

CHAPTER 18

WINDBLOWN DEPOSITS

Wyoming has some of the most significant windblown deposits in the U.S. Strong winds can mobilize and significantly move sand or silt grains in much of Wyoming. Many of the mapped deposits in Wyoming are somewhat stabilized, but a significant number are still active.

The Killpecker Dune Field, in northern Sweetwater County, is more than 50 miles long and 10 miles wide at its widest point. The Seminoe Dune Field, extends from the Seminoe Reservoir to the west for approximately 30 miles, and is approximately 15 miles wide at its widest point. The Casper Dune Field is a part of a much larger series of dune fields that extend from eastern Fremont County to the Casper area (**Figure 18.1**).

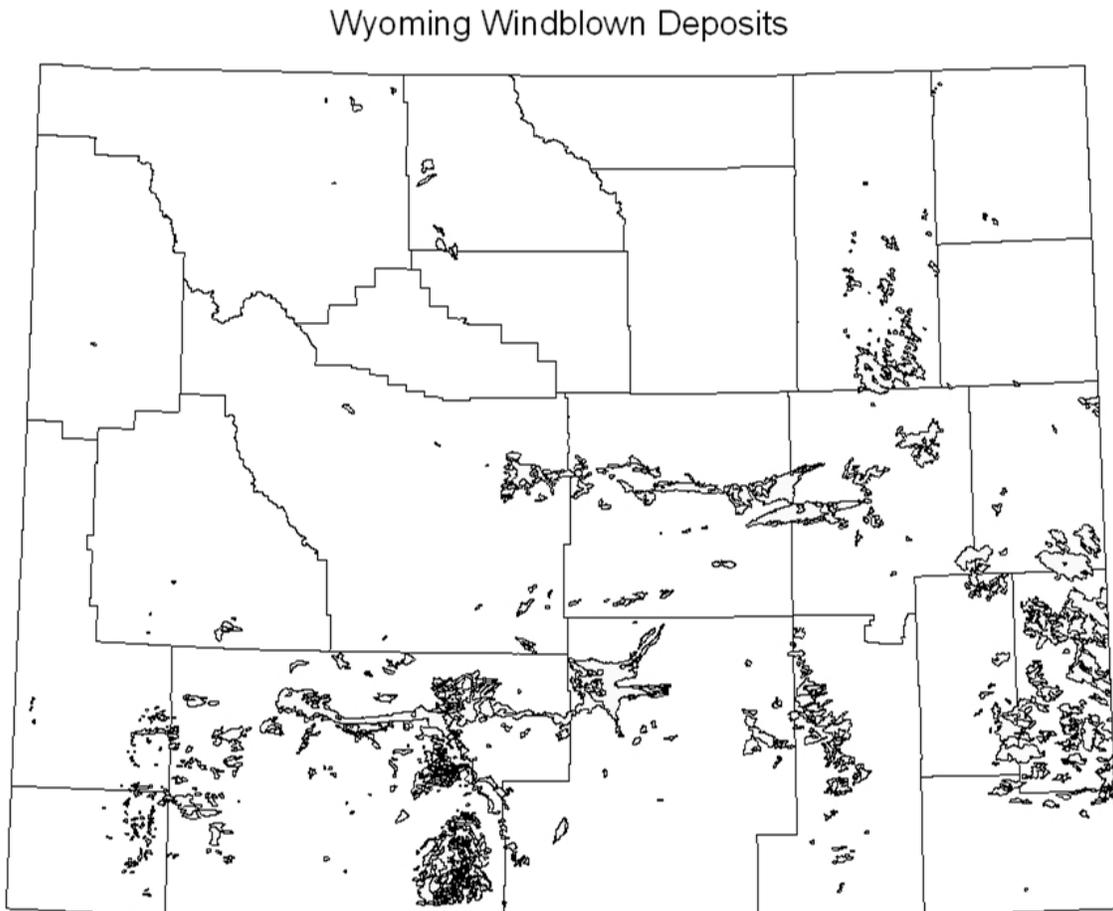


Figure 18.1—Wyoming Windblown Deposits.

<http://www.wsgs.uwyo.edu/WSGSgroups/SurficialProcesses/Default.aspx> Accessed 12/22/2010

History

There is not a well-documented history of problems associated with windblown deposits in Wyoming. If stabilizing vegetation has been stripped from the surface because of some form of development, previously stable dunes may mobilize and encroach on human development. There are accounts of such problems in the Casper area. Dunes have moved onto subdivision properties, temporarily closed roads, and impinged on homes. The problems were easily fixed, and no significant dollar losses have been associated with windblown deposits.

