

The Corner Post

The Wyoming Department of Agriculture Natural Resources & Policy Section Newsletter



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Natural Resources & Policy Section
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Quotable Quotes

"The most successful people are those who are good at plan B."

-James Yorke

Hold Still and Smile Using Historical Photographs to Detect Change

Matt Hoobler, Senior Policy Analyst

Comparing two photographs to detect change is nothing new. Since the birth of modern photography in the 1830s, photographs are used as a method to capture the moments, settings, and images for possible review, reminiscing, or recollection in the future.

Rephotography is the process of taking another photograph of the same subject, with a time lag between the two images. The comparison of rephotographed images provides an innovative tool to reveal changes over space and time. In natural resources, it reveals attributes like plant and tree growth, species composition in rangelands, erosion, human impacts and development, and environmental health. There is no limit to the time lag which can be rephotographed. Substantial efforts are undertaken each year to rephotograph early Wyoming photos by such renowned photographers as W. H. Jackson and J.E. Stimson.

Repeat as Necessary

Rephotography provides bountiful benefits for the agriculture industry. For federal livestock grazing allotments, it is likely that

the Bureau of Land Management or the U.S. Forest Service already installed a permanent monitoring site in each allotment, which may include a photo station. Rephotography of rangelands provides information on plant cover and spatial arrangement, as well as on how grazing management influences rangeland attributes. New technologies continue to advance the use of photography in rangeland monitoring, by including color banding and moisture sensing of forage, to efficiently manage livestock.

The World is Watching

Photography, including rephotography, isn't only from a hand-held camera. Since the 1850s, acquiring a "bird's eye" view of one's subject yielded substantial information. Implements such as balloons, pigeons, rockets, and early aircraft were mounted with a camera to achieve an aerial view of the world. In 1957, Russia launches Sputnik, the first satellite, marking the beginning of satellite imagery. In the 1970s, NASA began selling satellite imagery commercially for the first time. Aerial photography and

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satellite images continue to become an indispensable part of our increasingly visual world.

One of the main uses of aerial photographs is to detect change. Such comparisons are done by everyone from farmers to land use planners. In natural resources, time-spaced aerial photographs are used to detect the change in river channels, forest fires, weed encroachment, and even hydrothermal features in Yellowstone National Park. Currently the Wyoming Department of Agriculture, in partnership with Dr. Ramesh Sivanpillai of the Wyoming Geographic Information Science Center (WyGISC), use aerial photographs to detect coniferous tree encroachment into mountain meadows

in the Snowy Range. The data yields information benefiting agriculture on forage availability, adequate separation of domestic and wild animals, and overall forest health.

Try It On For Size

In 2005, Google Earth provided the world an opportunity to access satellite imagery and aerial photography with ease. According to Google, "This technology enables users to fly through space, zooming into specific locations they choose, and seeing the real world in sharp focus." Log onto the internet and go to: <http://earth.google.com/>



Photo 1:
Box Elder Creek, Converse County,
Wyoming. Taken by W.H. Jackson on the
Hayden expedition in 1870.



Photo 2:
Rephotography of Photo 1. WDA File Photo,
taken August 1937.

Energy Focus Shifts to SW Wyoming

Don Christianson, Senior Policy Analyst

For the last few years, the focus of energy development has centered on northeast Wyoming, with massive excavations of coal mines and prolific drilling of thousands of coal bed methane gas wells in the Powder River Basin. But the target of new energy development seems to be shifting cater-corner, with vast numbers of wells targeted for the southwest quadrant of our state.

Recently, the Atlantic Rim Record of Decision was released. That decision approves the drilling of 2,000 wells – 1,800 coal bed methane and 200 natural gas – over 270,000 acres between Baggs and Rawlins. Energy companies plan to drill for the next 30 years and keep the wells operational for 50 years.

