



Recommendations for Integrated Solid Waste Management Planning Areas in Wyoming

Submitted to:

**Governor Dave Freudenthal
And
The Joint Minerals, Business and Economic
Development Committee**

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Prepared by:

**The Wyoming Department of Environmental Quality
&
The Citizens Advisory Group on Solid Waste**



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Background

Our garbage is polluting our groundwater. Monitoring data collected since 1989 indicate that an increasing number of Wyoming's municipal solid waste landfills are leaking and contaminating groundwater. Our waste management practices will need to change to minimize future threats to Wyoming's valuable groundwater resource. The days of open dumps and burning trash are gone and the time to adopt modern waste management practices is here. To prevent leaks in future disposal areas, most municipal landfills will need to be constructed with engineered containment systems (ECS), which include liners with leachate collection systems.

As one might expect, ECS will increase landfill construction costs. Fuel, labor, equipment and other operating expenses are increasing as well, and we will need to address the pollution that landfills have already caused. The Department of Environmental Quality (DEQ) and the Wyoming Solid Waste and Recycling Association (WSWRA) considered these issues and brought them to the attention of Governor Dave Freudenthal. The Governor convened a citizens' advisory group (Advisory Group) to help the DEQ identify key municipal waste management problems and propose solutions to these problems. The Advisory Group's findings were presented to the governor on October 28, 2004, in a report titled "Improving Solid Waste Management in Wyoming."

In 2005, DEQ, the Advisory Group and WSWRA worked with the Joint Minerals, Business and Economic Development Committee and others to prepare legislation that would help local government entities study waste management issues and identify appropriate local solutions for safe and cost-effective waste management.

In the 2006 Budget Session, the Wyoming State Legislature passed SF0038, "Solid waste landfill planning and monitoring." Article 19 of this bill establishes a process for local government entities to prepare and maintain approved integrated solid waste management plans. Wyoming Statute 35-11-1903 requires that "by July 31, 2006, the department shall assess the patterns of generation of municipal solid waste within the state and issue a report identifying those areas of the state where integrated solid waste management plans may be prepared by local governmental entities." This document fulfills that requirement.

The planning areas identified in this report are offered as one possible configuration to be considered for community coordination. Local governmental entities are not required to adhere to any planning area boundaries identified herein. Local governments should meet, discuss solid waste management issues, and determine the waste management practices that best meet their needs.

Integrated Solid Waste Management

Integrated Solid Waste Management (ISWM) is simply a planning process used to optimize waste management practices. The process consists of five primary steps:

- * Establish waste management goals and objectives,
- * Identify alternatives that may achieve the goals and objectives,
- * Conduct a detailed analysis and comparison of the alternatives,
- * Select appropriate programs, and
- * Implement the programs selected.

DEQ prepared an Integrated Solid Waste Management Handbook for local Wyoming governments in 1996. This document provides detailed decision making tools for responsible fiscal and environmental solid waste planning. Copies of this document are available upon request by writing to the Solid Waste Division's office at 152 N. Durbin, Suite 100, Casper, WY 82601 or calling (307) 473-3450.

ISWM Planning for Wyoming

SF0038 requires that each local governmental entity shall prepare and maintain an integrated solid waste management plan describing management of solid waste generated within its jurisdiction, or shall participate in a multi-jurisdictional integrated solid waste management plan.

The local governmental entity responsible for preparing an integrated solid waste management plan shall be the permitted operator of the solid waste disposal facility serving the planning area provided; however, for any planning area where the permitted operator is a nongovernmental entity, the local government entity responsible for preparing a plan under this subsection shall be the county. Upon mutual written agreement between the involved parties, a local governmental entity may prepare an integrated solid waste management plan for another local governmental entity.

ISWM plans must be completed and submitted to the DEQ by July 1, 2009. ISWM plans must be reviewed, revised as necessary, and resubmitted to the DEQ every ten (10) years thereafter. SF0038 specifies what each plan must contain and includes a provision that the DEQ must review each plan for completeness.

Recommendations for ISWM Planning Areas

The Advisory Group found demonstrated advantages to regional waste management strategies. Thorough planning and regional approaches have been shown to minimize costs, improve environmental protection, and increase waste diversion rates. A 1996 study comparing waste management options for the Solid Waste Task Force, Northeast Wyoming Regional Study Area, cited economic advantages to a regional approach. These advantages were identified well before the need for engineered containment, landfill cleanup, and other current challenges were factored into operational costs.

