


Sharing Problems, Creating Solutions – the Cooperative Way

Nutrients, TMDLs, and Effluent Limits



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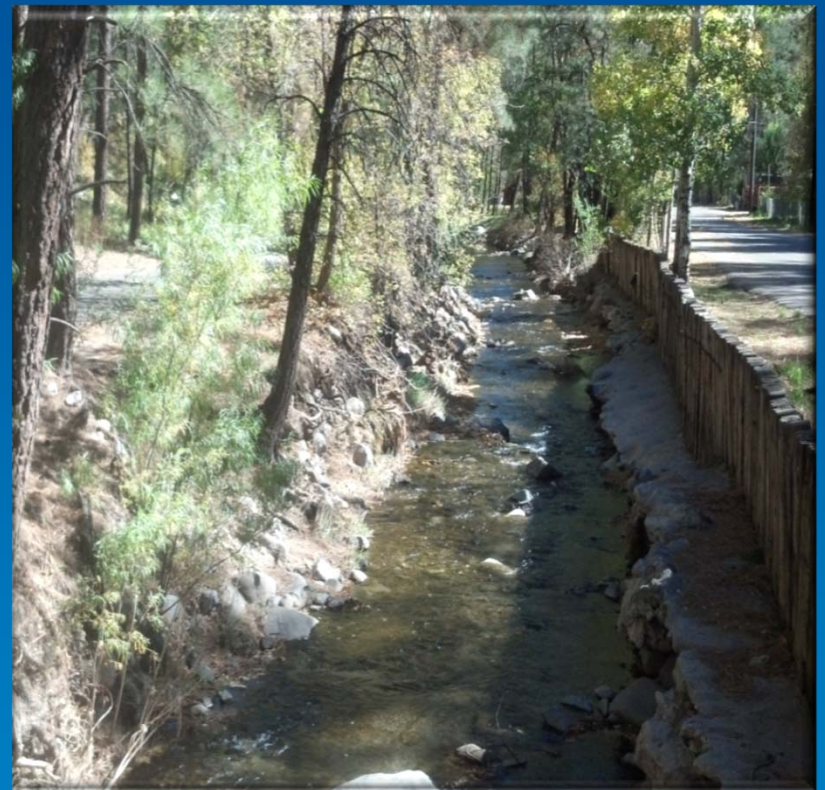
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**CDM
Smith**

The Wake Up Call – Ruidoso, New Mexico

- Rio Ruidoso impaired for nutrients
- Numeric criteria based on ecoregion numbers
- NPDES permit with effluent limitations (30-day average):
 - TN = 1 mg/L
 - TP = 0.1 mg/L
- > \$30M upgrade to the 2.7 mgd plant
- Sewer rates of \$80-\$100/month
- New plant meets TP, but not TN



Little Voices – Chama and Mora

- Chama (0.3 mgd) TMDL completed in 2011
 - Target limits of TP= 0.1 mg/L; TN = 1.0 mg/L
 - Resulted in a permit with seasonal limits
- Mora (0.052 mgd) TMDL completed in 2007
 - Target limits TP= 0.03 mg/L; TN = 0.38 mg/L
 - Water Association said they would go back to septic tanks



The Emergency Call - Raton and Tucumcari

- TMDLs for the Canadian Basin
- Effluent limits:
 - TN 0.45 mg/L
 - TP 0.03 mg/L
- “the limits of technology preclude the attainment of the target concentrations defined in this TMDL”
- Relatively new 0.9 mgd WWTPs



Sharing The Problem

New Mexico Environment Department Perspective

- TMDLs must be protective of aquatic life and other uses
- Ecoregion numbers are accepted as protective
- Limited resources preclude finding the highest protective load

New Mexico Municipal League Perspective

- Cities would be required to meet effluent limits that are not technologically achievable
- Limits must be met within the 5-year period of the NPDES Permit

Creating a Solution



NMED/NMML Nutrient TMDL Work Group

New Mexico
Municipal
League

Goal Statement

- Nutrients exist in all waters of the State but that excessive levels lead to impairment of designated uses
- Nutrient TMDLs with threshold concentrations necessary to be **protective of designated uses**
- Recognizing that waste load allocations should be **technologically achievable**
- Evaluate **alternative approaches** to the implementation of TMDL waste load allocations for municipal point-source discharges that are scientifically based, environmentally sound, and consider the existing facility design, facility age and local economic factors.

