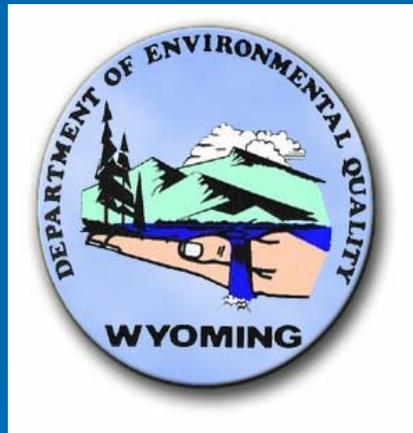


NPDES WATERSHED BASED PERMITTING



Wyoming Department of Environmental Quality
Water Quality Division
May 2004

Watershed Based Permitting Objectives

- Improved Permitting Process
 - Simple
 - Predictable
 - Protective (Increased Confidence)
 - Defensible
 - Streamlined
 - » From 120-150 days to 30-60 days
- Consolidation of Outfalls
 - Fewer DMR's
 - Reduced Sampling
 - Increase Economical Treatment Opportunities

Watershed Based Permitting Benefits

- Improved Environmental Protection
 - (Clearer Understanding of Cumulative Impacts)
- Predictable Outcomes
 - (Calculated Impacts and Mitigation Measures)
- More Efficient Permitting
 - (Opportunities for General Permits)
- Improved Mechanism to Hear and Address Concerns
 - (Fewer Objections)
- Equitable Distribution of Finite Assimilative Capacity
 - (Flexibility to Adjust Allocation to Coincide with Industry Development Plans)

Watershed Based Permitting Benefits (Continued)

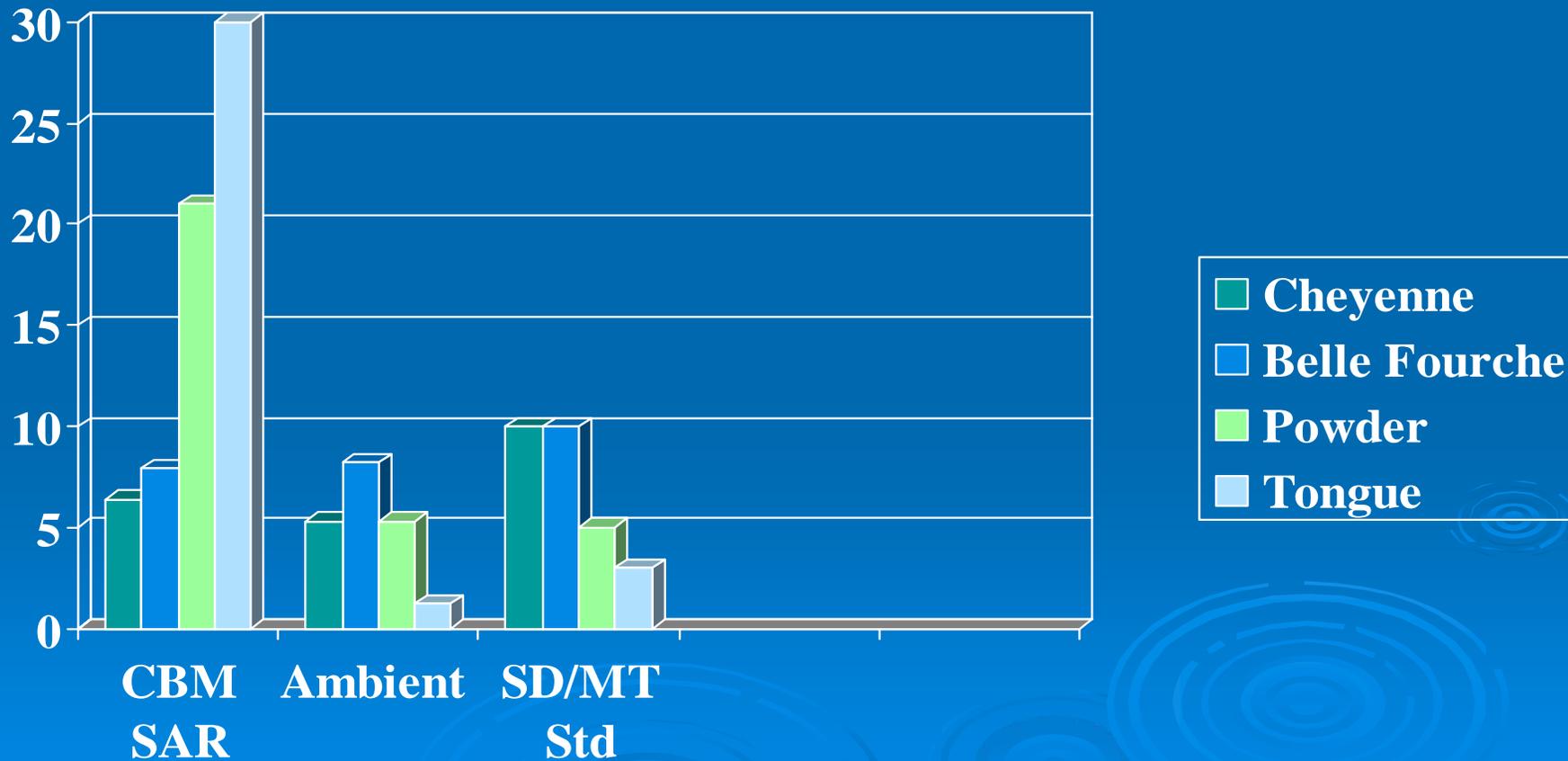
- Clear Understanding of Limits and Constraints
 - (Reduction in Business Plan Risk)
- Clear Understanding of Competing Interests
 - (Upfront discussion of potential concerns)
 - (All development in a Watershed planned for upfront)
- More Informed DEQ Decisions
 - (Fewer objections)

