Wyoming State Geological Survey FY 2012 Annual Report

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Year Established

1933

Statutory References

W.S. 9-2-801	Definitions (amended by Chap. 170, Session Laws of Wyoming 1997)
W.S. 9-2-803	State Geologist, duties and powers
W.S. 9-2-804	Geological Survey, location and headquarters
W.S. 9-2-805	Geological Survey, duties and disposition of materials and specimens
W.S. 9-2-806	State Geologist as chief administrative officer; appointment of employees
W.S. 9-2-807	Geological Survey Board and operation
W.S. 9-2-808	Authority to cooperate and exchange information
W.S. 9-2-809	Use of University of Wyoming students
W.S. 9-2-810	Cooperation with the U.S. Geological Survey
W.S. 30-5-103	State Geologist participation on the Oil and Gas Commission
W.S. 33-41-107	State Geologist participation on the Board of Professional Geologists (as amended by Chap. 170, Session Laws of Wyoming)
W.S. 36-6-102	Submission, custody and confidentiality of subsurface log reports
W.S. 36-6-105	Inspection reports for State Lands

Organizational Structure

The Wyoming State Geological Survey (WSGS) has 27 full-time benefited staff positions (see chart for details). The WSGS has an Advisory Board that helps formulate and direct agency policies and programs. The board consists of the Governor, a University of Wyoming member appointed by the university president, the State Oil and Gas Supervisor, the State Geologist, and five appointed members.

In addition, the State Geologist serves as a commissioner on the Wyoming Oil and Gas Conservation Commission (W.S. 30-5-103), and as a board member of the Wyoming Board of Professional Geologists (W.S. 33-41-107).

Clients Served
Other local, state and federal government agencies, the Wyoming Legislature, industry, non-governmental organizations, the public, news media and education community.

Budget Information (FY12)	
General Funds (Expenditures)	$2,262,022
Federal Grant Funds	$442,797
State Grant Funds	$102,503
Other Funds*	$46,310
	$2,853,632
*Sales Reverted to State General Fund	

Basic Facts
The WSGS has 27 employees and operated with a biennium budget of $5,167,380 (2011-2012), not including exception requests or adjustments. The funding sources for the budget include general funds as well as state and federal grants. Research programs and divisions include the following:

- Energy and Mineral Resources
- Water Resources and Mapping and Hazards
- Geographic Information Systems and Information Technology
- Communications and Public Outreach
- Administration
- Human Resources

Mission
The mission of the WSGS is to promote the beneficial and environmentally sound use of Wyoming's vast geologic, mineral, and energy resources while helping to protect the public from geologic hazards. By providing accurate information and expanding knowledge through the application of geologic principles, the WSGS contributes to the economic growth of the state and improves the quality of life of Wyoming's residents.

The WSGS works to (1) study, examine, and understand the geology, mineral resources, and physical features of the state; (2) prepare, publish, and distribute (free or for sale) reports and maps of the state's geology, mineral resources, and physical features; and (3) provide information, advice, and services related to the geology, energy and mineral resources, hazards, and physical features of the state.

Wyoming Quality of Life Result
Wyoming natural resources are managed to maximize the economic, environmental, and social prosperity of current and future generations.

Contribution to Wyoming Quality of Life
The WSGS strives to provide decision makers with the best science possible to ensure that responsible development occurs to benefit Wyoming residents, promote economic prosperity and protect state resources. In addition to ensuring that Wyoming has the geologic, geophysical, and geohydrologic information necessary to solve existing problems and anticipate future challenges, the WSGS collaborates closely with other state and federal agencies, various organizations, and stakeholders to solve multidisciplinary problems. The WSGS also supplies the geologic knowledge necessary for the beneficial and responsible development of Wyoming's unconventional energy resources, including shale gas, bypassed underpressured natural gas, deep gas (more than 15,000 feet below ground), in-situ coal gasification, uranium, and liquid synfuels from oil shale and coal.