Future Impacts

As development continues in Wyoming, more land is disturbed. Eventually, stabilized dunes will be disrupted, leading to nuisance problems with the windblown deposits.

Risk to Local Populations

A review of the local multi-hazard mitigation plans reflects a handful of local plans address windblown deposits in their mitigation plans. They have utilized data available to them through the State Multi-Hazard Mitigation Plan. Additionally, they have ranked windblown deposits risks within their borders based on the population impacted, probability of occurrence within their borders and the property impacted.

Below is a table outlining information mined from the local plans' windblown deposit hazard sections. The table shows previous historical incidents of windblown deposits within each county's borders as outlined in their plans and extrapolates, based on population impacted, probability of occurrence within their borders, and property impacted, the risk perceived by each county relative to windblown deposit hazards. Only a few counties address the hazard within their plan and most consider the hazard presented by windblown deposits to rank as a low hazard within their borders.

**Windblown Deposits
Information Mined from Local Plans**

COUNTY	Plan Y/N	Year Approved	Included in Plan	Rank-High, Medium, Low	Loss Potential	Previous Incident(s)
ALBANY	Y	2010	Y	Low	Low/Minor	No History
BIG HORN	Approvable	2010	N			
CAMPBELL	Expired	2005	N			
CARBON	Y	2008	Y	Low	Not Stated	3 (Incomplete)
CONVERSE	N/Draft	2005			Incomplete Information	
CROOK	N/Draft	2003	Y		State-level Info from State Plan	
FREMONT	Expired	2005	N			
GOSHEN	Y	2007	Y	Low	State-level Info from State Plan	
HOT SPRINGS	N					
JOHNSON	Y	2008	N			
LARAMIE	Expired	2005	Y		Incomplete Information	
LINCOLN	Y	2006	N			
NATRONA	Approvable	2010	N			
NIOBRARA	Y	2009	Y	Medium	State-level Info from State Plan	No History
PARK	Y	2006	N			
PLATTE	Expired	2004	N			
SHERIDAN	Y	2009	N			
SUBLETTE	Y	2008	N			
SWEETWATER	N					
TETON	Y	2009	N			
UINTA	N/Draft	2011	N			
WASHAKIE	Expired	2005	N			
WESTON	N					
NORTHERN ARAPAHO TRIBE	N					
EASTERN SHOSHONE TRIBE	N					

Those who move into Wyoming are typically unaware of the hazard presented by wind and windblown deposits. However, because the level of damage has been historically low and the cost of damage is not expected to increase, it is believed development within Wyoming has a limited impact on the risk presented by windblown deposits. Due to the limited nature of the damage generated by windblown deposits, it is also believed the vulnerability of Wyoming residents is limited, as well.

Proposed State Mitigation Projects

The following mitigation projects have been proposed by state, federal, and local entities in the process of generating the Wyoming Multi-Hazard Mitigation Plan. Chapter 22 has all proposed mitigation projects.

- Education.
- Provide all-hazards weather radios to all residences in Wyoming.
- Identify and inspect shelters in hazard prone areas.
- Research feasibility and costs of adding new frontage roads /detour routes to I-80, I-90, and I-25 to prevent significant delay in traffic flow and resultant economic loss and possible loss of life.
- Provide hazards info to shelters, emergency facilities in public buildings, campgrounds, and phone books.
- Provide emergency phones at strategic locations with direct lines to emergency dispatch services.
- Develop reseeding plans for losses due to all hazard events.

- GIS training for local jurisdictions with emphasis on hazards recognition and analysis for application to mitigation planning.
- Investigate opportunities for developing or improving warning systems as a means to reduce loss of life, damage to property, and economic losses.
- Education programs encompassing multi-hazard insurance for business, resident and government application.
- Education programs encompassing multi-hazard mitigation for business, resident and government application.
- Planning studies regarding transportation of essential and/or key personnel during all hazard events
- Continue outreach to counties on identifying cost effective and feasible mitigation projects.
- Promote Continuity of Operations and Continuity of Government, statewide.
- Maintain and continue to expand hazards databases that were generated for the State Hazard Mitigation Plan. Seek new sources of information.
- Identify, document, and advertise all volunteer agency's locations and contact information.