The Moxa Arch infill project spreading across Uinta, Lincoln, and Sublette counties is in the middle of the environmental review process. That project will add 1,861 new natural gas wells to the existing 1,400 wells in a 476,000-acre area west of Green River, east of Lyman and Opal, and south of the Fontenelle Reservoir. The drilling process will take 10 years and the life of those wells is expected to be 40 years. The approving Record of Decision is expected before the end of 2008.

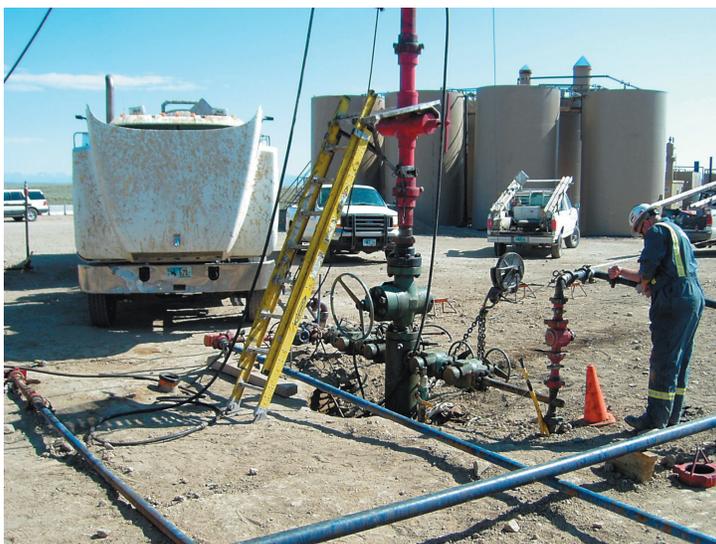
The Hiawatha project calls for 4,208 new natural gas wells, with about two-thirds of them lying south of Rock Springs to the Colorado border and the rest extending into northern Colorado. The total land area in which drilling occurs is 157,000 acres. The approval for those should also occur before the end of 2008. Drilling will take 20 to 30 years and the wells should be producing gas for 30 years.

Near Pinedale, an additional 4,400 natural gas wells should be added to an existing 460 wells over a 198,000-acre swath, called PAPA, the Pinedale Anticline Project Area, once approval has been provided. Development would occur for 20 years and the wells are

expected to be active for 40 years.

Finally, the big lollapalooza is the 8,950 wells to be drilled by 38 or so operators over 1.1 million acres in Carbon and Sweetwater Counties, both north and south of I-80. Around 900 of those wells would be coal bed methane; the rest natural gas. Operators are hoping approval will be obtained before the end of 2008. Wells would be drilled for 15 years and the wells are expected to operate for 40 years.

In addition, there are several other projects on the drawing board, such as Hanna Draw north of Hanna and Seminoe Road southwest of the reservoir, which could add more wells on additional acreage.



Energy Development on the Jonah Field

Photo by Matt Hoobler

When you consider that these projects are in addition to the existing high-density development of the 3,100-well Jonah Field south of Pinedale, you realize that energy development has quickly become a way of life for this quadrant of our state. With the projected development of over 23,000 wells over the next 20-30 years, and with

wells that are expected to be operating for the next half century, that way of life may last for awhile.

Natural resources, including agriculture, are definitely affected.

That's probably a good reason for the Wyoming Landscape Conservation Initiative (WLCI). That new program says simply that while we're planning for the increase in energy development, we can, at the same time, plan to maintain and enhance habitat and natural resources at a landscape level for this part of our state.

Yes, there is no doubt. The energy focus has definitely shifted to southwest Wyoming.

Are you interested in funding opportunities for range enhancement projects?

Lisa Reinhart, JIO Program Coordinator

The Jonah Interagency Mitigation and Reclamation Office (JIO) has funding opportunities to enhance or maintain the health and habitat values of sagebrush systems in the Green River Basin area.

Energy development in the Jonah gas field has impacted numerous resources including agriculture, wildlife, air quality, recreation, and others. To help off-set these impacts, EnCana Oil & Gas committed a fund of 24.5 million for off-site mitigation and on-site monitoring of the field. While 16.5 million of the fund was allocated to improve habitat for the wildlife species affected (primarily sage-grouse and pronghorn antelope); the other 8 million is to be used to off-set other impacts (such as those to livestock grazing, air quality, recreation, etc.), provide over-site on field monitoring and support the JIO in overseeing mitigation and monitoring.

