

Living on a Few Acres in Washakie County



Guide To Rural Living



Presented by: Washakie County Conservation District

Resources List

Wyoming Federal & State Agencies

Natural Resource Conservation Service (NRCS)	
NRCS State Office	307-233-6750
Washakie County NRCS	307-347-2456
Farm Service Agency	
Farm Services Agency	307-261-5231
Washakie County FSA	307-347-2456
US Forest Service-Cheyenne.	307-777-7586
US Forest Service District 5-Buffalo	307-684-2752
Wyo. Assoc. of Conservation Districts	307-632-5716
Department of the Interior	
Bureau of Land Management (BLM)	
State BLM Office, Cheyenne	307-775-6256
Worland BLM Field Office	307-347-5100
US Fish & Wildlife Service	
Cheyenne	307-772-2374
Wyoming Game & Fish	307-777-4600
Department of Environmental Quality	
Cheyenne	307-777-7937
Lander Office	307-332-3144
Wyoming Department of Transportation	
Cheyenne	307-777-4375
State Board of Water Control	307-742-0023
Wyoming State Engineer	307-777-7354

Washakie County

Washakie Medical Center	347-3221
Washakie Co. Conservation Dist	347-2456 ext. 101
County Assessor's Office	347-2831
County Attorney	347-3115
County Planner	347-6778
Cooperative Extension Service	347-3431
County Clerk's Office	347-3131
Emergency Management	347-3331
Fire Department	347-6379
Worland Landfill	347-3846
County Road & Bridge	347-4361
Sheriff's Department	347-2242
Weed & Pest District	347-8582
Worland School Admin. Office	347-9287
Ten Sleep School	366-2223
Northern Wyoming Daily News	347-3241
City of Worland	347-2486
Ten Sleep Town Hall	366-2265
Worland Post Office	347-3321
Ten Sleep Post Office	366-2505
Game & Fish Dept.	
-Ten Sleep Game Warden	366-2213
-Worland Game Warden	366-3650
Wyoming Transportation Dept	347-2822
State Engineer	347-4882
Worland NRCS Field Office	347-2456
Washakie County FSA Office	347-2456
Washakie Development Association	347-8900
Worland Ten Sleep Chamber of Commerce	347-3226

Local Realtors

Hake Realty/Worland	347-3271
/Ten Sleep	366-2208
Bonny Realty	347-4289
McGarvin & Taylor Real Estate	347-4271
Singletree Realty	347-2945

Local Banks

ANB Bank	347-4241
Pinnacle Bank	347-3215
Bank of the West	347-6126
Big Horn Federal	347-6196
Security State Bank	347-4300
US Bank	347-9268
Sunlight Federal Credit Union	347-8315



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**Visit the Washakie County
Conservation District!**

Website: washakiecd.com



Great Seal of the State of Wyoming
Adopted by the Second Legislature in 1893
Revised by the Sixteenth Legislature in 1921

The two dates on the Great Seal, 1869 and 1890, commemorate the organization of the Territorial government and Wyoming's admission into the Union. The woman in the center holds a banner proclaiming "Equal Rights," Wyoming having been the first government to grant equal civil and political rights to women. The male figures typify the livestock and mining industries of the state. Upon a five-pointed star the number "44" appears, being the number of admission into the Union. On top of the pillars rest lamps from which burn the Light of Knowledge. Scrolls encircling the two pillars bear the words "Oil," "Mines," "Livestock" and "Grain," four of Wyoming's major industries.

ABOUT THE WASHAKIE COUNTY CONSERVATION DISTRICT.....

Purpose

The purpose of the Washakie County Conservation District (WCCD) is to share and implement the visions of planning for existing and future sustainability of Washakie County through the conservation and wise multiple use of our natural resource base, coupled with maintaining our custom and cultures and a healthy economic base.

Introduction

A number of factors contributed to the rapid deterioration of western agricultural lands during the early 1930's. The application of poor farming procedures, misuse of range and extreme lack of moisture were probably foremost in creating these adverse conditions. Recognizing the need to stop further degradation of these valuable lands, Senator Earl Bower, of Washakie County, introduced a bill establishing the Wyoming Soil Conservation Act in February 1941. This Act authorized the establishment of Soil Conservation Districts. These newly formed bodies were given the responsibility of natural resource conservation within their respective districts.

On December 31, 1941, the Nowood Soil Conservation District at Ten Sleep became one of the first four Districts in Wyoming. The Washakie Soil Conservation District was formed in 1943 at Worland. In 1990, the two Conservation Districts consolidated to form the present Washakie County Conservation District.

Authority

WCCD is a local subdivision of the state as defined and established by the Wyoming State Statutes at Title 11, Chapter 16, et seq., entitled "Wyoming Conservation Districts Law." The Washakie County Conservation District, pursuant to W.S. 11-16-122 (iv) and (xvi) of the Wyoming Conservation District Law, is authorized to develop plans for the Washakie County Conservation District and to file said plans in the office of the Washakie County Clerk.

The people residing within the WCCD boundaries elect the five-member Board of Supervisors of the Washakie County Conservation District by popular vote during the general election. The elected members represent both the rural and urban populations within the District. The Board of Supervisors is the only locally elected board charged specifically with the responsibility of representing local people on natural resource issues. A conservation district supervisor serves the community and district voluntarily and without pay.

The WCCD's programs and administration is supported by a one-mill levy, which is voter approved. Other funding support is provided by some revenue generating projects such as the WCCD's Seedling Tree Program, and by grants.



Physical Setting

The Washakie County Conservation District includes all lands within Washakie County and occupies the southeastern part of the Big Horn Basin. The Big Horn Basin is surrounded by the Absaroka Mountains to the west, the Pryor Mountains to the north, the Big Horn Mountains to the east and the Bridger and Owl Creek Mountains to the south.

Land Ownership

The WCCD comprises 1,432,753 acres. Of the total area, approximately 374,120 acres are privately owned; approximately 918,007 acres are owned by the Bureau of Land Management; approximately 1427 acres are owned by the Bureau of Reclamation; approximately 36,274 are National Forest lands and approximately 102,925 acres are owned by the State of Wyoming. About 20% of the privately owned land is irrigated cropland, 78% is rangeland, and 2% is woodland.

LAND OWNERSHIP PERCENTAGE BREAKDOWN

Private	26.2%
US Forest Service	2.6%
US Bureau of Land Management	64.1%
US Bureau of Reclamation	.1%
State of Wyoming	7%

Elevation

The lowest elevation point is where the Big Horn River leaves the county at 3,950 feet above sea level. The highest point, about 9,576 feet, is in the northeastern corner of the county in the Big Horn Mountains.

Climate

In the summer and winter, the daily maximum and minimum temperatures vary greatly. This is primarily because of the high elevation and low humidity, which permit rapid warming by solar radiation, and also because of the passage of both warm and cold airmasses. Generally the mountain and foothill areas receive more snow during winter months and tend to receive more frequent rainfall in summer. The

average annual precipitation is about 8 inches at Worland and about 13 inches at Ten Sleep. The average length of the growing season is 133 days above 32 degrees and 157 days above 28 degrees.

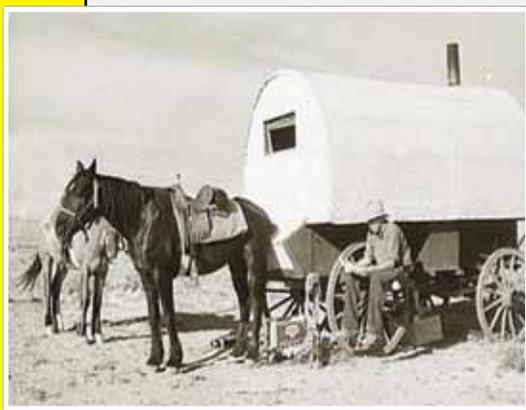
Drinking Water

The drinking water that supplies Ten Sleep and Worland comes from the Madison Formation. Northeast of Worland and west of Trapper Creek, lies the "Paint Rock Anti-Cline" which is a porous strata-like formation that angles many miles and 2000 plus feet under the ground surface. Geologically formed of dolomite or lime, the Madison formation covers a large area of the United States and is an underground ocean of fresh water.



History

Topography played an important part in the development of Washakie County. It was a deep, fertile valley, isolated by high-formidable mountains, with few negotiable passes. Agriculturally, the area was rich, and all along the Nowood valley there was good and plentiful water and vast miles of buffalo grass. Here existed a natural abundance - deer, elk, buffalo, bear, trout in the creeks, which made it a favorite hunting area and winter camping ground for several Indian tribes. The severe winter storms generally were shunted away from the area because of the tall mountains surrounding, making the winters mild. To the west of the foothills there were many miles of "bad-lands," clay soils whose nature was hidden



by luxurious grass and was an ideal environment for salt sage, a high-protein superior livestock feed which was grazed during the winter months. The

Big Horn River, one of the few waterways in the United States that channels north, provided many square miles of river-bottom land with capabilities of raising bumper crops.

In 1807, John Colter, a member of the Lewis and Clark northwest exploration party, joined up with Manuel Lisa and, starting at the mouth of the Big Horn River, made a lengthy exploratory trip to the south and west, trapping and trading with the Crow Indians.

The first permanent settlement of the Ten Sleep area was around 1880 by cattlemen. The first large herds of cattle were brought into the area by a group of local ranchers in 1886. These cattle were driven overland from Texas to the Upper Nowood country. The following winter was severe and 80% of the cattle died because no hay or feed was available.