Watershed Based Permitting

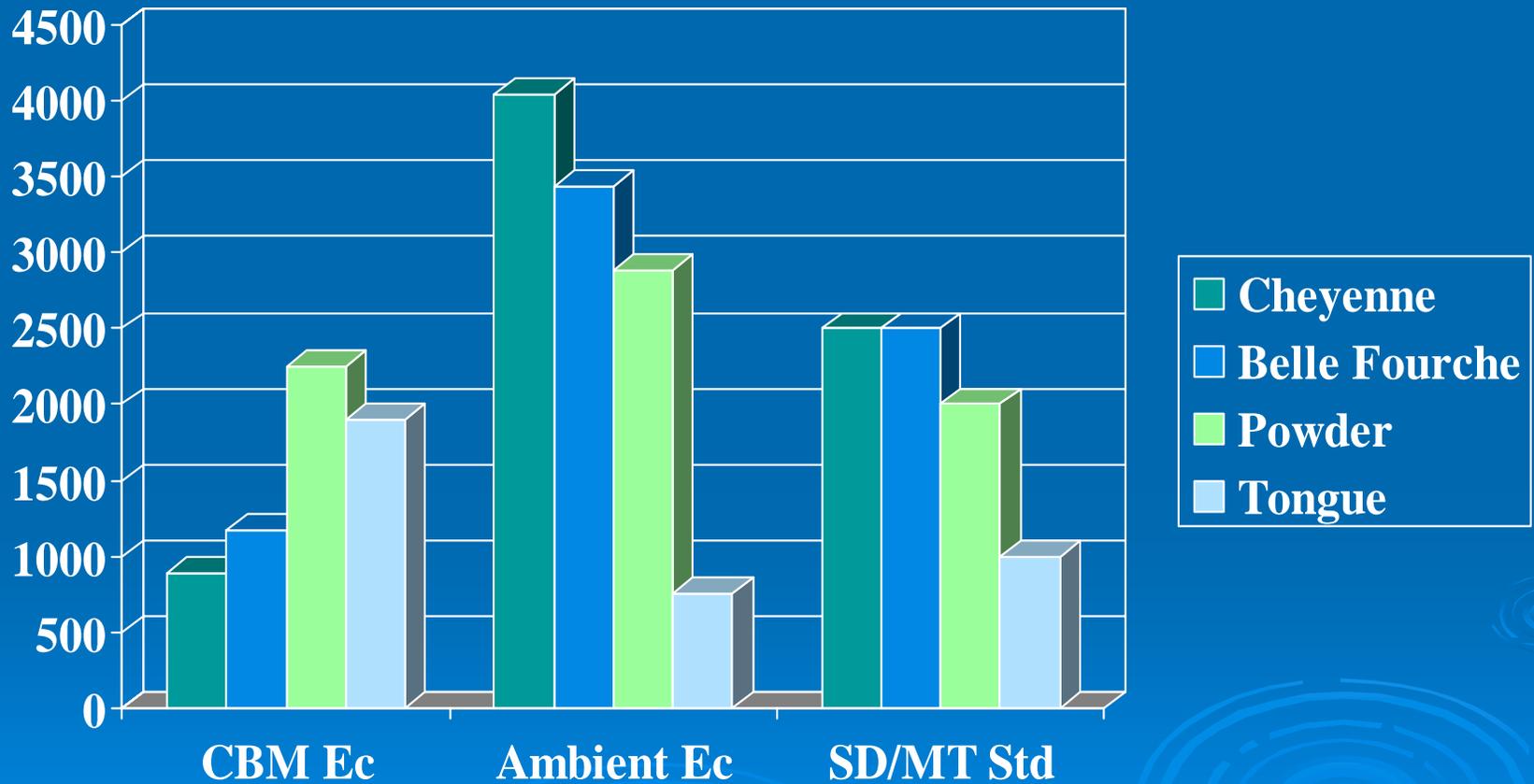
Why Now?