Wyoming's sagebrush communities provide forage for livestock and habitat for hundreds of species of mammals, birds, fish, reptiles, and amphibians. Due to various factors, many of our local sagebrush communities have turned into monotypic stands of later successional ecosystems that are typically >50 years old (Wyoming Interagency Vegetation Committee 2002). These later stage plant communities tend to lack biodiversity, vigor, and production characteristics. The JIO is pursuing projects to reverse that trend. Many of these plant communities are dominated by decedant sagebrush which has reduced the forb and grass diversity necessary for a balanced healthy sagebrush community. This lack of biodiversity has negative impacts on both livestock production and wildlife habitat by reducing essential food and cover.

The JIO has set out to off-set impacts to wildlife by improving rangeland habitats outside the gas field. (Impacts to affected livestock have been addressed.) We are progressively pursuing project ideas with willing participants and want to talk "project-talk" with others who have the same goals in mind. Project goals of the JIO include: enhancing sagebrush communities using various treatments, providing structures that improve foraging distribution and management flexibility, enhancing riparian systems, and conservation/habitat planning.

To implement these projects funds are available for prescribed treatments such as: burns, spike, aerating, mowing, inter-seeding, irrigation, prescribed grazing & related structures, and possible conservation easements.

Do you have any project ideas? We welcome your thoughts and would like to discuss project ideas. I can be reached in the new Pinedale BLM building at 1625 West Pine Street, office 367-5386, or email me at Lreinh@state.wy.us. You may also visit our website for detailed JIO Off-Site Strategic Mitigation Goals at http://www.wy.blm.gov/jonah_office/project_aps.htm

Mowing sagebrush



Treated mosaic pattern



WDA File Photos

Global Warming, The Great Invaders and CRM'S

Larry Bentley, Eastern WY Program Coordinator

One certain truth known by all land mangers is that, "...when native vegetation is removed and the soil is exposed the GREAT INVADERS arrive."

The GREAT INVADERS are not an organized group, but a variety of individual terrorists from many countries. They have reputations, they are relentless invaders of the landscape, and they are WEEDS!!!

Ten years ago a single Coordinated Resource Management (CRM) began in Goshen County to fight these Invaders. The success of that CRM in the battle against weeds is used as a model to form other CRM's throughout Wyoming.

Today there are several CRMs scattered across Wyoming battling the Invaders on over six million acres

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Mediation Program offers Training Opportunities

Lucy Pauley, Mediation Coordinator

In June, the Wyoming Agriculture & Natural Resource Mediation Program co-sponsored a mediation training workshop, along with UW Cooperative Extension Service and the Wyoming National Guard. Twenty-five individuals from Wyoming and Colorado attended this year's workshop and spent four days learning mediation skills and techniques.

Dr. Alan Schroeder, a professor with the College of Agriculture at the University of Wyoming, teaches the



Photo by Lyndsay Griffin

mediation workshop. Dr. Schroeder uses a combination of lectures, group discussions, and role-play scenarios to teach the mediation process and the specific skills that mediators use. Mediators are trained to be excellent listeners and the workshop participants spend a

lot of time practicing active listening and developing methods to draw more information out of parties. The students also study communication techniques used to help defuse a hostile situation or calm-down an agitated party.

Upon completion of the 30-hour workshop, the participants are certified as mediators through the Wyoming Agriculture & Natural Resource Mediation program. While some individuals are interested in mediating cases, many workshop participants take the training to learn mediator skills to use in their own careers and activities. The mediation training is open to the public and is usually held every June. If you are interested in future training opportunities, please contact Lucy Pauley at (307) 777-8788 or lpaule@state.wy.us.

