

# Wyoming State Geological Survey Strategic Plan 2014 – 2018

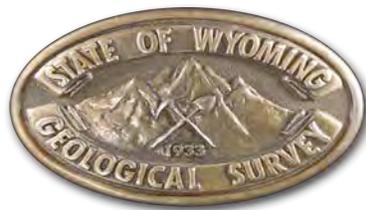


Thomas A. Dreaan  
Director and State Geologist

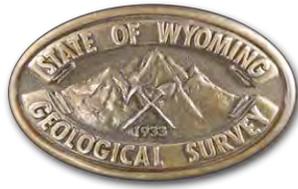
# STRATEGIC PLAN FOR THE WYOMING STATE GEOLOGICAL SURVEY

Planning Period  
July 1, 2014 to June 30, 2018

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## **Mission**

The Wyoming State Geological Survey's (WSGS) mission is to promote the beneficial and responsible development and use of Wyoming's geologic, mineral and energy resources while seeking to understand, characterize and inform the public about geologic hazards.

In performing its work the WSGS will provide timely and accurate geologic information and do so in a way that contributes to greater public understanding on key issues, sound economic development and an overall improvement in the quality of life for Wyoming's residents.

## **Approach**

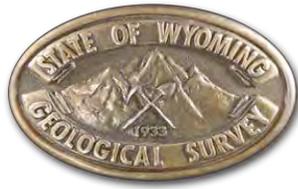
Over the years, geology has played a critical role in the successful development and management of Wyoming's energy, mineral and natural resources, and it will certainly play an important role in the future. The Wyoming State Geological Survey has served the residents of Wyoming for more than 80 years with its roots going back to 1877. The WSGS will continue to serve Wyoming's citizens, industry, resources managers and policy makers by providing key and accurate geologic information, education, data and analysis.

In many instances, the WSGS cooperatively works with other state and federal agencies in dealing with key issues. For example, the WSGS works with the Department of Environmental Quality, the State Engineer's Office, Water Development Commission, Pipeline Authority, the University of Wyoming, Enhanced and Improved Oil Recovery Commission, Board of Professional Geologists, Office of Travel and Tourism, United States Geological Survey, Bureau of Land Management, Office of State Lands and Investment, the Oil and Gas Commission and others. This collaborative approach reduces overlap between agencies and allows for a multifaceted approach to addressing key issues.

The WSGS has three main program areas and all are deemed as high priority for funding and effort because of their importance to the state. These program areas are part of the WSGS mandate and mission and are covered by Statute W.S. 9-2-805. The WSGS is organized with these program areas in mind and has managers and staff dedicated to each one. These program areas are:

### **Energy and Mineral Resources**

The WSGS tracks industry activity and provides key geologic information and analysis to the public and industries that are very important to Wyoming (oil and gas industry, coal industry, uranium industry, trona industry, industrial minerals industry, etc.). The WSGS develops and publishes research reports and maps on oil and gas (conventional and unconventional), coal, rare earth elements, uranium, CO<sub>2</sub> resources and other commercial minerals. It also characterizes and reports on current and potential



resource reserves and production. (This information is provided for the Consensus Revenue Estimating Group (CREG) and other reports.) The information and analysis provided by the WSGS supports billions of dollars of commercial activity in the state and thousands of jobs.

The WSGS has also provided information and reports on geologic carbon sequestration (largely subsurface CO<sub>2</sub> storage), but moving forward this will not be a centerpiece of the agency's efforts, as there are other agencies in the state that have CO<sub>2</sub> sequestration as their primary responsibility.

Relatively new horizontal oil and gas plays are becoming more active in the state and have the potential to have a significant impact on Wyoming over the next several years. The WSGS is actively involved in analyzing these developing plays and in understanding where additional plays may exist.