During the 1890's, large numbers of sheep were brought into the area. There were more cattle in the Basin than ever before, but sheep were steadily encroaching on the cattlemen's domain. The cattlemen had grown to consider it their own open range because of prior occupancy and they were concerned that when the sheep were trailed over a section it was no longer usable for cattle grazing, but the indisputable fact stands that the range had been consistently overstocked and overfed, and the near-drought conditions that prevailed for several years was also a major factor in the decline of open pasterage. The resulting feuds were terminated in 1909 in the "Ten Sleep Raid," in which three sheep men and large numbers of sheep were killed.

Irrigated farming began in the Ten Sleep area about 1883, and in 1888, the first irrigation works was built in Worland, the Pfeiffer Ditch, which is the first recorded appropriation of water on the Big Horn River. The Big Horn Canal was constructed in the early 1890's, which took three years to build, mostly by teams of horses. In 1904 the Hanover Canal Association was formed and was to supply water for irrigation of the several thousand acres of rich bottom land along the Big Horn valley. The Lower Hanover was to irrigate the bottom land and the Upper Hanover was to take its water from the river several miles farther south and at a higher elevation, to irrigate a thirty-mile long area of benchland. This was the most extensive irrigation project in the state.

In 1903, a pioneer camp was established on the west bank of the Big Horn River, at its confluence with Fifteen Mile Creek. Charles H. Worland, a nursery salesman, selected this location as a halfway point between Basin City and Thermopolis, and the town located here now bears his name. The camp became an overnight stop for stagecoaches and freighters and provided them with supplies.



In 1904, work began on the Hanover and Big Horn Canals and people flooded in for the jobs created by this construction. The telephone arrived in Camp Worland, as well as a school, a church and a store with a post office. In 1905, a newspaper was begun. In 1906, Camp Worland moved across the Big Horn River and became the incorporated Town of Worland where the railroad, a bank, doctors and lawyers arrived. The railroad opened this area to markets that up to this time were not available. The farmers started irrigating from their canal, planting and raising alfalfa, wheat and sugar beets. The wheat was ground for flour and used for chicken feed.

Washakie County was organized in 1911 as a division of Big Horn County, which included all of Big Horn Basin and Yellowstone Park. It was named in honor of the Shoshone Indian Chief "Washakie." In 1913 the Town of Worland became the county seat. The Town of Ten Sleep was incorporated in 1932, although it was in existence before that date. Ten Sleep takes its name from its location, ten sleeps (nights of travel) between the great Sioux camps on the Platte River and an area near Bridger, Montana.

Custom & Culture

Agriculture is the primary basis for Washakie County's economy. In general, the agricultural operations use sound management techniques and have done much to conserve and build up the soil on ranches and farms.

The irrigated areas are used for growing sugar beets and malting barley, which are the main cash crops and both are high value crops. Other crops grown locally include alfalfa hay, beans, grass hay, alfalfa seed, oats, feed barley, turnips, native grass and flower seed and corn. Some of the irrigated areas are used for irrigated pastures as well.

The livestock industry accounts for a large portion of Washakie County's agricultural income and is the oldest continuing industry

in the county and is still the single largest land user. Many of the ranches have summer range on the Big Horn Mountains and some operate on rangeland the year around, supplementing the range grass with hay and concentrates during the winter and spring. Livestock raised in the area is primarily cattle and sheep, however, there are several breeders of good



quality saddle horses in the area. 80% of the acreage in the WCCD is utilized for grazing.

Natural gas, oil, sulphur and bentonite constitute the minerals in Washakie County. Sand and Gravel are other economic resources present within the WCCD.

Tourism and recreation have been increasing in recent years, and WCCD is feeling the effects of the increased amount of visitation and requirements for access. The construction of cabins in the mountains, near reservoirs and streams, for leisure time/vacation activities reflects that the land ownership is shifting from historic long-term ranch family open space and land ownership. Hunting and fishing pressures continue to grow on the private lands and the limited number of streams stocked with fish.

Some of the recreation enjoyed within the WCCD include off-road vehicle (4-wheelers and larger vehicles) use, snowmobiling, hunting & fishing, rock climbing, rock-hunting, skiing, horseback riding, searching for artifacts, bird-watching and enjoying the abundant wildlife of the area.



Is Rural Living for You?

The benefits of living in a rural setting often leave new landowners stumbling upon the unexpected which can be disheartening at best. Here are some things to take into consideration before you purchase land:

- You discover that you don't have access to the irrigation water that runs through your own land and you are responsible for the quality of the water that leaves your land;
- You lose a pet or livestock to a predator;
- You are responsible for a fire that starts on your land and spreads to other properties;
- The wildlife have eaten everything you just planted;
- There is no garbage service in your area or access to utilities that are often over-looked when living in a more urban area;
- Without proper knowledge of the property you could discover problems with soil, drainage, and even subdivision covenants;
- You are surprised at the cost of building structures needed to protect livestock from predators and the elements;
- You don't have enough time or energy to mow fields, maintain fences, spray weeds, feed livestock, deal with muddy facilities, doctor sick animals, vaccinate healthy animals, etc.;
- Your domestic or agricultural water source has dried up;
- Minerals or pollutants have entered your well;
- It takes more time and money to drive to town than you ever expected;
- It takes more time to learn about and maintain domestic wells and pumps, sewer systems, irrigation pumps, ditches, hand lines, etc.;
- You discover that the access road to your property is not publicly maintained and it is your responsibility to maintain it ;
Your neighbor may apply pesticides or herbicides that drift onto your land;
- The open meadow bordering your property might soon turn into another subdivision, or an "unsightly" place, so you should be open to noise, smells, or a change of scenery;
- There can be problems with the legal aspects of access, especially if you gain access across property belonging to others;
- If you have a ditch running across your property, there is a good possibility that the owners of the ditch have the right to come onto your property with heavy equipment to maintain the ditch;
- Farmers often work around the clock, especially during planting and harvest time. It is possible that adjoining agriculture uses will disturb your peace and quiet;
- Wyoming has an open range law. This means if you do not want cattle, sheep or other livestock on your property, it is your responsibility to fence them out.
- If you plan to have pets, you will need to control them; "Dogs running at large in unincorporated areas within Washakie County are a public nuisance".

We're here to help...



What to Know Before You Buy...

When you are looking to purchase a piece of Wyoming's open space consider how you will access the property: will you build a private road off a state highway, a county road, a neighbor's private road or a subdivision road? Whichever route you choose make sure you know the legal aspects of gaining access.

If you are planning on building a personal driveway off a county road contact your County's Road & Bridge Department. If you are planning on building off a state road you must apply for an approach license through the Wyoming Department of Transportation. Ask the Homeowner's Association in the subdivision if there are any regulations on personal driveways. Also, who will be responsible for maintaining the road?



To find out if your road will be maintained by the county call your county's Road & Bridge Department:

Washakie County Road & Bridge Department
347-4361

Find Out About Easements

Easements may require you to allow construction of roads, power lines, water lines, sewer lines, etc., across your land. There may even be easements that are not on record. Easement information can be obtained by taking a legal description of the property in question to the Washakie County Courthouse, or by calling 347-3131.



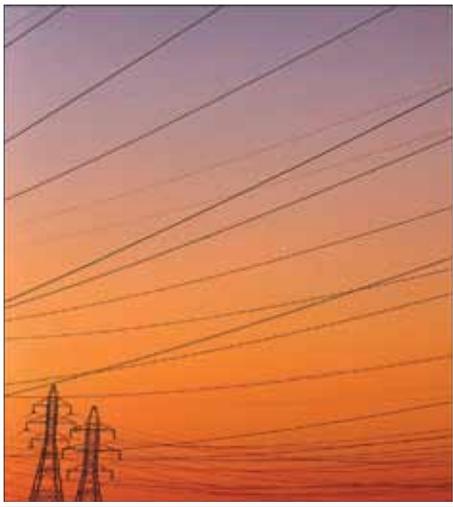
Did you know...

Washakie County was organized in 1911 and named after the head chief of the Shoshone people, Chief Washakie, who became an ally of the US Government. Washakie County was created through the division of Big Horn County, which included all of the Big Horn Basin and Yellowstone Park.



What About Utilities?

Don't forget about power! Be sure to ask about utility lines for electricity, gas, phone, etc. before you buy land. If there is not a tie-in near, you may end up spending much more than you anticipated. Also, contact your local garbage service to find out if they pick up trash in the area; you may have to work with a private disposal company or haul it to the landfill yourself.



For local gas service contact:

Wyoming Gas 347-2416

For local electricity service contact:

Rocky Mountain Power 1-888-221-7070

For local telephone service contact:

RT Communications 347-7000

For local garbage disposal services contact:

Waste Connections of Wyoming 682-6000

Sander Sanitation Service 685-2556

No Matter Where You Build....Remember to Call Before You Dig



800-849-2476

or

800-348-1030



School Bus Routes & Postal Delivery

For those with children, it is important to consider transportation to and from school. Many towns and counties in Wyoming are experiencing a demand for rural bus routes. For information contact the Washakie County School District #1 Bus Barn at 347-2841; or the Ten Sleep School at 366-2223.



To find out if there is postal delivery to the area you are in or perhaps you would prefer a post office box call the Worland Post Office at 347-3321.

If you are interested in receiving the Northern Wyoming Daily News, you will need to call 347-3241 to ask about delivery of the paper to your area.