The Wyoming Agriculture & Natural Resource Mediation Program will host several workshops this fall on topics including:

- Facilitation
- Advanced Mediation
- Negotiation Techniques

For more information on the workshops, contact Lucy Pauley or check out our website at <http://wyagric.state.wy.us/NATRES/mediation/index.htm>

Global Warming, con't. from page 4

of private, state, and federal land. Some of the Invaders they are battling are Spotted Knapweed, Hoary Cress, all thistles, Tamarix, Russian Olive, and Prairie Dogs.

What is a CRM? The CRM program was developed to handle issues on private, state and federal lands on a local level. The Wyoming Department of Agriculture (WDA) sponsors the program. The CRM program brings local guidance to local problem. CRM is a voluntary effort by local land managers that brings land owners, county natural resource agencies (Weed and Pest Districts, Conservation Districts), state agencies (WDA, Game and Fish, Environmental Quality) and

federal agencies (NRCS, BLM, USFS) together to establish a plan to address the natural resource problem.

Come to the Wyoming Weed Management Association (WWMA) Convention in Casper in January of 2008 to learn more about how CRM's are being used to fight the Invaders.

Actually there is no connection between weeds and global warming, but using the term "global warming" gets attention.

Taking the Risk Out of a Risky Business

Is Range Insurance for You?

Justin Williams, Ag Program Coordinator

Do remember the story of Chicken Little and her famous line “the sky is falling?” Times of hardship in our own lives make us all think the sky is falling at one point or another. Take the past couple of year’s weather events throughout the world: tidal waves in Sri Lanka; wildfires in Texas; hurricanes in Louisiana and Mississippi; flooding in the Midwest; and drought in the West.

Every one of these weather-related phenomena negatively affected the agriculture industry from the small farmers to the major conglomerates. Agriculture is so heavily reliant upon the weather and yet no one can do anything about it. Wyoming producers in certain areas have recently been blessed with spring moisture at the most ideal time, while others remain in a steady trend of drought. If you can’t control the weather, what can you do?

A number of Northeastern Wyoming ranchers in ten counties participated in the 2005 and 2006 United States Department of Agriculture’s Group Risk Protection Program (GRP). This program is an insurance policy, written by local insurance agents to help livestock producers offset the effects of drought across thousands of acres of rangeland. Rangeland insurance may be new, but was piloted after crop insurance, which many farmers benefit from when crops are damaged by hail, flood, or drought.

There is no doubt, producers have experienced some bumps in this program. A fluctuation in data collected by the National Agriculture Statistical Service has triggered payment for some counties, while little to no payments in others. Recent payments in May for

the 2006 growing season have proven the program can work for some, but tadditional changes are needed to encourage future producers to sign up and to keep those producers currently involved in the program optimistic. Range insurance was a topic presented at the Spring Wyoming Stock Growers Association Convention in Riverton, Wyoming at the end of May 2007. A panel of producers and insurance agents presented the good, the bad and the ugly of the 2005 and 2006 GRP.

Not long after this meeting, the Federal Crop Insurance Corporation met to address some of GRPs problems.

One of which is to gather vegetation and precipitation data on a grid system instead of using county lines, which are many times arbitrary. Many ranches cross county lines, but have similar topography and remain in the same precipitation zones, and yet will have different final payments due to the statistical data gathered on non-irrigated hay production of the county. An additional change proposed for 2008 is to include all Wyoming counties in the program. The statewide expansion of the program opens up a lot of opportunities for producers who continue to struggle with low precipitation and low forage production.

Signing up for the GRP program is typically in September of the previous growing season. The program changes are not set in stone, so livestock producers are encouraged to speak with their local insurance agents, Farm Service Agency staff, and county commissioners about the current status. Federal funding is shrinking, which means less money for on-the-ground projects. Range insurance is another option for producers to offset the risk of the risky business of ranching.



Drought - You can make a difference

Leanne Stevenson, Natural Resources & Policy Section Manager

What is the definition of a drought? It is “a period of abnormally dry weather sufficiently prolonged for the lack of water to cause serious hydrologic imbalance in the affected area.” -Glossary of Meteorology (1959).