Potential hurdles to implementing regional waste management strategies were noted in the Advisory Group's report. It may be politically difficult for local governments to site new landfills, and there may be significant barriers for communities to create regional landfills. In addition, the Advisory Group reported that there are inadequate incentives for cities, towns, and counties to close small landfills and build cost-effective regional landfills. The Advisory Group recommended that the state provide incentives and assistance to local governments seeking disposal in lined regional landfills. SF0038 addresses this recommendation by appropriating one million, three hundred thousand, dollars (\$1,300,000) for planning grants to assist participating local government entities with preparing ISWM plans.

The bill encourages regional planning by providing more funds for plans encompassing multiple local government entities. Individual plans may receive an amount not to exceed 50%, plans encompassing two (2) or more entities may receive an amount not to exceed 70%, and plans encompassing three (3) or more entities may receive an amount not to exceed 90%.

Funds have been provided in the bill for additional DEQ staff to assist communities interested in cooperative approaches to ISWM planning and to help coordinate community recycling efforts. In addition, this planning area report was prepared to help local government entities evaluate which of their neighbors they might work with to begin the planning process. The planning areas described in this report are considered **guidance only**. Local governmental entities are not required to adhere to any planning area boundaries identified herein.

The DEQ worked with the Advisory Group to identify potential planning areas. Many factors were considered, but it was recognized that planning areas could not be finalized without detailed evaluations. Cost, services offered, and political considerations are just a few of the factors that will affect a community's waste management choices. This report could not assess all potential issues; however the following factors provide a good starting point to help communities begin this process.

Transport distances and routes were the first factors considered. Studies conducted in Wyoming and elsewhere indicate that transporting waste 150 miles or more can be cost effective. Waste is currently being transported approximately 100 miles in Wyoming, and one community determined that they could cost effectively transport waste 120 miles.

Geography and weather were determined to be important considerations which can impede transportation, especially in winter. The suggested planning areas minimize the transportation of wastes through mountainous areas to the greatest extent possible. Because many county lines follow geographic barriers, the suggested planning area boundaries commonly follow these same barriers.

Proximity to existing large landfills and current waste management patterns were also considered. It is not possible to predict which landfills will remain open as regional facilities, nor which ones will close. It is reasonable to assume, however, that regional landfills can be operated more economically near the state's larger population centers. Therefore, the planning areas are often recommended in the vicinity of more populated communities.

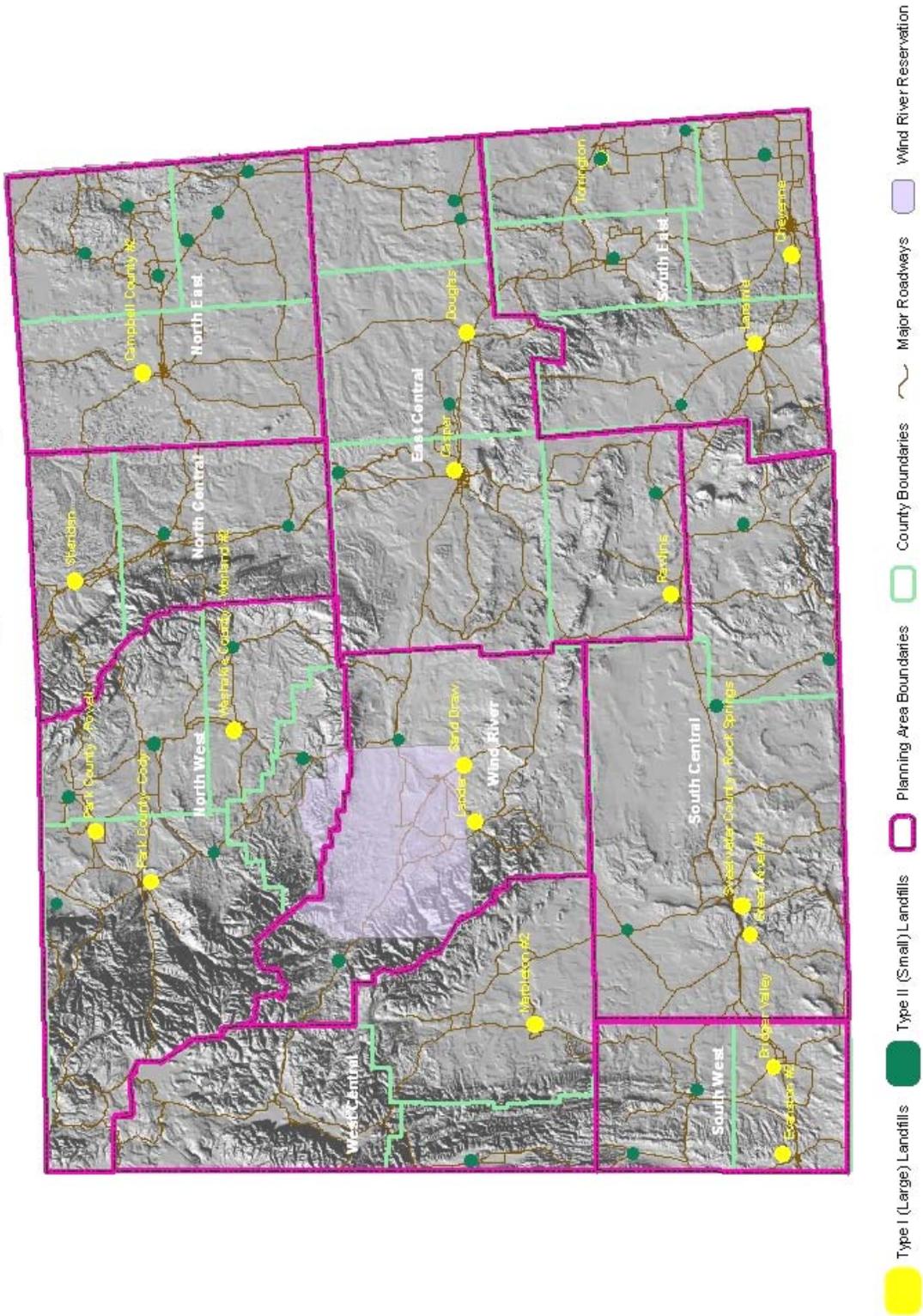
In developing the planning areas, it became apparent that several options could be feasible for many communities. Because the scope of this report did not permit a detailed analysis, it is anticipated that there will be boundary changes as communities assess and select their preferred alternatives. Many communities could transport waste to one of several landfills and will find it beneficial to enter negotiations with each of these communities before formally joining them in a cooperative plan. ISWM plans could include details for the operation of the regional landfills with appendices describing waste management at each of the smaller communities they serve. As an appendix, a community's ISWM plan could more easily be moved to another regional landfill's plan if a community decides to change where it disposes of its waste.

