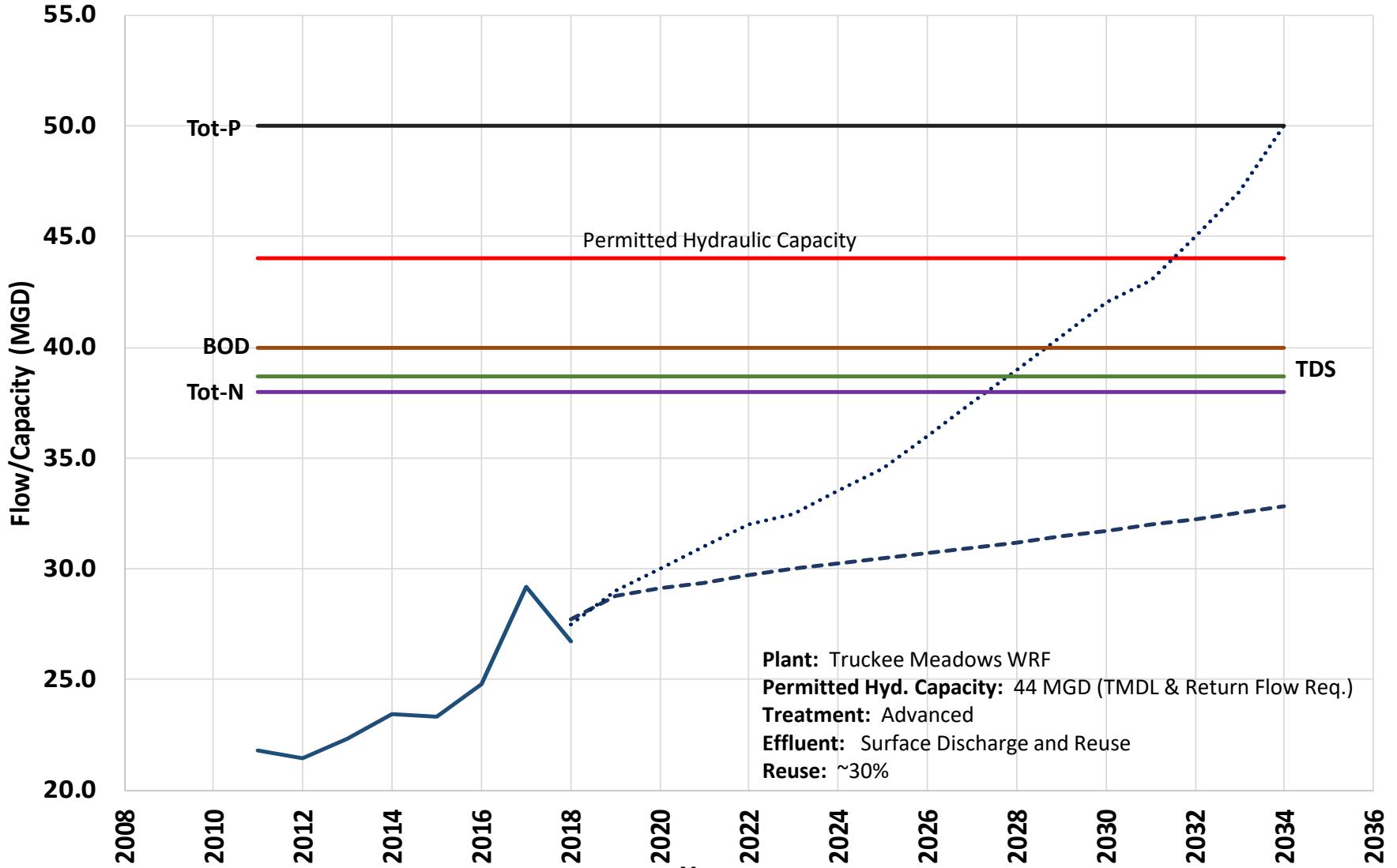
# LVWRF Past and Projected Flows



# STMWRF Past and Projected Flows



# TMWRF Past and Projected Flows



**Plant:** Truckee Meadows WRF  
**Permitted Hyd. Capacity:** 44 MGD (TMDL & Return Flow Req.)  
**Treatment:** Advanced  
**Effluent:** Surface Discharge and Reuse  
**Reuse:** ~30%

- Measured Q
- - - Projected Q (Low)
- Plant Capacity
- ..... Projected Q (High)
- Tot-N Cap
- Tot-P Cap
- TDS Cap
- BOD Cap



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## Next Steps

- Identification of the constraints and restrictions on effluent use
- Develop effluent management options and scenarios
- Recommend schedules and trigger points for decision making and implementation
- Estimate the costs associated with effluent management scenarios