1960s and 1970s
Milestones / laws

- 1967 – MPCA created
- 1970’s – Solid waste rules adopted
  - Initial rule: landfill permits and minimal design and operation requirements
  - Revised: prohibit haz waste disposal, require 5 ft. separation from GW, establish closure requirements for dumps
- 1973 - 1500 dumps replaced by 140 permitted landfills
- 1976 - Federal Resource Conservation and Recovery Act (RCRA) enacted
- 1978 – Joint Legislative Committee on Solid & Hazardous Waste created
1980
Milestones / laws

• 1980 - Minnesota Waste Management Act enacted
  ➢ State waste management hierarchy
  ➢ Creates landfill siting process
  ➢ State/County roles defined
  ➢ Legislative Commission on Waste Management created
  ➢ Waste Management Board created
  ➢ New terminology; abatement

• 1980 - MPCA documents ground water contamination at sanitary landfills

• 1981 - RCRA State Plan approved by EPA
1980s

Milestones / laws

- 1983 - Minnesota’s Superfund Program created
- 1988 - MPCA promulgates new landfill siting criteria and design standards; liner/leachate collection and ground water monitoring requirements; sets closure/post closure and financial assurance requirements; permit-by-rule for recycling, yard waste, transfer and demolition facilities
- 1988 - WMA Amendments
  - Spent lead acid batteries/used oil disposal prohibited
  - Used motor oil restricted from disposal without approval
- 1989 - Counties required to have HH Waste Plan
• **1991 - New federal standards for landfills enacted (Subtitle D RCRA)**
  - New MSW landfills must be lined
  - Leachate must be collected and treated

• **1994 - Landfill Cleanup Program Act**
  - Creates closed landfill program; transfers ownership of landfills to state

• **1996 – LCWM abolished**
1990s - Waste Management Act Problem Material Bans

- Dry cell batteries, sealed lead-acid batteries and rechargeable batteries banned from land disposal
- Major appliances
- Mercury in solid waste or wastewater
- Fluorescent lamps
- Lead paint banned in unlined landfill/incinerator
- Motor oil filter ban extended to generation by households
- Motor vehicle fluids
2000s
Milestones / laws

• 1998 - 2003 – Demolition and industrial waste rulemaking efforts discussed and cancelled.
  ➢ Cooperative guidance development effort initiated

• 2005 – Cooperative effort resulted in many guidance documents
  ➢ Most notable: Demolition landfill guidance
Observations

• Prior to 1970’s wastes indiscriminately dumped or burned
  ■ Only diversion commercial scrap

• Majority of ground water contamination is a legacy of pre-1970 disposal.

• Change in character of wastes – especially industrial wastes – after hazardous waste rules went into effect
Observations

• Some old, unlined landfills can cause widespread ground water problems (e.g. Washington Co. SLF)

• Ground water protection: engineering vs. siting
  ▪ What is the balance?
Observations

• Present day landfill problems mainly due to noncompliance and demolition projects

• Many demolition problems will be addressed thru pre-demolition rulemaking

• Continue to evaluate leachate and ground water data at demo landfills
Basic Types of Solid Waste Permit Categories

- Industrial Waste Landfills
- Demolition Waste Landfills
- Other Landfills:
  - Municipal Solid Waste (MSW)
  - MSW Combustor Ash
- Non-Landfill Facilities:
  - MSW Compost
  - Transfer
  - Resource Recovery
  - Certain Solid Waste utilization programs
How distinct are the waste streams that name landfills?

- MSW vs Industrial vs Demolition
  - Titles make them seem more distinct than they really are
  - Industrial Solid Waste Management Plans provide flexibility to take in wastes upon MPCA approval
  - Some demo landfills can take construction and industrial wastes
  - < 50% rule of thumb
Conclusion

• Ends my presentation on Solid Waste Management History

• Overview of land management of CDI wastes today
  ■ Neal Wilson, MPCA Hydrogeologist