While working to increase public awareness of its contributions, the WSGS endeavors to provide Wyoming residents with the most accurate, up-to-date information on geologic hazards, natural resource and energy issues, water issues, and other geology-related topics so they can make informed decisions about issues that affect them. The WSGS aims to reduce risks associated with geologic hazards such as landslides, volcanism, earthquakes, avalanches, and floods, and also works in collaboration with the Yellowstone Volcano Observatory.

Report Narrative – FY 12 Projects Completed
(Reporting Period: July 1, 2011 – June 30, 2012)

New Teton County, Wyoming LiDAR Data Available Online
The WSGS in July of 2011 assisted the Teton Conservation District and OpenTopography to release new airborne LiDAR data set that covers approximately 141-square miles in the western portion of Teton County, Wyoming. Airborne LiDAR data was collected in 2008 and includes portions of the Bridger-Teton National Forest, the southern portion of Grand Teton National Park, and adjacent lands. Public release of this survey will help conservationists, geoscientists, emergency planners, and others to produce high resolution data products including forest density models, landslide hazards, flood inundation models, updated fault maps, and more.

New Yellowstone Website
The WSGS in October of 2011 launched the Yellowstone Geologic Geographic Information System (GIS) Database (click here), an interactive website providing researchers and students alike with a look into Yellowstone's geologic past and present.

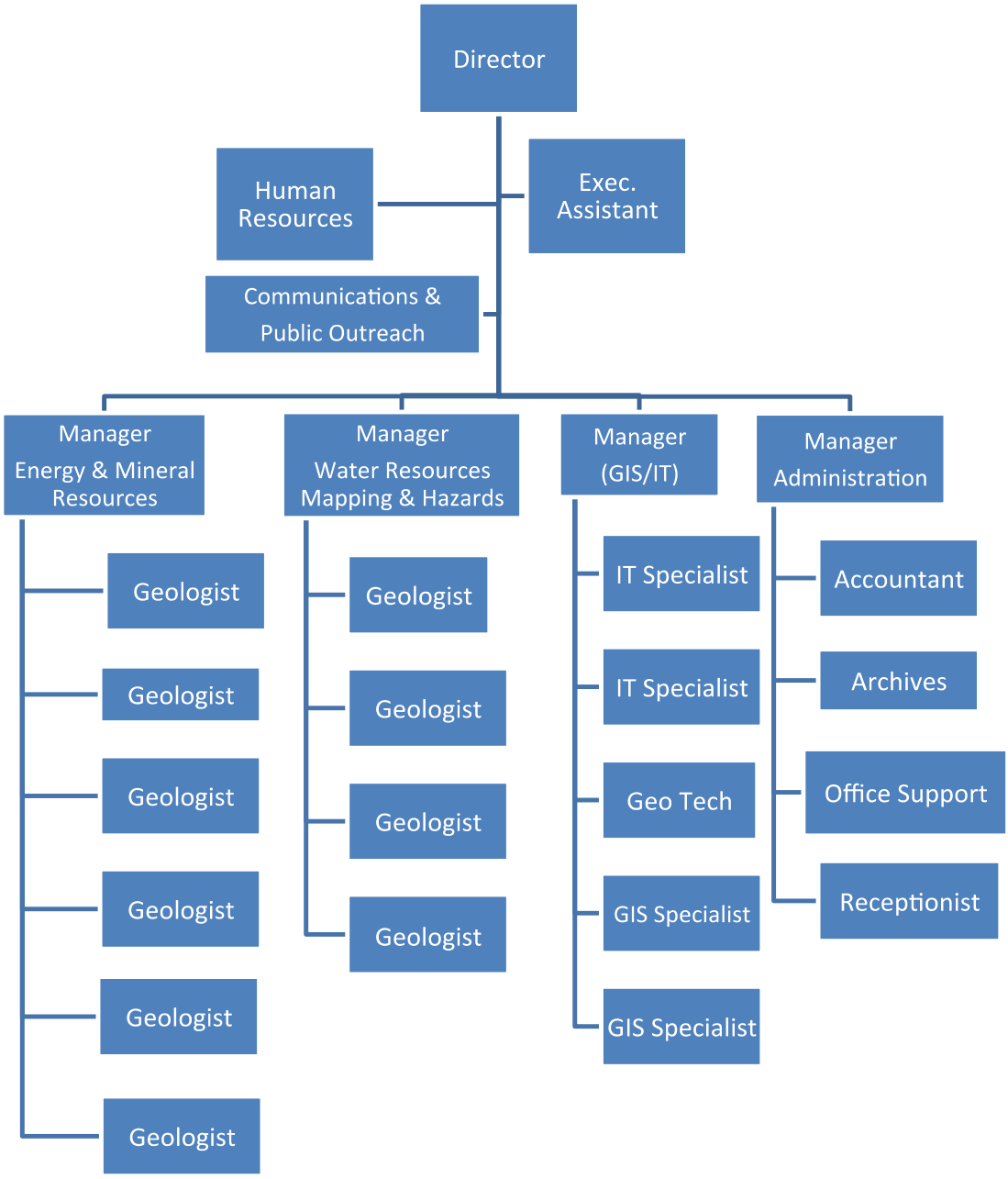
Statemap 2011
The WSGS in November 2011 published 10 new maps for specific areas in Wyoming, providing geologic information to address water, aggregate and mineral resources, surficial processes, and earthquake hazards, as well as a map on a potential new geothermal area for energy production in northwest Wyoming. The statemaps are $25 for rolled printouts and $10 for a CD/DVD and are available to purchase via the WSGS Online Store, or by visiting agency headquarters on the University of Wyoming campus in Laramie. Note: All proceeds (from the sales of WSGS maps and publications) go directly into the state's general fund.