If you're only moving for the scenery...



Many people buy a piece of land based solely on the surrounding scenery. They generally do not take into account the possibility that a forest could be used for logging or that an open prairie could become another subdivision. You can find out about the zoning of surrounding properties from your County's Planning Department. They can tell you if there are future developments in planning stages.

A benefit of living in the country is being away from the commotion of towns and cities, but one of the drawbacks of living in the country is the weather. Not only can it wreak havoc on a house that is built on bad soils or in a natural drainage but it can leave you stranded for days at a time.

Contact the Washakie County Planner at 347-6778.



What's that smell?



Also remember that Wyoming is a "Right to Farm" state and has an "Open Range Law" so it is likely there will be agricultural practices on neighboring properties. If you don't want cattle, sheep, etc., roaming on your property you will need to fence. The smell is your issue and not your neighbor's, as is the noise and dust.

Check out the Wyoming Right to Farm Law (article 44) and the Open Range Law or Fence Laws (article 28) at <http://legisweb.state.wy.us/statutes/dlstatutes.htm> under Title 11.

Don't forget the minerals

Natural gas, oil, sulphur and bentonite constitute the minerals in Washakie County. Sand and gravel are other economic resources present as well. Of course, there is the issue of mineral rights. Many property owners do not own the mineral rights under their property. Owners of mineral rights have the ability to change the surface characteristics in order to extract minerals. It is very important to know what minerals may be located under the land and who owns them. A special review by the Board of County Commissioners is usually required prior to the implementation of any non-mineral mining operations.

You can contact the Washakie County Commissioners office by calling 347-6491 with any questions regarding mineral rights.



You Finally Bought a Piece of Wyoming!

A newly subdivided small acreage parcel may have no buildings or roads present on the land, which leaves all the planning up to you. When planning your home site, corrals, animal shelters, roads, etc., take into consideration what will have the least impact on the natural land. To prevent future problems you should build on stable soils, away from streams or any other water bodies, away from areas where snow will drift, and not on steep slopes.

Every landowner needs a comprehensive management plan. Before developing your plan look around, make a sketch, and take notes about your property. Note where utility lines are, the property boundaries, fences or corrals, any structures, wells, septic system (if present),

streams or ponds, bare ground, weeds, trees, etc. Knowing the characteristics of the property will make for easier planning and better land management. While the underground utilities are important for future planning so are any overhead utility lines, especially if you're considering planting trees.



Surveying the Land

Just because there is a fence surrounding your property does not necessarily mean that it follows the true property lines. Having a land surveyor mark the boundaries can relieve any

future problems with neighbors and boundary disputes; they can also survey for well locations. For several local surveying companies check out:



Donnell & Allred Inc
307-347-8276

PE Grosch Construction Inc
307-347-3332



Virtually Everything Depends on Your Soil's Health!



Healthy soils provide the support and nutrients for plants to thrive. The soil requires a certain amount of air space, moisture movement, and structure to do this.

There is a great diversity of soils which may vary in a short distance, such as the distance across your back yard. Most soils have a top layer where most nutrient and plant activity take place. Protecting this layer from erosion, compaction, nutrient loss, and other disruption maintains a strong growth medium for plants.

What Does the “Dirt” Do?

Healthy soils give us clean air and water, bountiful crops and forests, productive rangeland, diverse wildlife, and beautiful landscapes. Soil does all this by performing five essential functions:

1. Regulating water - Soil helps control where rain, snowmelt, and irrigation water goes. Water and dissolved solutes flow over the land or into and through the soil.
2. Sustaining plant and animal life - The diversity and productivity of living things depends on soil.
3. Filtering potential pollutants - The minerals and microbes in soil are responsible for filtering, buffering, degrading, immobilizing, and detoxifying organic and inorganic materials, including industrial and municipal by-products and atmospheric deposits.
4. Cycling nutrients - Carbon, nitrogen, phosphorus, and many other nutrients are stored, transformed, and cycled through soil.
5. Supporting structures - Buildings need stable soil for support, and archeological treasures associated with human habitation are protected in soils.



Soil & Water Relations

Clay: Water goes in slowly; held tightly

Loam: Water goes in at an average rate; held with medium strength

Sand: Water goes in quickly; held poorly

For even more information on soils visit the NRCS Soils website at <http://websoilsurvey.nrcs.usda.gov>. This site provides the public electronic access to relevant soil and related information needed to make land-use and management decisions.

The Western Meadowlark (*Sturnella neglecta*) was adopted as the Wyoming state bird in February of 1927. The Meadowlark was ‘discovered’ by Meriweather Lewis in 1805 while in Montana. It is also the state bird of Kansas, Nebraska, North Dakota, Oregon, and Montana!



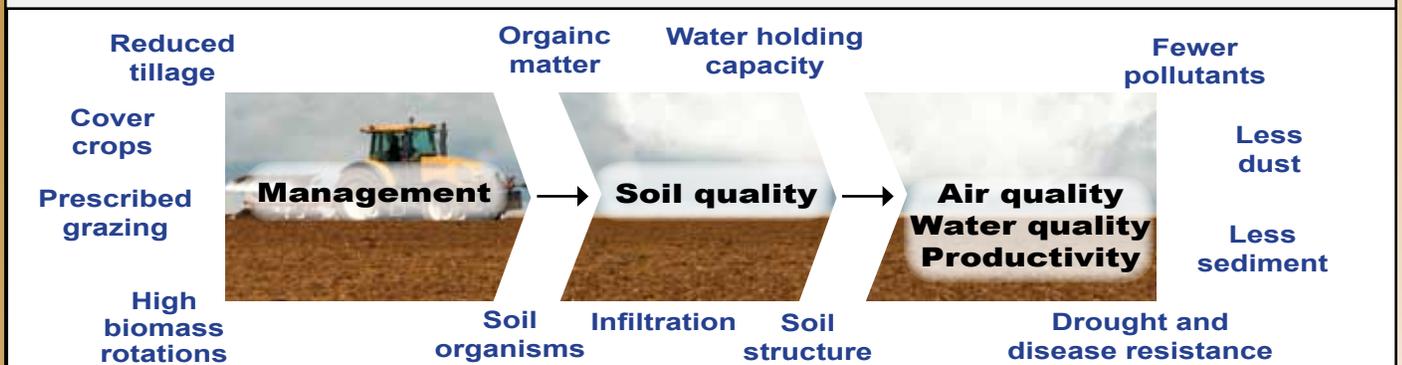
Knowing Your Soils



Knowing your soil type and whether it is acidic, neutral or alkaline will help you choose the right plants for your landscaping and maintain them in good health. A simple pH-testing kit can be purchased from many garden retailers, which will confirm the acidity or alkalinity of your soil. Horticulturally, “neutral” soil is pH 6.5 which many plants enjoy; anything below pH 5.5 or above pH 7.5 can be problematic, with certain pests, disease and nutritional disorders in your plants. Acidifying soil is difficult and expensive; using garden lime is a cheap alternative to raise pH where necessary.

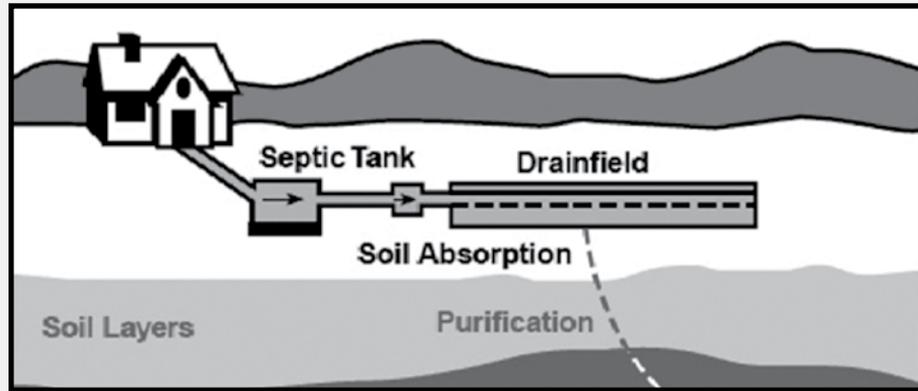
Improving Soils

Any soil type can be productive if handled appropriately. Organic matter improves all soils. Any organic substance - compost, leafmould, well-rotted manure, wood and bark chippings, feathers - will in time turn your basic soil type into a darker, crumbly soil. This is known as the soil structure, and it is under your control. You can dig in organic matter or lay it on top as mulch. Rich organic matter (such as manure) is ideal for dry, “hungry” soils like sand. Dry, fibrous organic matter (composted bark) might be better on clay, which is already rich and wet. Whatever you use, it is best applied when well rotted, and added at least twice a year for maximum benefit. Organic matter improves the drainage and workability of clay, and the water and nutrient-holding capacity of sands, silts and chalky soils.