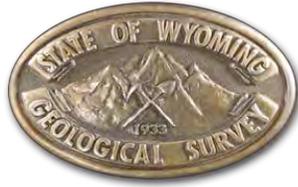
### **Mapping, Water Resources and Hazards**

The WSGS has the responsibility of constructing various geologic maps of the state. These maps are used by many entities (industry, public, communities, counties, government agencies, universities, etc.) and many become part of the United States Geological Survey's national data base. The WSGS also reviews, characterizes and maps geologic hazards that effect public safety and property (landslides, unstable soils, earthquakes, sinkholes, etc.). The agency reports on these to the public and other potentially affected parties. The WSGS also plays a key role in characterizing and understanding Wyoming's water resources and the environment. The agency is in the process of completing major groundwater reports on all of the water basins in the state, as well as a coalbed methane water recharge/drawdown study of the Powder River Basin for the Bureau of Land Management. These reports are widely used by government agencies, the public and industry. When they occur, the WSGS also becomes actively involved in addressing critical issues such as water quality in Pavillion and provides information and data for the National Geothermal Database. The WSGS is also an active member of the Yellowstone Volcano Observatory Consortium. From tourism, to the potential impact of significant geologic hazards, Yellowstone has a significant impact on the state.

Water has and will no doubt continue to be a critically important resource to Wyoming and the WSGS believes that water related issues will likely increase in importance over the coming years. The WSGS will play a key role in understanding, reporting and advising on geology related groundwater issues.

### **Public Outreach (includes publications and reports)**

The WSGS provides key information to a wide array of audiences, including residents and nonresidents, industry, resource managers and policy makers. This in turn supports and helps spur economic growth and development and facilitates important education and understanding for citizens of all ages. Over the past few biennium budgets, the WSGS has sold between \$40,000 and \$100,000 per year of maps and reports with this money going into the state's General Fund. A tremendous amount of additional information and data is provided free of charge to industry and the public (via the agency website, etc.). Annually, the WSGS gives over 50 presentations to various groups across the state. The agency also



provides information about the natural resources and the geologic history of Wyoming to legislators, communities, industry leaders, clubs, organizations, schools and youth groups (Boy and Girl Scouts, summer camps, etc.).

Geologic tourism is significant in Wyoming and the WSGS provides information to residents, nonresidents and groups who travel to Wyoming to view and study its geology. The economic impact is significant and while difficult to quantify, geologic related tourism brings tens of millions of dollars to the state every year (fuel, lodging, meals, etc.). The WSGS is also in the process of producing geologic interpretive signage (Wyoming Geologic Extra Program) for the state, including a sign on the geology and geologic history of the Vedauwoo Recreation Area. This signage will be installed in the summer of 2013. Annually, the WSGS produces Summary Reports on key mineral and energy resources and distributes these publications to the Wyoming Legislature as well as to other interested parties.

Providing information, reports, data and maps by electronic means is growing significantly and is now outstripping demand for paper or hard copies. Because of this the WSGS is placing a growing emphasis on delivering its services, information and products online. As the agency moves forward, it hopes to ensure that sufficient funding and resources are dedicated toward these efforts.

### **Other Program Areas**

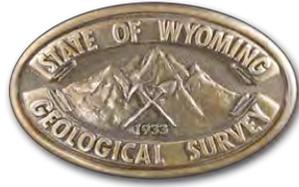
Budget considerations and associated position eliminations, have caused the fossils program area (study and collection of Wyoming's fossils) to become a low priority for the WSGS. Fossils have been deemed a lower priority because the other high priority program areas detailed above, which clearly have a greater economic or safety/environmental impact on the state. Historically, the WSGS has performed annual compliance examinations of State Fossil collecting permits (quarries), both scientific and commercial. Currently, the WSGS is performing little to no work on Wyoming fossils. With that said, as per Statute W.S. 9-2-805 a iii the WSGS does have a duty and responsibility to work on fossils within the state. The Statute reads:

"The Geological Survey shall:

(iii) Seek a comprehensive understanding of the geology of and fossils in the state."