Parts of Wyoming have suffered from drought for 7 or more years. The U.S. drought monitor report released Thursday, July 5, 2007, currently reports that 9.4% of the state is in extreme drought and 38.3% in severe drought.

It is estimated that Americans tap into about 341 billion gallons of tap water everyday. The average indoor and outdoor use for a typical single-family home is 101 gallons per capita per day.

So what can individual residents of Wyoming do about it? Consumers can do their part to conserve precious supplies through small, thoughtful changes in their lifestyles and activities. Water conservation activities not only save water, but many can save money and energy too.

These top 5 actions will help you discover some of the best ways to save water in and around your home.

1. Stop Those Leaks!

Check your indoor water using appliances and devices for leaks. Many silent leaks allow water and your money to go down the drain. Studies have shown homes can waste more than 10% due leaking, which costs both you and the environment. Another large water waster are leaks in your irrigation system. Fix irrigation system leaks quickly and check for water in the gutters or mud puddles. Inspect your sprinklers and drip sprayers regularly for leaks during the daytime since the optimal time to water is in the nighttime hours when you cannot observe leaks. If you have an older irrigation system, over 50% and even more than 75% of the water is lost to leaks

2. Replace your old Toilet; the largest water user inside your home.

If your home was built before 1992 and the toilet has never been replaced, then it is very likely that you do not have a water efficient 1.6 gallon per flush toilet. You can check the date stamp inside the toilet by lifting the lid and looking at the back of the toilet at the manufacturer's imprint of the make, model and date of manufacture.

3. Replace your Clothes Washer; the second largest water user in your home.

Energy Star™ rated washers that also have a Water Factor at or lower than 9.5, use 35-50% less water and 50% less energy per load. This saves you money on both your water and energy bills.

4. Plant the Right Plants with Proper Landscape Design & Irrigation.

Whether you are putting in a new landscape or slowly changing the current landscaping at your home, select plants that are appropriate for your local climate conditions. Having a yard with 100% lawn turf

area in a dry desert climate uses significant amounts of water. Also consider the trend towards Xeriscape™ and a more natural landscape or wildscape.

5. Water Only What Your Plants Need.

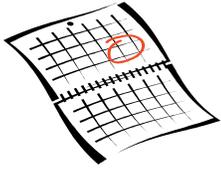
Most water is wasted in your garden by watering when your plants do not need the water or by not maintaining the irrigation system. Be attentive if you are manually watering by setting your oven timer or some other reminder to move the water promptly. Make sure your irrigation controller has a rain shutoff device and that it's appropriately scheduled. Most water is wasted in months prior to or just after the rainy season when intermittent rains occur.

Refer to the www.h2ouse.org website for more resources available to help research choices for water saving home appliances and landscaping choices.



Drought Conditions in Wyoming

Photo by Matt Hoobler



Upcoming Events

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|-----------------|---|------------------|---|
| August 11-18th: | Wyoming State Fair, Douglas | September 5th: | Area IV meeting, hosted by Star Valley Conservation District |
| August 16th: | Wyoming Beef Council meeting, Douglas | September 7th: | Area III meeting, hosted by Washakie County Conservation District |
| August 17th: | Living Legacy Dedication Ceremony, Douglas | September 7-9th: | Wyoming Hunting & Fishing Heritage Expo, Casper |
| August 17th: | Board of Agriculture meeting, Douglas | September 11th: | Area I meeting, hosted by Campbell County Conservation District |
| August 17th: | WDA Excellence in Agriculture Awards, Douglas | September 12th: | Area IV meeting, hosted by Natrona County Conservation District |
| August 18th: | Centennial Ranch Awards, Douglas | September 13th: | Area II meeting, hosted by Laramie County Conservation District |
| August 29th: | Conservation District Supervisor Training, Torrington | | |

If you have questions or comments about the information in this newsletter, please contact Dani Sullivan, Wyoming Department of Agriculture, Natural Resources & Policy section at 307.777.7323 or dsulli1@state.wy.us

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