Septic Systems

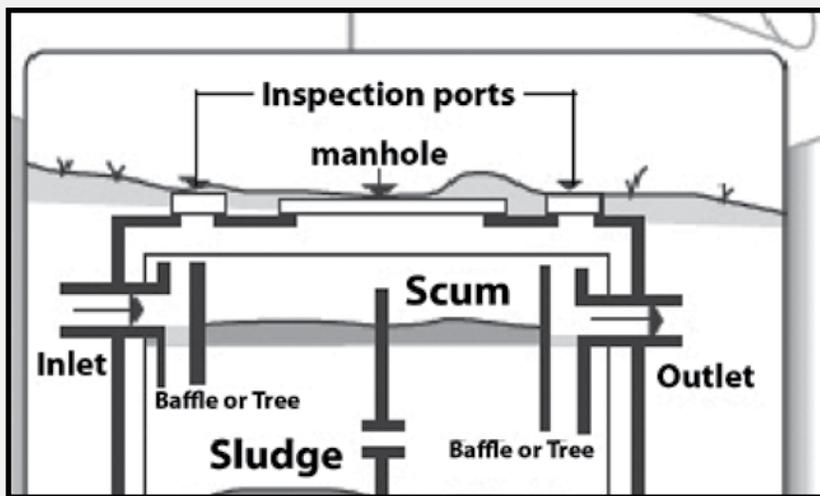
Selecting a septic system is a consideration people didn't have to worry about when they live in town. But if you're one of the 25 percent of rural homeowners who have a septic system, then understanding the process, maintenance, and proper system may prevent the occasional - but very exasperating - problem with a septic system.



In Washakie County, you will need to obtain a permit for a septic system by contacting the Washakie County Planning office. If you have never had experience planning a septic system, it would be in your best interest to consult a contractor that has experience with the process. It is also important to have a PERC test done to determine the soil's filtering capacity, or permeability. You can visit the Wyoming Department of Environmental Quality at <http://deq.state.wy.us/wqd/groundwater/downloads/Private%20Wells/wellheadseptic.asp> for more details on septic systems.

How A Septic Works...

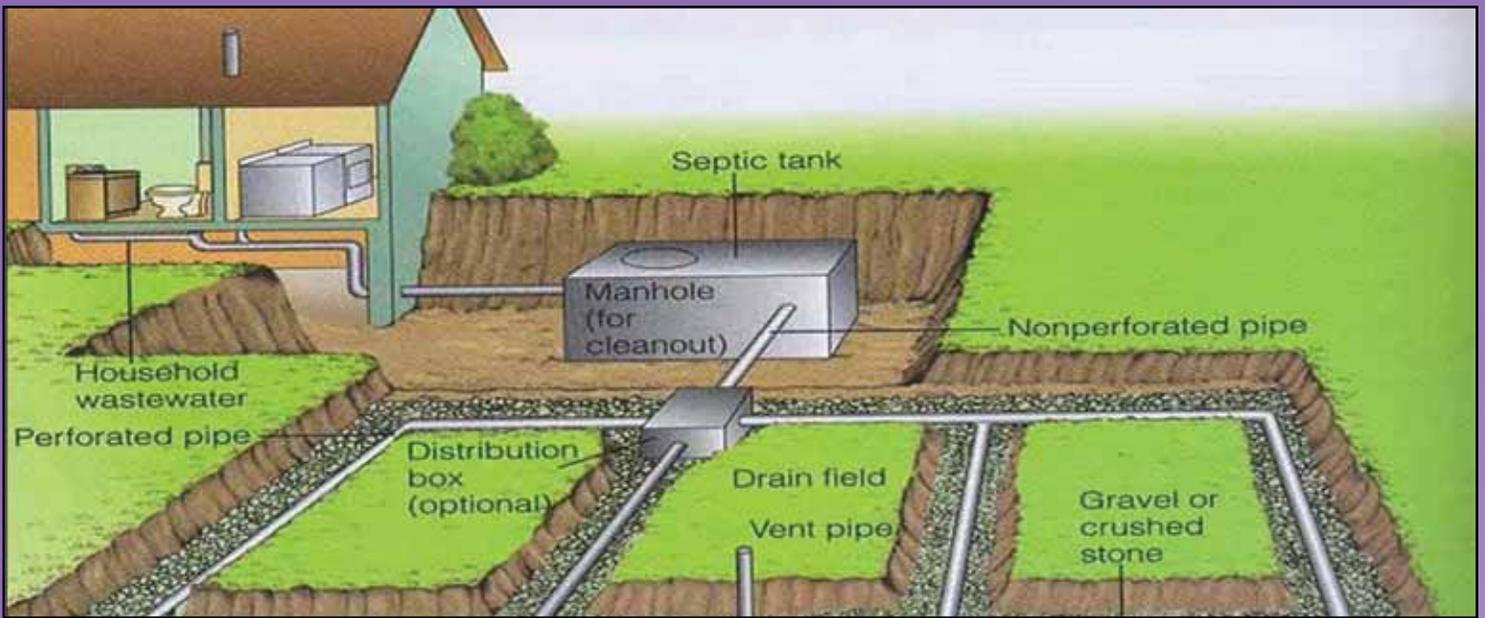
Everything that goes down any of the drains in your house (sinks, toilets, showers, washing machines, etc.) travels first to the septic tank. The septic tank is a large-volume, watertight tank that provides initial treatment of the household wastewater by intercepting solids and "sinkable" organic matter before disposal of the wastewater (effluent) to the drain field.



The construction and operation of a septic tank is fairly simple but provides numerous important functions through a complex interaction of physical and biological processes. The essential functions of the septic tank are to: receive all wastewater from the house, separate solids from the wastewater flow, cause reduction and decomposition of accumulated solids, provide storage for the separated solids (sludge and scum), pass the clarified wastewater (effluent) out to the drain field for final treatment and disposal.

The septic tank provides a relatively inactive body of water where the wastewater is retained long enough to let the solids separate by both settling and flotation. This process is often called primary treatment and results in three products: scum, sludge, and effluent.





A septic system is normally powered by nothing but gravity. Water flows down from the house to the tank, and down from the tank to the drain field.

As new water enters the tank, it displaces the water that's already there. This water flows out of the septic tank and into a drain field. A drain field is made of perforated pipes buried in trenches filled with gravel. A typical drain field pipe is 4 inches in diameter and is buried in a trench that is 4 to 6 feet deep and 2 feet wide. The gravel fills the bottom 2 to 3 feet of the trench and dirt covers the gravel. The water is slowly absorbed and filtered by the ground in the drain field. The size of the drain field is determined by how well the ground absorbs water.

Maintenance

Since septic systems are designed to break down and discharge household wastewater so it does not impact surface or groundwater it is important to maintain the system to prevent failure. Neglecting to have your system pumped on the recommended schedule, excessive household chemical use, or

sending excessive water to a septic tank at one time can shorten the life of the leach field.

Maintenance of septic systems comes in two parts. First, the sludge layer that accumulates on the bottom of the tank must be pumped regularly depending on the household occupancy and tank size. The second part involves the bacteria that is necessary for digesting organic solids in the floating (scum) layer. Moderation should be the rule when soaps, detergents, bleaches or other household cleaners are disposed in septic systems. Certain household products and wastes should never be dumped down drains because they can directly contaminate groundwater: excessive amounts of grease, paints or solvents, petroleum products, flammable liquids, paint strippers and other volatile cleaners. Commercially available septic system cleaners containing organic cleaners or active agents, such as sodium hydroxide (lye) or potassium hydroxide, can disrupt the operation of the system and cause groundwater pollution. The use of garbage disposals is not recommended because solids build up more rapidly.



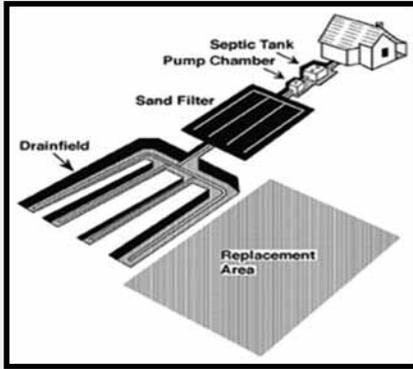
On February 23, 1985, the bison was adopted as Wyoming's State Mammal.

Do you know what the colors of the Wyoming State Flag stand for?

The red border represents the Indian; also the blood of the pioneers who gave their lives reclaiming the soil. White is the emblem of purity and uprightness over Wyoming. Blue, the color of the sky and mountains, is symbolic of fidelity, justice and virility!



Types of Septic Systems



There are many types of septic systems available, and a majority of them are viable for Washakie County. When it comes down to making a decision about the type of septic system you want to invest in you can choose from:

A **Conventional Septic System** consists of a settling (septic) tank and a soil absorption field; and are the common system described in this section. The traditional system accepts both greywater (from showers, sinks, laundry) and blackwater (from toilets).

Intermittent Sand Filter is used in conjunction with pretreatment methods such as septic tanks and soil absorption fields. An intermittent sand filter receives and treats effluent from the septic tank before it is distributed to the leach field. There is a modified intermittent sand filter system known as **Recirculating Sand Filter** in which effluent from the filter is re-circulated through the septic tank and/or the sand filter before it is discharged to the soil absorption field.