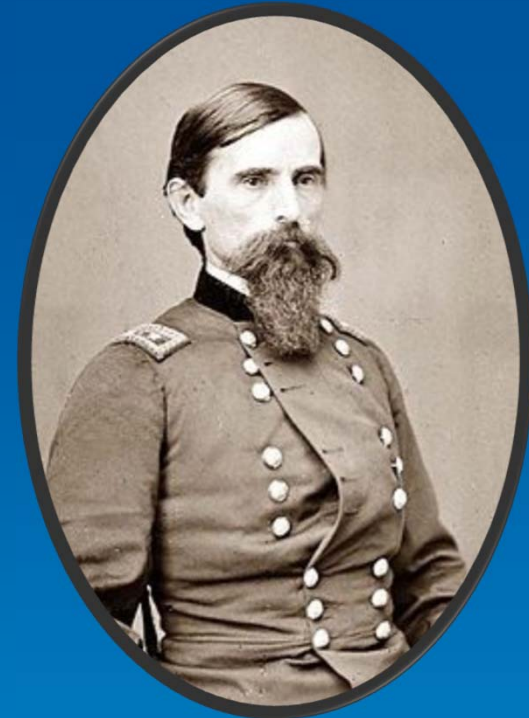
This Is Not Just A New Mexico Problem

- The work group compiled and considered approaches from other states:
 - Colorado
 - Montana
 - Arizona
 - Utah



New Mexico Idiosyncrasies

- New Mexico does not have delegated authority for NPDES
- No regulatory mechanism to require EPA to incorporate NM alternatives in permits
- Certification requirements considered “less stringent” can be ignored

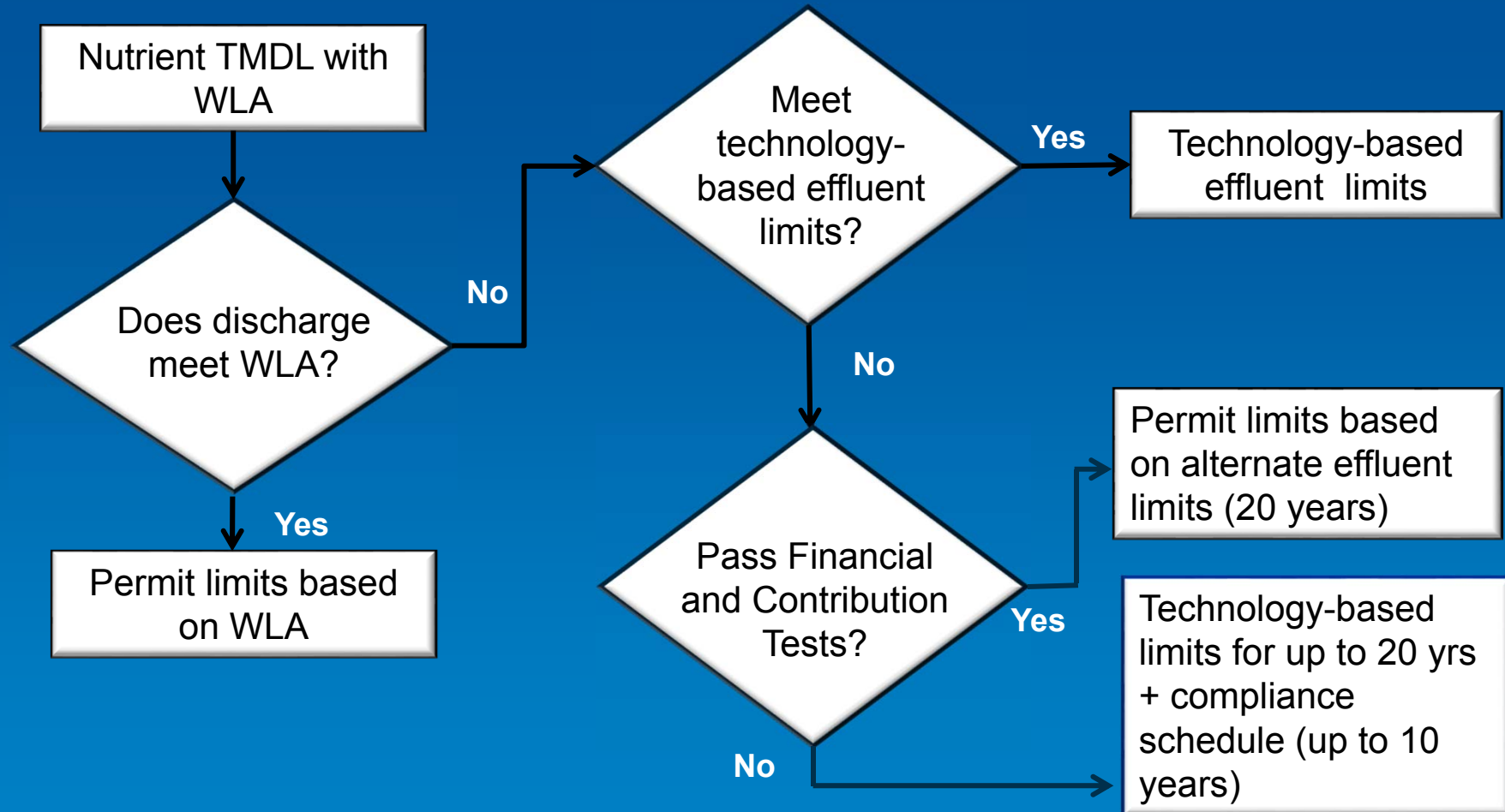


“All calculations based on experience elsewhere, fail in New Mexico.”

