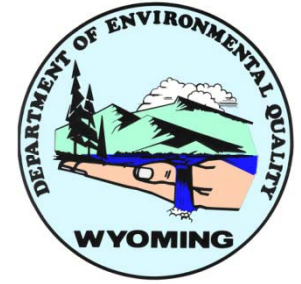


# Solid Waste Permitting and Corrective Action Program



## Compliance Advisory Panel

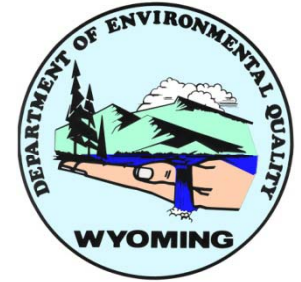
December 14, 2010



# What We Regulate

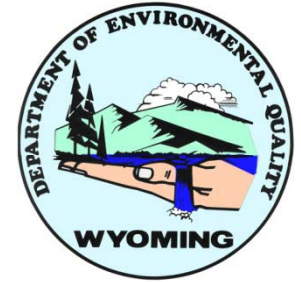
- ◆ Landfills
  - Municipal
  - Industrial
    - Oilfield waste
    - Coal combustion waste
- ◆ Transfer – Treatment – Storage facilities
  - Municipal waste transfer facilities
  - Used oil storage
  - Scrap tire processors

# Background



- ◆ 1975 WY Solid Waste Rules
  - Stop burning, open dumps, litter, odors, etc.
- ◆ 1989: EPA “Subtitle D” rules for municipal solid waste (MSW) landfills
  - Routine (daily) cover
  - Final Cover
  - Liners and leachate collection
  - Monitoring (groundwater and methane)

# Since 1989



- ◆ Assumed:
  - Dry climate = very little landfill leachate
  - Deep groundwater
  - Little threat to groundwater
- ◆ Therefore:
  - Liner exemptions
  - Minimal monitoring
  - Less stringent regulation of small (<20 ton/day) landfills

# Reality Hit



- ◆ Groundwater contamination
- ◆ Underfunded MSW landfill operations
  - \$ not set aside for closure, equipment replacement, post-closure monitoring, etc.
- ◆ Rising cost of waste management
  - Addressing existing contamination
    - More wells, monitoring, and potential remediation
  - Preventing further contamination
    - Landfill liners in new disposal areas and final cover (“caps”) over waste

# Reality Hit



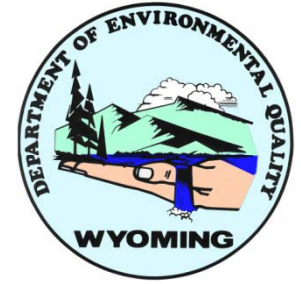
- ◆ Landfills generate leachate
  - Cheyenne: 1.2 million gallons in 2007 with 29 chemicals above groundwater protection standards.
  - Casper: 1.8 million gallons in 9 months
  
- ◆ Groundwater is not that deep
  - Median depth: 44 ft.
  - Average Depth: 62 feet

# Why Should we be Concerned?



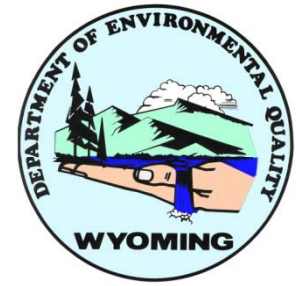
- ◆ 70% of Wyoming's citizens rely on groundwater as a drinking water source
- ◆ 82% of WY public water systems rely solely on groundwater
- ◆ 2,600 permitted water supply wells within 1 mile of these landfills
- ◆ 111 landfills are within 1 mile from a drinking water source

# Why Should we be Concerned?



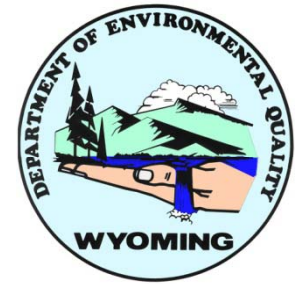
- ◆ Agriculture needs safe groundwater
- ◆ Wyoming communities are expanding to areas without municipal water systems
- ◆ Many people must use poor quality groundwater now - we can't assume it is ok to pollute poor quality groundwater
- ◆ Landfills can be a source of pollution for several hundred years
- ◆ Landfill leachate has more contaminants than raw sewage

# 2004 Citizens' Advisory Group on Solid Waste Recommended:



- ◆ Treat landfills alike:
  - Uniform standards for design, monitoring, etc.
- ◆ Lined regional landfills
- ◆ Shared responsibility for leaking landfills
- ◆ Trust account for landfill remediation
- ◆ State goals for improved recycling
- ◆ Adequate resources for DEQ
- ◆ Financial resources to local government

# 2006 Legislation



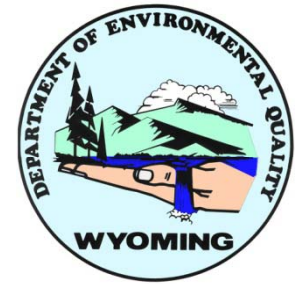
- ◆ Integrated Solid Waste Management (ISWM) Planning
  - 51 operating landfills
  - 10 planning areas
  - Plans finished in 2009
- ◆ Groundwater monitoring grants
  - Enough wells to detect a release
  - 50% - 75% reimbursement to local governments

# Integrated Solid Waste Management (ISWM) Planning



- ◆ Plans Generally Complete
- ◆ Reimbursement Generally Done (90% funded by the state)
- ◆ Cost estimates confirm savings from regional/shared services
- ◆ With the anticipated landfill closures (18-24), estimates show a **savings of over \$5 million per year statewide**
- ◆ If communities maximize shared services economies of scale should save even more money
- ◆ Decisions are still pending in many communities and change will evolve over several years

