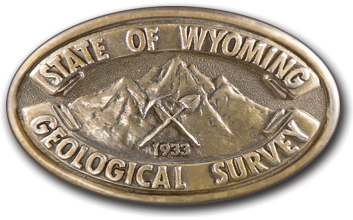
Wyoming State Geological Survey

Strategic Plan

2015 – 2019

Thomas A. Drean

Director and State Geologist



STRATEGIC PLAN

FOR THE

WYOMING STATE GEOLOGICAL SURVEY

Planning Period

August 1, 2015 to June 30, 2019

Submitted, August 2015

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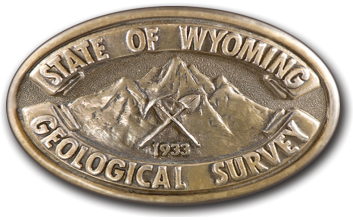


Mission

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.

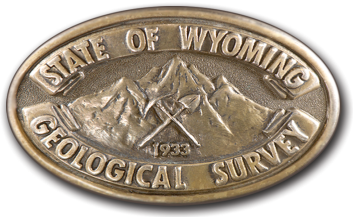
In performing its work, the WSGS will provide timely and accurate geologic information and do so in a way that contributes to greater public understanding on key issues, sound economic development and an overall improvement in the quality of life for Wyoming's residents.

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 (WSGS) has served the residents of Wyoming for over 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, data and analysis and education.

In many instances, the WSGS works cooperatively 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, U.S. 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 of these program areas. These program areas include the following:



Energy and Mineral Resources

The WSGS tracks industry activity and provides key geologic information and analysis to the public and industries 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 resources (conventional and unconventional), coal, rare earth elements, uranium, iron, zeolites, lithium, phosphate, sand, CO2 resources and other commercial minerals. It also characterizes and reports on current and potential resource reserves and production. This critical information is provided to the Consensus Revenue Estimating Group (CREG) and used in various reports. The information and analysis provided by the WSGS supports billions of dollars of commercial activity in the state and thousands of jobs.

Relatively new horizontal oil and gas plays ("unconventional plays") have become very active in the state over the last two years and have the potential to have a significant impact on the state over the next several years. The WSGS is actively involved in analyzing the geology related to these developing plays and in understanding where additional economic 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 are also included in the U.S. Geological Survey's national database. The WSGS also reviews, characterizes and maps geologic hazards that affect 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 has recently completed major groundwater reports on the water basins in the state and is in the process of completing a groundwater report on the remaining water basin (Northeast Wyoming river basin). The agency has also completed 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 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 is of major significance to 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 continue to play a key role in understanding, reporting and advising on geology related groundwater issues.

Public Outreach (includes publications and reports)

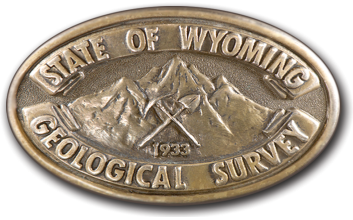
The WSGS provides key information to a wide array of audiences, including residents and non-residents, industry, resource managers and policy makers. This in turn supports and helps spur economic growth and development and facilitates important education and the understanding of Wyoming's geologic resources for citizens of all ages. Over the past few years the WSGS has sold approximately $50,000 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 geologic history of Wyoming to legislators, communities, industry, clubs, organizations, schools and youth groups.

Geologic tourism is significant in Wyoming and the WSGS provides information to residents, nonresidents and groups that 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 produces geologic interpretive signage (*Wyoming Geologic Extra* program) for the state, including signs on the geology and geologic history of the Vedauwoo Recreation Area, the Snowy Range and Medicine Bow Mountains. 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 education and outreach efforts.

Other Program Areas

Budget considerations and associated position eliminations have caused the fossils program area (study and collection of Wyoming's fossils) to remain a low priority for the WSGS. Fossils have been deemed a lower priority because the other high priority program areas detailed above 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.

Quality-of-Life Result

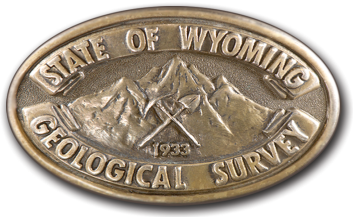
The abundant and diverse natural resources found in Wyoming contribute a great deal to the quality-of-life of the residents of the state and nation and will continue to do so for many generations to come. The work performed by the Wyoming State Geological Survey (WSGS) helps with the goal of managing the state's natural resources for the economic and social benefit of its residents while protecting the environment. Through its work on geologic hazards (landslides, earthquakes, etc.) and water the WSGS will continue to play a key role in public safety. Through effective dissemination of information and public outreach, the WSGS provides decision makers, educators and students with key information and residents and visitors with an understanding and appreciation of the uniqueness of Wyoming.

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 people across the state. Clearly understanding and locating these potential hazards helps protect property, infrastructure and the 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.

From mountain ranges to basins and from fossils to rocks and minerals, information provided by the WSGS gives the opportunity for residence and visitors to gain a clear understanding, comprehension and admiration of their surroundings.



Basic Facts

The Wyoming State Geological Survey has 23 approved benefited employees and a 2015-16 Biennium Budget of $4,968,810. The requested 2017-2018 Biennium Budget amount is $ 5,204,648 while maintaining a level of 23 approved benefited employees. All of the proposed increase for 2017-2018 is related to the legislatively approved salary increases that were distributed in 2014 and 2015 and increased benefits costs. Without the salary and benefit increases, the requested 2017-2018 Biennium Budget would have been approximately $80,000 lower than the 2015-2016 Biennium Budget.

The WSGS workload has expanded over the past 10 years and there have been cost increases for key items (computer software, equipment, vehicles, utilities, wages and benefits, etc.) as well as increased charges for services; however, the WSGS headcount and budget are now lower than they were for the 2007-2008 Biennium Budget (then 29 employees and a $5,536,906 budget).

The WSGS serves companies seeking to and currently doing business in Wyoming, as well as schools, counties and municipalities, federal and state agencies and the general public. Annually, the WSGS has approximately 100,000 visitors to its website; 300,000 pageviews; 5,000 downloads of maps and publications, and more than 600 followers on Twitter, nearly 1,000 on Facebook and over 1,400 views of WSGS videos on YouTube. These numbers have been increasing over the last few years and are expected to increase in 2016 - 2019 and beyond as people continue to change the way they access information, and as the WSGS makes available more of its information and research and reports on its website.

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 is 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 is updated on a regular basis and 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.

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 and downloads 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.

10. Feedback and guidance from the WSGS Advisory Board

By tracking and understanding the agency's performance in these areas the WSGS obtains 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.