A single planning area might be served by more than one landfill. However, transport distances would not rule out a single landfill serving one or more of the proposed planning areas. In the future, it is likely that Wyoming citizens will be served by less than the 52 municipal landfills currently operating. Other Western states have already experienced significant consolidation of waste management services. For example, only thirteen (13) municipal waste landfills operate in the entire state of North Dakota, and all of them have engineered containment systems. Nearly all of North Dakota's small landfills were converted to accept only construction/demolition waste or they were closed altogether.

Summary

The DEQ looks forward to continued collaboration with Wyoming communities. Joint efforts will help ensure a successful planning process. Similar efforts around the nation have improved environmental protection, increased recycling rates, and minimized overall waste management costs.

Potential Solid Waste Management Planning Areas



References

Citizens' Advisory Group on Solid Waste Report, October 28, 2004, "Improving Solid Waste Management in Wyoming", Submitted to: Governor Dave Freudenthal and the Wyoming DEQ.

Kaufman, Scott M., Nora Goldstein, Karsten Millrath, and Nickolas J. Themelis., 2004, "The State of Garbage in America", Biocycle, January, 2004, pp 31-41.

MSE_HKM Engineering, 1996, Phase III Report, Northeast Wyoming Regional Solid Waste Management Plan, November 1996, prepared for the Solid Waste Task Force, Northeast Wyoming Regional Study Area, P.O. Box 848, Sheridan, WY 82801, November, 1996.

Southern Idaho Solid Waste, 1050 W. 400 S., P.O. Box 159, Burley, ID 83318, phone: 208-432-9082, fax: 208-432-6915, e-mail: landfill@sisw.org, online: <http://www.sisw.org>.

U.S.EPA, 1991, Addendum to the Regulatory Impact Analysis for the Final Criteria for Municipal Solid Waste Landfills, prepared for the Regulatory Analysis Branch, Office of Solid Waste, U.S. EPA, by Temple, Barker, & Sloane/Clayton Consultants, ICF Incorporated, August, 1991.

U.S. EPA, 2004, Recycling Facts and Figures, available online at: <http://www.epa.gov/epaoswer/non-hw/muncpl/recycle.htm>.

Wyoming Business Council, 2002, Wyoming Biomass Inventory of Animal Waste, Crop Production and Residue with Irrigated Acreage, Wood Products and Residue, and Municipal Solid Waste, Wyoming Business Council Minerals, Energy, and Transportation, Energy Section, 214 West 15th Street, Cheyenne, Wyoming 82002.

Wyoming Senate File SF0038, 2006, "Solid Waste Planning and Monitoring", available online at: <http://legisweb.state.wy.us/2006/Engross/SF0038.pdf>.