NM Territorial Governor Lew Wallace

Water Quality Management Plan

Yes



Three Technology-Based Effluent Limit Categories

	Total Phosphorus		Total Nitrogen	
	Monthly Max (mg/L)	Annual Median (mg/L)	Monthly Max (mg/L)	Annual Median (mg/L)
Existing Facilities	2.0	1.5	12.0	10.0
Modified Facilities	1.5	1.0	12.0	8.0
Seasonal (non-growing season)	4.5	3.0	15	10

Recognizes that nutrient impairments are from long-term conditions, not daily variations

Criteria for Allowing Alternative Limits

Financial Capability (EPA Municipal Preliminary Screener)	Relative Contribution to Impaired Segment
≥ 2	> 50% TN or TP
≥ 1.5	20% - 50% of TN or TP
≥ 1	< 20% of TN or TP

Preliminary Municipal Screener:

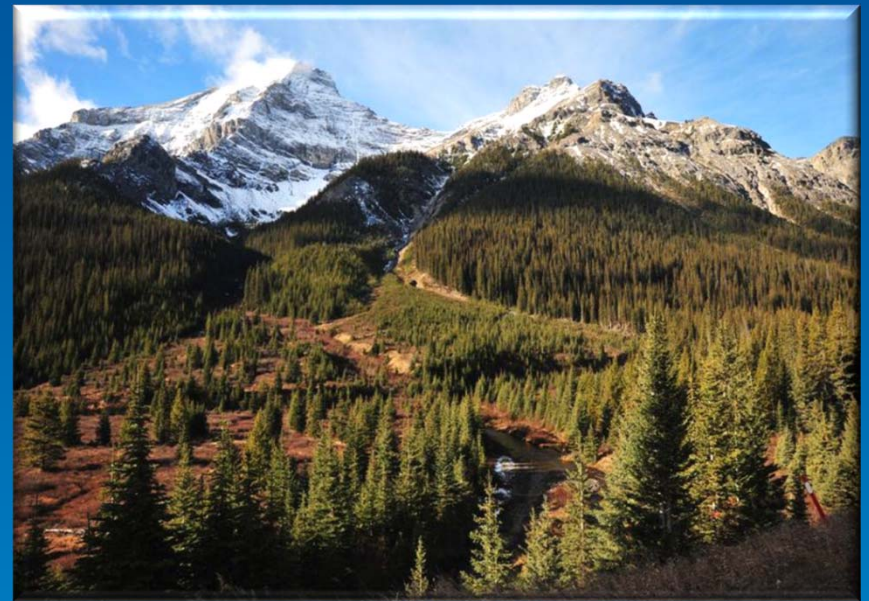
Municipal Screener = [Average Total Annualized Pollution Control Cost per Household] / [Median Annual Household Income]

Current Status

- NMED discussed the concept of Water Quality Management Plan with EPA Region 6 and received a positive response
- Drafts of proposed language for the Water Quality Management Plan have been exchanged and discussed and revised by the Work Group
- NMED has shared drafts of the proposed language with EPA Region 6, who has provided comments
- NMED has informally applied the concepts in the proposal to 3 towns in New Mexico

Ruidoso - Redux

- The new WWTP does not meet TN limit
- Stream appears to be at or below the impairment threshold
- Flow in the stream is greater than assumed in the TMDL (4Q3)
- Relaxing flow condition to seasonal median flow (summer) as the base flow condition means they will be able to meet the TN limit



Chama and Mora

- Chama
 - Preliminary Engineering Report cost estimates completed
 - \$80/connection (O&M costs only); ~ 3% of median income
 - Effluent limits could not be met by design; alternative design selected
- Mora
 - Change flow (4Q3) to median flow



Trial Successes Lead to Acceptance

- Create an alternate path to compliance that is more affordable
- Affords incremental improvements to water quality
- Helps communities that have gotten “stuck” in place while trying to fund WWTP upgrades
- Hope that these to lead to acceptance of proposal by WQCC and NMED