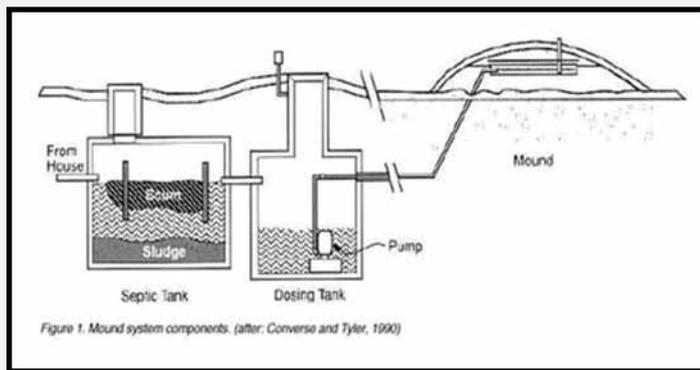
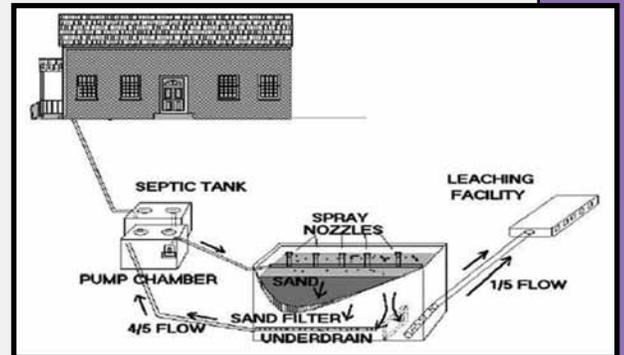


Figure 1. Mound system components. (after: Converse and Tyler, 1990)

Mound Systems are an alternative to conventional systems and are used on sites where insufficient separation distance or permeation conditions exist. Mound systems are typically designed so the effluent from the septic tank is routed to a dosing tank and then pumped to a soil absorption field that is located in elevated sand fill above the natural soil surface.

the solids and effluent within itself. From the pretreatment compartment the fluids move to aerobic sludge area, a mechanical aerator forces oxygen into compartment to activate bacteria. It then leaves the compartment into a leach-field or other disposal method. Aerobic units are more costly and need to have regular maintenance to stay working.

Always discuss your choices with an experienced contractor before making any decisions; and remember the costs will vary for each of these options based on labor, system, maintenance, and your property's characteristics!

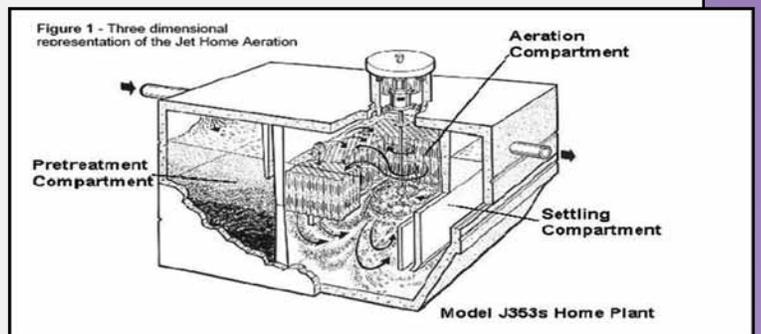


Figure 1 - Three dimensional representation of the Jet Home Aeration



Dealing with Wyoming Wind

For homeowners in rural areas, well designed windbreaks can cut home heating costs by 10-25%. Home heating savings are not the only energy benefit from windbreaks. Windbreaks are very effective in controlling drifting snow. By strategically locating windbreaks upwind of roads and highways, blowing snow can be reduced, resulting in less snow accumulation and ice development on roads.

Windbreaks also:

- Protect livestock- increase feed efficiency, increase weight gains, increase survival of newborns, improve animal health and ultimately profits;
- Reduce wind erosion;
- Increase crop yields by 5-20%, and increase crop quality;
- Reduce pesticide drift;
- Improve irrigation efficiency;
- Filter dust and other air pollutants;
- Provide wildlife travel corridors and habitat;
- Store carbon;
- And reduce noise!!

Wind is also a factor when planting trees for aesthetic values and not as windbreaks.



Water-wise Landscaping

You can conserve energy based on the way you plan your buildings. For example, a southern exposure placement of the home will allow for solar heating. When landscaping you can conserve water by using water-wise native landscaping (xeriscaping) and it will be important to know where windbreaks will be beneficial.

Water-wise landscaping comes from Xeriscaping. Xeriscaping is a concept developed by the Denver Water Department and is a landscaping model for reducing water waste by using native or adapted plant species. Check out their website at: <http://www.denverwater.org/>

The Indian Paintbrush (Castilleja linariaefolia) was adopted as the state flower on January 31, 1917.



Native Landscaping

Landscaping is not always easy in Wyoming's arid climate and often times landscaping efforts require large amounts of water. Then there is the wildlife factor that comes into play when landscaping. While attracting certain types of wildlife is often desired that does not mean we want our newly planted poplars munched on by the local mule deer. When it comes to native landscaping in Wyoming, we are also faced with very different types of weather patterns, which means hardier plants that need less water are better choices.

We will include links to articles on suggested trees, shrubs, perennials, herbs and basic gardening suggestions for Wyoming; as well as include a list of some popular species. Most of Washakie County falls in zone four for plant hardiness. The zones are based on annual average low temperatures. Consult a local nursery or landscaper with suggestions for the specific soil you will be dealing with.

Suggested Trees

Evergreens

- * *Juniperus scopularum*
- Abies concolor*
- * *Pinus ponderosa*
- Pseudotsuga manziesii*
- Picea glauca*
- Picea pungens*
- * *Pinus cembroides edulis*
- Pinus flexilis*
- Pinus nigra*

- Rocky Mountain juniper (many varieties)
- White fir
- Ponderosa pine
- Douglas fir
- Black Hills spruce
- Colorado blue spruce (many varieties)
- Pinyon pine
- Limber pine
- Austrian Pine

Deciduous

- * *Acer ginnala*
- Acer negundo*
- Alnus tenuifolia*
- Crataegus sp.*
- Faxinus pennsylvanica*
- Larix decidua*
- Populus x acuminata*
- Populus alba*
- Prunus virginiana*
- * *Quercus macrocarpa*
- Salix amygdaloides*
- Salix pentandra*
- Salix alba vitellina*
- Sorbus aucuparia*
- Tilia sp.*

- Amur "flame" maple
- Boxelder
- Thinleaf alder
- Hawthorne (many varieties)
- Ash (green ash- several varieties)
- European or common larch
- Lanceleaf cottonwood
- White poplar
- Canada Red Chokecherry(many varieties)
- Bur oak
- Peachleaf willow
- Laurel leaf willow
- Golden Willow
- Mountain ash
- Linden (several varieties)



Austrian Pine



Douglas Fir



Bur Oak



Canada Red Chokecherry

For more detailed information on trees that grow well in Washakie County, check out the web site: www.washakiecd.com





Mugo pine

Shrubs

Evergreens

- * *Juniperus communis*
- * *Juniperus horizontalis*
- * *Juniperus sabina*
- Pinus mugo*
- Yucca glauca*

- Common juniper
- Creeping juniper (many varieties)
- Savin juniper (many varieties)
- Mugo pine (many varieties)
- Soapweed



Lilac

Deciduous

- Aronia melanocarpa*
- * *Caragana sp.*
- Cercocarpus ledifolius*
- Chrysothamnus nauseosus*
- Lonicera tatarica*
- Prunus Americana*
- Rhus trilobata*
- Ribes aureum*
- Shepherdia argentea*
- Syringa spp.*

- Black chokeberry
- Peashrub (several species and varieties)
- Curl-leaf mountain mahogany
- Rabbitbrush (several species and varieties)
- Tatarian honeysuckle (several varieties)
- Native plum
- Three-leaf sumac (Skunkbush)
- Golden currant
- Buffaloberry
- Lilac (many varieties)



Peashrub

Check out the Recommended Shrubs for Wyoming article by Karen L. Panter & Emily E. Ewart at <http://ces.uwyo.edu/PUBS/B-1108.pdf>.

Windbreaks/Living Snow Fences



As discussed earlier, windbreaks in Wyoming can reduce wind, noise and even help conserve energy. They also protect valuable topsoil, wildlife habitat, increase crop yields, and increase benefits in livestock feeding. Prior to planting trees, or any other plant life for that matter, it is important to consider the site, soil, species, and climate.

Living snow fences are rows of trees and shrubs planted to keep snow drifts off highways and access roads. A great deal of time and money is spent annually on snow removal to provide access and to keep transportation routes open. Tree plantings can protect roads from drifting snow and reduce snow removal costs.

A Forest Stewardship/Planting plan is needed when planning a field windbreak or snowfence, and occasionally cost shares may be available. Contact the Washakie County Conservation District, to inquire further about cost share and planning snowfences.

* Asterisks denote water-wise suggested species.



Landscaping & Gardening Ideas

Most landscapes contain high-water, demanding plants. Many of our existing trees need a streamside environment and the expansive lawns require 36 inches of supplemental water every year. Consider this, 50 to 70% of your annual household water use goes to maintaining your landscapes. There are ways to have attractive landscapes and still conserve water.

Simple ways of reducing the amount of water used for irrigation include growing xeriphytic species (plants that are adapted to dry conditions),

mulching, adding water retaining organic matter to the soil, and installing windbreaks and fences to slow winds and reduce evapotranspiration. Watering in the early morning before the sun is intense helps reduce the water lost from evaporation. Installing rain gutters and collecting water from downspouts to use in gardens can also reduce water use.

Visit www.uwyo.edu/barnbackyard/ for more articles and tips on landscaping and gardening!