Wyoming Earthquake Hazard and Risk Analysis
The WSGS in December of 2011 launched an interactive website with results of earthquake damage scenarios that can be used by emergency planners and managers to better prepare for earthquakes in the state. This project was made possible through a grant from the Federal Emergency Management Agency (FEMA). The goal of the project was to create loss estimations based on 16 earthquake scenarios in Wyoming, and is the result of FEMA and the State of Wyoming Multi-Hazard Mitigation Plan. The report is available online (click here).

Wyoming's Electrical Generation Resources
The WSGS in February of 2012 launched a new website dedicated to Wyoming's electrical generation. The site includes regular updates on energy resources used in the state for generating electricity, as well as the megawatts (MW) produced by each fuel source. The WSGS also created a Summary Report on this project that was distributed to the Wyoming Legislature and other entities interested in Wyoming's generation resources. A pdf copy of the Summary Report is available online (click here).

Shirley Basin Uranium Memoir
The WSGS in February of 2012 published a report entitled "The Shirley Basin Mine and the Development of the Roll-Front Model of Uranium Ore Deposits: A Historical Perspective" that details the geologic mapping program when the underground mine was in operation in the 1960s, and documents the successful use of the roll-front model for identifying uranium ore locations and trends. The roll front has become an industry standard used worldwide for locating sandstone-type uranium ore deposits. This report is $15, available on the WSGS Online Store (click here).

Tongue River Water Quality Study
The WSGS and the University of Wyoming conducted a one-year water quality investigation to determine if an increase in salinity recorded from water samples collected near the Wyoming/Montana border was the result of coalbed natural gas production in the area. In March of 2012 the WSGS released a report entitled "Geochemical and Stable Isotopic Analysis of the Tongue River and Associated Tributaries in the Powder River Basin: An Analysis of the Cause of Annual Elevated Salinity in Spring Runoff." A Summary Report was also produced on this project and distributed to the state Legislature (click here).


Director
Human Resources
Exec. Assistant
Communications & Public Outreach
Manager Energy & Mineral Resources
Manager Water Resources Mapping & Hazards
Manager (GIS/IT)
Manager Administration
Geologist
Geologist
Geologist
Geologist
Geologist
Geologist
Geologist
Geologist
Geologist
IT Specialist
IT Specialist
Geo Tech
GIS Specialist
GIS Specialist
Accountant
Archives
Office Support
Receptionist