# 2010 Monitoring Report



Municipal waste landfills identified	146
Landfills in the program:	114
Wells:	521
Constituents analyzed:	85/well
Monitoring/sampling events:	4/well
Individual data points:	363,000
Landfills with wells that can detect a release:	76
Landfills where more data is needed:	38
<b>Number that have polluted groundwater:</b>	<b>73 (96%)</b>
<b>Number that may need corrective action:</b>	<b>69 (91%)</b>

# Potential Cost of Corrective Action



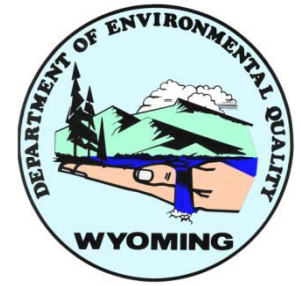
Cap and 20 year monitoring for 51 landfills (Cap cost estimated at \$45,000/acre)	\$99.4 million
Cap, 20 year monitoring and active remediation for 18 landfills	<u>\$64 million</u>
Total for 69 landfills with known contamination	<u>\$164 million</u>
<u>Extrapolated</u> total with remaining 38 landfills	<u><b>\$226 million</b></u>

# Industrial Waste News?



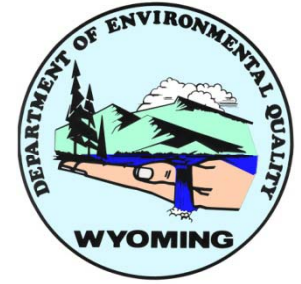
- ◆ Coal combustion waste
  - Fly ash
  - Bottom ash
  - Boiler slag
  - Flue gas desulfurization (FGD) materials
- ◆ EPA proposing Hazardous Waste Designation
  - States, industry and others are opposed
- ◆ Outcome and timing uncertain

# What Does the MSW Future Hold?



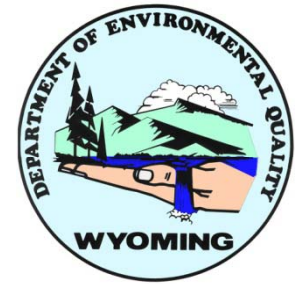
- ◆ Change in the public perception that MSW management is a free service
- ◆ Communities no longer self-sufficient in management of MSW
- ◆ Cooperative efforts among stakeholders - state and local governments, industry and the public

# What Does the MSW Future Hold?



- ◆ Modern, integrated MSW management systems to help control costs:
  - Regional services
  - Shared infrastructure
  - More effective accounting and cost analysis tools
  - Better & new funding sources
  - Improved recycling & waste reduction
  - Additional opportunities for small communities:
    - Household hazardous waste management
    - Recycling (construction-demolition waste also)

# Next? Tackle the Challenges



## Funding: #1 Challenge

- Utilize State Land and Investment Board, State Revolving Fund and US Rural Development
- Reconsider Citizens' Advisory Group's recommendation for state to clean up leaking landfills?
- Revamp the State Guarantee Trust Account?
- State tipping fee?
- Other?

## Recommendation:

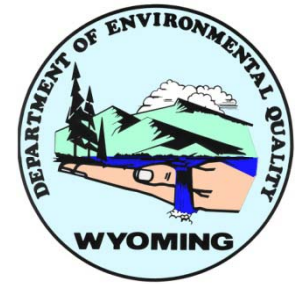
- Convene stakeholders
- Pull all information together
- Discuss alternatives
- Recommend and implement solutions

# Big Picture Perspective When Considering Alternatives



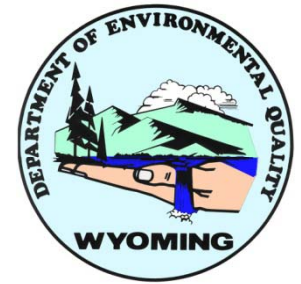
- ◆ Long-term landfill operating costs:
  - Design, construction (now with engineered containment), operation, monitoring, closure, post-closure care and corrective action
- ◆ Short-term/one-time costs to close & transfer
  - Closing landfills
  - Construction of transfer stations and other infrastructure needed to implement regional plans
  - Transportation & reduced regional disposal costs

# DEQ Role



- ◆ Provide time to implement changes
  - Temporary compliance through administrative orders on consent (AOCs)
- ◆ Assist with ISWM plan implementation
- ◆ Provide technical assistance and information
- ◆ Coordinate funding requests with SLIB, SRF, USRDA and others

# 2011 Draft Legislation



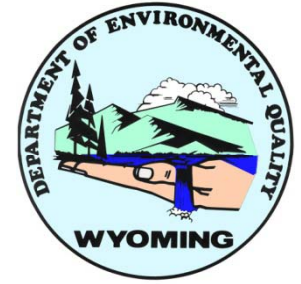
- ◆ Municipal landfill permits for the operating life of of the facility (minimize cost of permitting)
- ◆ Site specific assessment of the need for monitoring and remediation
- ◆ Prioritize landfills for remediation
- ◆ Orphan landfills (no operator found or community unable to pay)
- ◆ Definitions of aquifer, groundwater & lifetime permits
- ◆ No additional funding in bill



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END - Thank You

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DEQ web site: <http://deq.state.wy.us>

Solid Waste web site:

<http://deq.state.wy.us/shwd/SW/index2.asp>

Main phone number: 307-777-7752