<i>Aquilegia chrysantha</i>	Denver Gold columbine		<i>Clematis ligusticifolia</i>	Clematis	
<i>Artemisia frigida</i>	Fringed sage		<i>Echinacea purpurea</i>	Purple coneflower	
	<i>Callirhoe involucrata</i>	Winecups		<i>Dicentra spectabilis</i>	Bleeding heart
<i>Cerastium tomentosum</i>	Snow-in-Summer		<i>Fragaria americana</i>	Wild strawberry	
<i>Coreopsis verticillanta</i>	Moonbeam coreopsis			<i>Gaillardia aristata</i>	Blanket flower
<i>Delphinium</i>	Clear Springs larkspur			<i>Linum perenne</i>	Blue flax
<i>Eriogonum umbellatum</i>	Sulfur flower		<i>Lonicera spp.</i>	Honeysuckle	
<i>Oenothera macrocarpa ssp. incana</i>	Evening primrose			<i>Lupinus spp.</i>	Lupine
<i>Sedum x sedum</i>	Vera Jameson		<i>Paeonia lactifolia</i>	Peony	
<i>Thymus praecox pseudolanuginosus</i>	Creeping thyme		<i>Papaver nudicaule</i> or <i>P. orientale</i>	Iceland or Oriental poppy	
	<i>Ajuga reptans</i>	Carpet bugle	<i>Prunella laciniata</i>	Self-heal	
	<i>Antennaria dioica</i>	Pussytoes			



Water Supplies

If your small acreage is not in an area where city water tie-ins are available, then you may have to consider drilling a private water well. The State Engineer grants permits for wells and the cost for drilling and pumping can be significant. The quality and quantity of well water can vary considerably from location to location and from season to season. Check into this carefully!!

The construction of a private well is based on

establishing the right location for the well, sizing the system correctly and choosing the proper construction techniques. Only a professional water well contractor should install a well! They know the hydrogeology in your area and all the local codes and regulations for wells. They also have the modern equipment and expertise needed to make sure that your well is properly constructed to meet your water needs.

Well Maintenance

Keeping your water clean and pure is important, as is keeping your system working efficiently. Make sure you perform regular maintenance on your well system to prevent any expensive problems or contaminated water by keeping a well log. The well log will include a reference number for the well, original site owner (if other than yourself), location of the well,

construction and contractor details, as well as the results from any water tests. The well log should help establish the location, age and condition of the well. This information will provide the basis on which to schedule regular tests of water quality and inspections of well equipment, as well as regular maintenance and repairs.

Well Inspection

- Inspect your wellhead several times a year. Check the condition of the well covering, casing and well cap to make sure all are in good repair, leaving no cracks or other entry points for potential pollutants.
- Have the well system, including the pump, storage tank, pipes and valves, and water flow, inspected every 10 years by a qualified well driller or pump installer.
- If you have no inspection record and cannot determine the age of the well, have it inspected immediately by a water well professional.
- When your well reaches the end of its serviceable life, usually more than 20 years, contact your water well professional to install a new system and properly close the old well.

Water Testing

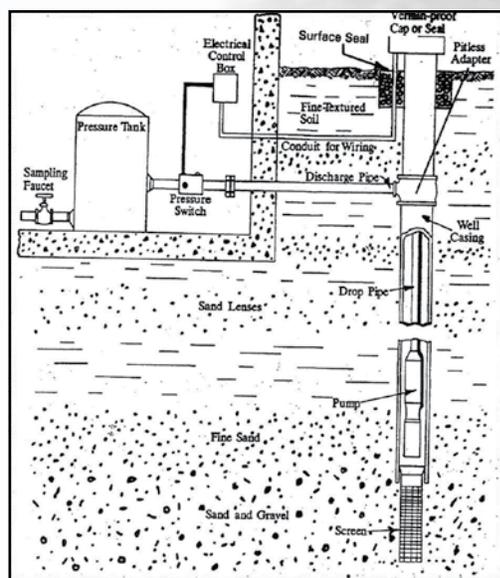
- Test drinking water immediately if you have no recent test results or any record of previous tests.
- Test drinking water for bacteria every year. Also test annually for nitrates if you live in an agricultural area or have an on-site septic system. The best time to perform these annual tests is in the spring.
 - Test if you notice any change in the taste, color or odor of your water.
 - Test more than once a year in special situations: someone in the household is pregnant or nursing; there are unexplained illnesses in the family; your neighbors find a dangerous contaminant in their water; or there is a spill of chemicals or fuels into or near your well.
 - Test after disinfection, within one or two weeks, to

make sure the water is pure.

- Test after any flooding in or near the well, to determine if flood water carried bacteria or other contaminants into the well system.
- Water Treatment System
- Test drinking water before installing any water treatment device.
 - Test water every year to make sure the device is working properly.
 - Follow the inspection and maintenance schedule provided by your water treatment device manufacturer or water well professional.

Septic System Testing

- Inspect the septic tank each year for capacity and leaks.
- Pump out the tank as needed, usually every three to five years. Repair the tank or drainfield system as needed to prevent leaks of bacteria and nutrients into the system.



Water Rights

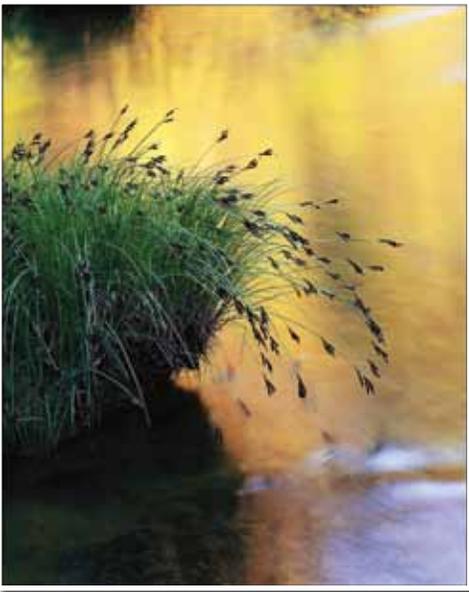
One of the most important utilities may be the access to water. Although there is water running across the property it may not belong to you but instead it could be a neighboring ranch's irrigation water. If there is no available water source on the land you will need to contact the State Engineer for a permit to drill a well, but realize that drilling is not cheap. Also understand that water quality can vary considerably from location to location as well as season to

season. Any questions regarding water rights can be answered by the State Board of Water Control. You can also read Wyoming's Water Law at <http://legisweb.state.wy.us/statutes/dlstatutes.htm> under Title 41 Article 8.



Water Quality & Wetlands

If you rely on groundwater for your drinking water then water quality will be very important to you. Did you know the ways in which you manage your land can directly impact your water quality? You also have to take into consideration whether there are riparian areas on your land. Riparian areas are the natural wetlands surrounding streams, ponds or other waterbodies.

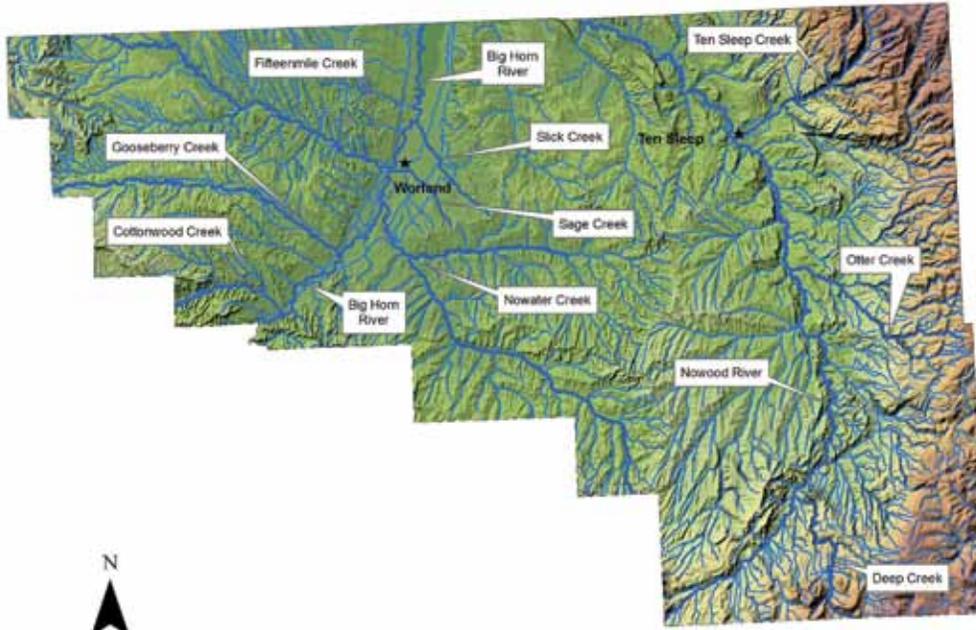


Having a healthy riparian area ensures a healthy stream system.

Having a healthy riparian area will slow flood waters, erosion and property loss; secure food and cover for aquatic wildlife; keep water cooler in summer; reduce water pollution by filtering out sediment, chemicals and nutrients from runoff; provides breeding habitat for birds; and holds more water in the soil, slowly releasing it for longer season streamflows and groundwater recharge. Streambank stability is critical to maintain or improve riparian condition. The importance of streambank stability relates to thee existing and future condition. you can obtain recommendations for improving stream banks and information on how sensitive your area is to disturbance from your local Natural Resources Conservation Service at 347-2456.



Waterbodies in Washakie County



In Washakie County, there are currently several waterbodies listed by the Wyoming Department of Environmental Quality on Wyoming's 303(d) list for waterbodies with water quality impairments. These streams include; Big Horn River, Fifteen Mile Creek, Nowater Creek, Sage Creek, and Slick Creek, these listings are for E.coli issues.