Regardless of the fact that Wyoming is a very important state and location in the world for fossils, unless additional budget funds were to become available, work on fossils will likely remain a low priority for the agency.

The WSGS will continue to use a team based approach in its work. Project teams are comprised of members from all the functional groups that are involved and play a role in the success of a project, or initiative (geologists, administration staff, Information Management/Information Technology staff, Human Resources and publication/public outreach). Clear identification of tasks, roles and responsibilities, deadlines, work product and budgets are developed for each project.



The safety and well-being of the WSGS staff and contractors are very important and a high priority. In support of this, the agency has updated its policies and policy manual and developed an Emergency Response Plan and Manual. This information has been shared with all staff members and it will be updated on a regular basis, or as needed.

Keeping staff members properly trained and up-to-date on the most effective and efficient technologies and techniques is important as the WSGS moves forward and strives to provide the best service possible to the state.

The WSGS is committed to the efficient and effective use of funds provided to it in order to perform its duties. The agency is also aware that unused funds, returned to the State Treasury, or federal government are beneficial to the state and nation. The WSGS will continue to earn the public's trust by being a good steward of the funds provided for the agency's research efforts and by providing useful quality geologic information and products.

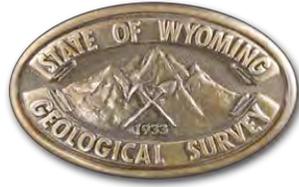
## **Quality of Life Result**

The abundant and diverse natural resources found in Wyoming contribute a great deal to the quality of life for the residents of the state and will continue to do so for many generations to come. The work performed by the WSGS helps with the goal of managing the state's natural resources for the economic and social benefit of its residents while protecting the environment.

## **Contribution to Wyoming Quality of Life**

The understanding, characterization and prudent development of Wyoming's natural resources are vital to the quality of life of the residents of Wyoming. The development and extraction of natural resources produces billions of dollars each year for the Wyoming treasury and has created thousands of high-paying jobs. It also provides critical commodities to the United States and other countries with these commodities supporting a wide variety of industries, technologies and communities. Geologic hazards such as sink holes, earthquakes, volcanism, landslides and unstable soils can present a safety concern for many across the state. Clearly understanding and locating these potential hazards helps protect the property, infrastructure and health of Wyoming's residents and its many visitors.

The WSGS uses applied science to provide policy makers, the public and industry with key geologic information and analysis on natural resources (including groundwater), geologic features and geologic hazards. This information and analysis allows for informed decision making on key issues and helps support existing businesses, and also spurs new business within the state while protecting the environment.



## **Basic Facts**

The Wyoming State Geological Survey has 23 approved benefited employees and a 2013-14 Biennium Budget of \$5,289,892. This budget figure resulted from a directed reduction of 8 percent from the original Appropriation Budget Bill. This reduction resulted in the elimination of two previously approved benefited positions (geologists). The WSGS budget is now lower than it was for the 2007/08 Biennium.

## **Performance Measures**

The performance measures the WSGS employs are:

1. The completion of initiatives and grants on schedule and on/or under budget
2. Perform regular personnel performance reviews for all staff
3. Monitoring the use of the WSGS website by outside parties (site visits, downloading of material, etc.)
4. Tracking sales of maps and reports
5. Feedback from public meetings
6. Outside peer reviews of projects and initiatives
7. Weekly leadership meetings to review projects progress and challenges faced by the WSGS
8. Contracts are developed that outline clear deliverables and deadlines. Pay for contractors is performance based and only made upon the successful delivery of a product, or service.
9. Feedback from customers and entities the WSGS interacts with including asking what products, services, data and analysis would be of greatest use to them.

By tracking and understanding the agency's performance in these areas the WSGS can obtain an accurate and timely depiction of its contribution to Wyoming. It also helps with efforts to make sure that the program areas most beneficial to the citizens are managed efficiently and effectively, with the agency delivering the desired products and services to its state and federal partners as well as to residents and nonresidents of the state.