- Less than 40% of Total Wells Drilled
 - Future Development in Powder and Tongue
- Increase in Water Production
 - Deeper Thicker Coals
- Decrease in Water Quality
 - SAR
 - Ec
 - Barium
 - WETT

Inverse Relationship East to West



Inverse Relationship East to West



Watershed Based Permitting

Why Now?

(Continued)

- Heightened Concern Over Cumulative Impacts
 - WDEQ
 - Montana DEQ
 - South Dakota DEQ
 - WG&F
 - Landowners/Landusers
 - Environmental Interest Groups

Challenges

- Diverse Stakeholders
 - Sideboards and Ground Rules
- Watershed Plan Development Timing
 - Facilitator
 - Sideboards
- Nay Sayers
 - Incentives
- Existing Discharges

General Approach

- Size of Watersheds
 - 10 or 12 Unit Hydrologic Unit (HUC)
 - MAP
- Phased Implementation
 - Undeveloped Watersheds
 - Less Complicated
 - Developed Watersheds
 - Incorporation of Existing Infrastructure
 - Cycle on Common Expiration Dates

12 Step Process

- Identify all Stakeholders
- Collect, Analyze and Summarize Available Data
- Public Meeting to Initiate the Process
- Identify Water Quality Objectives
- Identify Discharge Constraints
- Evaluate and Select Discharge Options
- Establish Monitoring Locations
- Develop Monitoring Plan
- Develop Watershed Based General Permit
- Respond to Public Comment
- Issue Watershed Based NPDES Permit

Process

- Initiate Process
 - Operator(s) Propose to Develop in New Watershed
- Identify Stakeholders
 - Joint Effort (DEQ and Operator(s))
 - Stakeholders
 - Operators
 - Landowners
 - Landusers
 - Environmental Interest Groups
 - Governmental Agencies (Local, State, Federal)
 - Other

Process

- Collect, Analyze and Summarize Available Data
 - Compiled by the Operator(s)
 - DEQ Oversight and Project Management Oversight
 - Sources
 - USGS
 - SEO/WOGCC/DEQ/WGS/G&F
 - DEQ
 - BLM
 - Industry
 - EPA
 - Conservation Districts

Process

- Public Meeting to Initiate the Process
 - Public Notice of Meeting
 - Meeting in the Vicinity of the Watershed
 - Identify Facilitator (Selected by DEQ)
 - Establish
 - Objectives
 - Timelines
 - Sideboards and Ground Rules

Process

- Identify Water Quality Objectives
 - Target Flow Volume
 - Target Concentrations
 - Potential Water Uses

Process

- Identify Discharge Constraints
 - Irrigation Use
 - Groundwater Protection
 - Erosion
 - Channel Capacity
 - Topography
 - Produced Water Quality/Quantity

Process

- Evaluate and Select Discharge Options
 - Irrigation
 - On-Channel Storage
 - Off-Channel Storage
 - Direct Discharge
 - Treatment
 - Reinjection
 - Consolidation of Outfalls

Process

- Establish Monitoring Locations
 - Verify Assumptions
 - Adjustments as Necessary

Process

- Develop Monitoring Plan
 - Constituents
 - Frequency
 - Reporting
 - Responsibilities
 - Contingencies

Process

- Develop Watershed Based Permit Conditions and Documentation
 - Part I
 - Special Conditions
 - Justification for Limitations
 - DMR Frequency and Constituents

Process

- Public Notice of Permit
 - 30 Day Minimum
 - In Paper in Vicinity of the Watershed
 - WDEQ Web Site

Process

- Respond to Public Comment
 - 2 Weeks
 - Input from Stakeholder Group
 - WDEQ Drafts Final Response

Process

- Issue Watershed Based Permit
 - Monitor Implementation

Current Efforts Underway

- Permit Expiration Dates
- Montana TMDL Effort
- EPA Innovative Grants
- Undeveloped Drainages