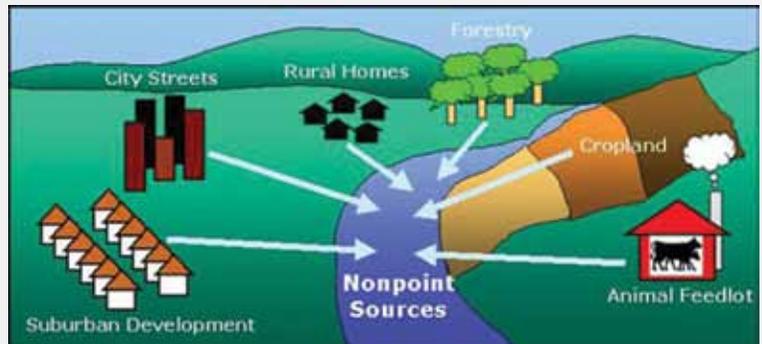
The map identifies where all of the main streams are located in Washakie County.

Non-point Source Pollution

The EPA describes non-point source (NPS) pollution as having many diffuse sources. It is caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and man-made pollutants. Finally, they are deposited into lakes, rivers, wetlands, oceans, and even underground water sources. Fertilizers, herbicides, insecticides, oils, toxic chemicals, sediment erosion, salt from irrigation practices, bacteria from livestock, pet wastes, and atmospheric deposits are all non-point source pollution contributors. Throughout this publication you will find tips on planning for your property which will reduce how much NPS is released into the water source where you live.

Ways to Prevent NPS

- Have your septic system inspected and pumped, at a minimum every 3-5 years;
- Purchase household cleaners and detergents that are low in phosphorus;
- Manage animal waste to minimize contamination of surface and ground water;
- Protect drinking water by using less pesticides and fertilizers;
- Dispose of used oil, antifreeze, paints, or other chemicals properly; and clean up any spills;
- Reduce soil erosion by using conservation practices and other applicable best management practices;
- Use planned grazing systems on pasture and rangeland.



For more information on non-point source pollution visit <http://www.epa.gov/nps/>.



Weed Management

Weed invasions on small acreage pastures can happen quickly, sometimes it seems that it's overnight. Before planning any weed management plan it is important to identify the weeds, learn about the life cycle of each weed to determine how and when to control, find out why there is a weed problem to begin with (overgrazing, disturbance,

or result of previous owner's management), and then comes the time for weed management.

A weed is simply defined as a "plant out of place", and the weeds that are most important to identify and manage are noxious weeds. Noxious weeds are non-native, invasive species that harm your property, the environment, and the economic potential of the land.

Noxious Weed Identification (Designated vs. Declared)

<p>Field bindweed (<i>Convolvulus arvensis</i> L.)</p> 	<p>Perennial pepperweed (<i>Lepidium latifolium</i> L.)</p> 	<p>Dalmatian toadflax (<i>Linaria dalmatica</i> (L.) Mill.)</p> 
 <p>Canada thistle (<i>Cirsium arvense</i> L.)</p>	 <p>Ox-eye daisy (<i>Chrysanthemum leucanthemum</i> L.)</p>	 <p>Scotch thistle (<i>Onopordum acanthium</i> L.)</p>
<p>Leafy spurge (<i>Euphorbia esula</i> L.)</p> 	<p>Skeletonleaf bursage (<i>Franseria discolor</i> Nutt.)</p> 	<p>Musk thistle (<i>Carduus nutans</i> L.)</p> 
 <p>Perennial sowthistle (<i>Sonchus arvensis</i> L.)</p>	 <p>Russian knapweed (<i>Centaurea repens</i> L.)</p>	 <p>Common burdock (<i>Arctium minus</i> (Hill) Bernh.)</p>
<p>Quackgrass (<i>Agropyron repens</i> (L.) Beauv.)</p>  <p>Hoary cress (whitetop) (<i>Cardaria draba</i> and <i>Cardaria pubescens</i> (L.) Desv.)</p> 	<p>Yellow toadflax (<i>Linaria vulgaris</i> L.)</p> 	



Plumeless
thistle
(*Carduus
acanthoides* L.)



Houndstongue
(*Cynoglossum
officinale* L.)



Dyers woad (*Isatis
tinctoria* L.)



Spotted knapweed
(*Centaurea
maculosa* Lam.)



Diffuse knapweed
(*Centaurea diffusa*
Lam.)



Saltcedar
(*Tamarix* spp.)



Common St.
Johnswort
(*Hypericum
perforatum*)



Common Tansy
(*Tanacetum
vulgare*)



Russian olive (*Elaeagnus angustifolia* L.)



Weed Life Cycles

Perennial

Perennials spread through an expansive root system or a simple taproot system and seeds. These types of plants require repetitive control measures before they will be “controlled”.

- Canada thistle
- Leafy spurge
- Dalmatian toadflax
- Hoary cress
- Russian Knapweed

Biennial

This life cycle is made up of plants that only reproduce by seed so if no seeds are produced it will mean less of the plant.

- Houndstongue
- Scotch thistle
- Spotted Knapweed

Annual

Each year the growing cycle is completed; generally returns if there is a seed-bank that is able to germinate. Serious annual weed problems are rare in pastures and are indicative of declining health of desirable species. They are most common in areas where soils have been disturbed (feed lots, corrals, etc)

- Downey brome/cheatgrass
- Mustards

It is generally helpful to find out as much as possible about the species you are dealing with before coming up with a management plan.

For more assistance with weed management contact the Washakie County Weed & Pest. 347-8582



Managing Your Weeds

There are five methods to manage many of the weed species in Wyoming, noxious or otherwise. For best results it is usually suggested that you apply several methods together. Using these methods will eventually stress the weed to the point that it dies out and natural vegetation can be reintroduced or come



back on its own. The five methods we'll touch on are prevention, mechanical, chemical, biocontrol, and cultural.



Prevention

This may seem like a no-brainer but often times we don't think about what could be coming onto our property with that load of topsoil or feed. Although certified weed-free hay is typically sold at a premium price, it can reduce any problems with weeds later. At the first sign of weeds, especially noxious you should take steps to get it off your land. If you notice a neighbor having the same problem it may help to work together because their problem may end up being yours with help from the Wyoming wind.

Mechanical

Many perennial weed species, including several noxious, have expansive root systems which allows them to reproduce by themselves. If you turn to cultivating, mowing, burning, pulling or tilling, realize that any part of the root system that is left behind will allow a new weed to grow. When it comes to managing Canada thistle or leafy spurge it is suggested you mow several times during the growing season and follow the mowing with a chemical treatment. For Dalmatian Toadflax or Whitetop it is suggested you pull in the spring as soon as they appear, making sure all roots are removed. Like many methods for weed control, this will not get rid of the problem for good; it is likely you will have to "manage" for years before they are gone.

Chemical

Any chemical control measures should be discussed with Washakie County Weed & Pest and instructions should be followed exactly. Some herbicides require a Wyoming Private Applicator License (WyPAL); you can find out more by

contacting Weed & Pest or the Washakie County Cooperative Extension Office.

Biocontrol

Biocontrol is the practice of using the plant's natural insect predator or pathogens to stress the weed in a more "natural" manner. This method should also be discussed with Washakie County Weed & Pest. It is only effective in certain situations, especially if combined with other management methods.



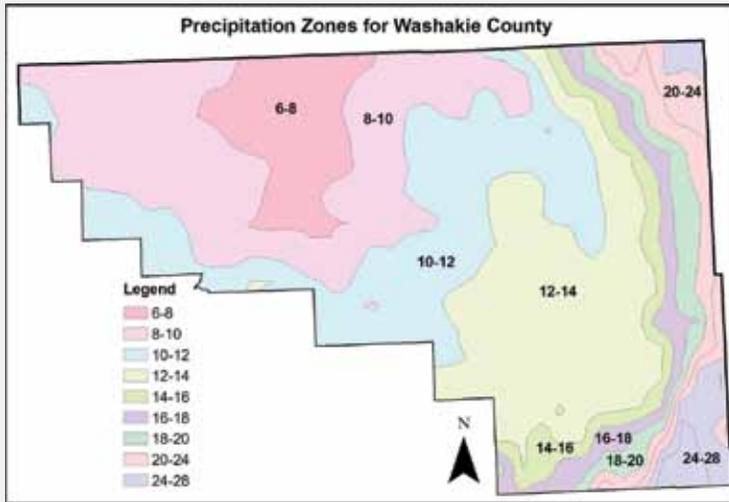
Cultural

The cultural method applies to pasture renovation, when natural plant communities are used to suppress the infestation. Contact the local NRCS office or County Extension Office for techniques, species, and plenty of other suggestions regarding reseeding and inter-seeding options.

Did you know...

Hey! Did you know that while Wyoming is the least populated state in the union it is the 9th largest with 97,914 square miles? We really love our open spaces...





Grazing management, like many other land practices, is a balancing act between what the animals grazing need for forage and what the plant itself needs to maintain itself. When it comes to understanding stocking rates and animal unit equivalents you must first understand what your land produces as well as what the animals require. When estimating forage production you need to know three things: the precipitation zone, soil type, and plant community for your area.

Overgrazing is the term used to indicate poor/unsatisfactory condition and composition of the available forage. It often indicates or leads to: lack of vegetation, or a shift in types of plants, weed infestations, compacted soil, stunted plants, reduced plant vigor and palatability, excess runoff and erosion, barren soil and lack of organic matter.

Successful Grazing Principles

- Check your animals frequently to limit amount grazed.
- Avoid continuous season-long grazing.
- Continue year-round rotation to distribute manure, food wastes, and trampling evenly across your pastures or hold animals in a corral.
- Have a water source for each pasture.
- Do not allow livestock to graze frequently/repeatedly on wet soils, due to potential soil compaction and erosion.
- Horses and other livestock do not necessarily need 24-hour access to feed or forage. Corral animals and feed if needed to prevent over-grazing.
- On a limited acreage, you may have only enough pasture to exercise your animals and will need to feed year-round.
- Mowing and dragging pastures will better pasture utilization and help control parasites.
- Grazing capacity varies from area to area. Check with local organizations and agencies for recommended number of acres per animal.



What is an AUM?

An AUM stands for animal unit month. An animal unit month is the forage required for one animal weighing 1000 pounds for one month.

<u>Kinds/Classes of Animals</u>	<u>AU Equivalent</u>	<u>lbs Forage/month</u>
Cow (1,000 lb) with calf	1.00	790
Bull (mature)	1.35	1,067
Horse (mature)	1.25	988
Sheep (mature)	0.20	158
Goat (mature)	0.15	118



Managing land can be a daunting task in itself, but in Wyoming we also have the weather to factor into the equation. Drought is a common phrase for land managers and a major factor when it comes to pasture grazing management. Having a plan that you stick to even when the average precipitation is ideal. The primary concern during a drought is forage production. To avoid overgrazing, this reduction in supply must be followed by a reduction in demand. The simplest answer is to remove the animals from the pasture and place them in a corral.



The most common mistake is allowing animals to access the entire acreage around the clock every day of the year. By dividing your pastures into small paddocks and implementing a rotational grazing system will allow for more efficient use of forage and lengthens a grazing season. Bare ground in spots is inevitable, but if you notice an increase in either bare ground or weeds it may be time to change your management practices.

Tips for Maintaining Healthy Small Acreage Pastures:

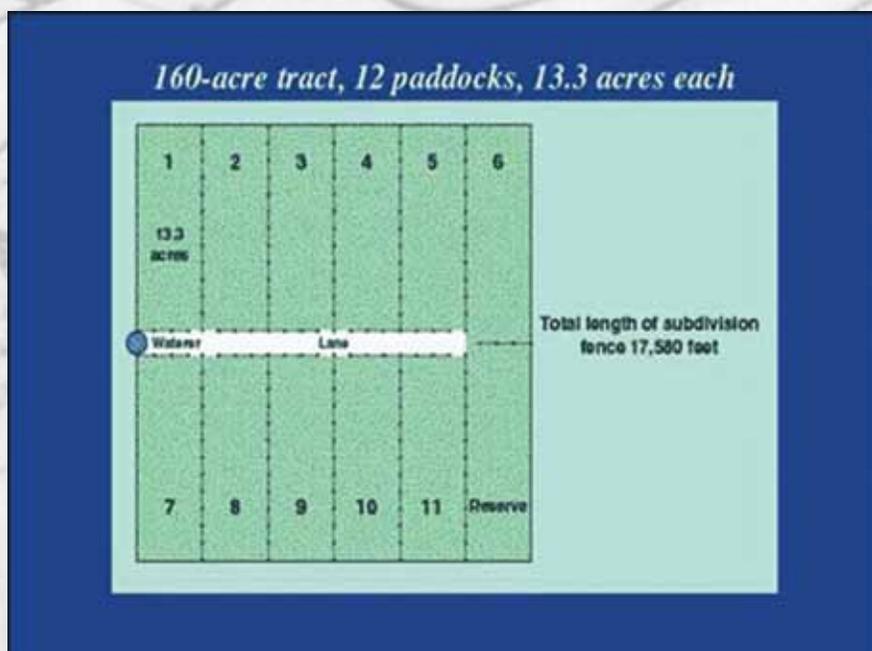
- Avoid overgrazing
- Restrict turnout time
- Create an area to confine animals away from pasture
- Graze at 6 to 8 inches, rest at 3 to 4 inches
- Give pastures adequate rest
- Apply fertilizer when necessary

Rotational Grazing

Rotational grazing makes use of a large number of paddocks. Animals rotate from paddock to paddock, so each acre of land undergoes a short grazing period, followed by a longer rest period. Deciding on the

number and size of paddocks to be grazed are key factors in creating a grazing plan. Paddock layout will vary from acreage to acreage because of topography, water resources, animal traffic, and individual management concerns.

When considering a rotational grazing system it is best to consult with someone who is familiar with paddock



Did you know...

The livestock industry accounts for a large portion of Washakie County's agricultural income and is the oldest continuing industry in the county, and is still the single largest land user.



Stocking Rate Calculations

Once you know your animals requirements, and your land's production, it is easy to determine how much forage you have available for your livestock.

You will need the following numbers:

- Pasture Size _____ acres
- Pasture Production _____ lbs/acre
- Animal Requirements _____ lb/day

Example

Assumptions:

- 5 acres Northern Great Plains native range
- 10-14 inch precipitation zone
- Clayey Range site
- Low-Good range condition
- Predicted plant production- Mixed sagebrush/
Grass
- Favorable precipitation year = 1,200 lbs/acre
- Average precipitation year = 900 lbs/acre
- Poor precipitation year = 600 lbs/acre

1,200 lb horse will eat approximately 36 lbs of dry matter/day
In an average year this pasture will produce
4,000 lbs forage (900 lbs/acre x 30 acres)

Half of this must be left to keep the plants healthy, and 15% will be lost to other grazers (deer, sage grouse, antelope). So only 35% of this is available to domestic animals. (4,000 lbs x .35)

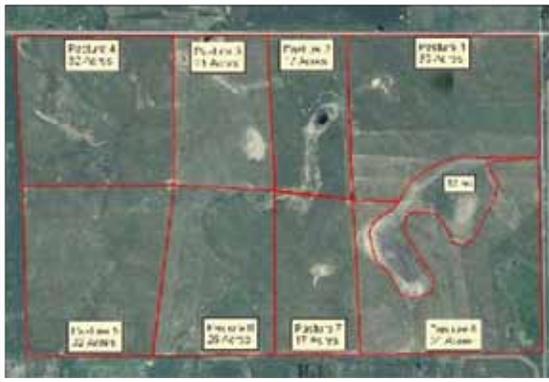
This pasture has 1,400 lbs of available forage.....(10,238 lbs / 36 lbs/day)
... and can support one 1,200 lb horse for 38 days without supplemental feed.

In order to estimate forage production, you will need range site, plant community, pounds of production, AUM's per acre and acres per AUM. This information is available from the Natural Resource Conservation Service.



What Can I Do To Correct An Overgrazed Pasture?

Prevention is always the safest plan to follow, but as many know it does not necessarily mean the pasture will have descent production. There are circumstances where property was overgrazed by the previous owners, leaving you to clean up the mess. Recognizing whether or not the pasture is overgrazed is the first step in deciding whether or not there needs to be reseeding. An agency to contact for assistance in determining the health of your pasture is the Natural Resources Conservation Service. If soil compaction problems are identified, it may be necessary for deep ripping or chiseling to be done. This will bring back the soil pore space needed for the air/water/nutrients.



As discussed previously, rotational grazing systems can prevent overgrazing by allowing for a longer rest period than grazing period in any given area. If a one pasture system is used, designate a sacrifice area, such as corrals to contain the animals when the pasture is in rest rotation. The idea behind any pasture management is to not allow 24-hour access to the entire pasture. If possible, reduce the number of animals you have grazing on your property or perhaps acquire more land. That is always easier said than done but is still an option to correcting overgrazing problems.

You can also mow the tall grass clumps to stimulate new growth as well as spread manure in the pasture or compost it in a bin. If you choose to spread, drag or rake manure to increase rate of decomposition and reduce clumping, which can kill vegetation. The manure will add nutrients necessary for new growth. Fertilize the pasture based on soil testing for nitrogen, phosphorus and potassium.

If irrigating the pasture is a possibility you will need to remove the animals from the wet areas to avoid soil compaction which will stunt your efforts. Beyond irrigating it is important to take care of any weed infestations that may be taking place in your pasture; as discussed earlier, a weed management plan may be easier to carry out with assistance from the Washakie County Weed & Pest District.

You can also identify an indicator grass that animals will graze (generally their preferred species of grasses). Graze only half of the weight of production forage that is present. For example, graze 8" tall plants to 3" only. In well managed rotational grazing, animals may utilize 65% of the growth. Therefore, an 8" plant could be grazed to less than 3" since a recovery period is allowed (depending on how long the rest period would be).

Did you know...

Oil and gas are produced from several fields in the county. Bentonite, mined west of Ten Sleep, is processed in Worland. Sulphur extraction and liquid gas processing are conducted north of Worland and a grain buying, processing and storage plant is also located north of Worland. Wyoming Sugar, Pepsi and Crown Cork & Seal are amongst some of the larger industries.



Backyard Composting

Many of the things we dispose of everyday go to landfills and will eventually decompose; but we could use some of these materials to turn household and livestock waste into valuable fertilizer and soil organic matter. Composting can be fairly simple to more involved, depending on how much waste you have and how fast you want results. There are plenty of bins sold commercially for composting but you can also skip a bin all together, or build one of your own. If you prefer to build your own there are plenty of simple bin designs available online.



There are several factors to consider when beginning a composting project: location of the pile or bin, size, water access, microorganisms, and air. The location is important to consider for many reasons including how your neighbors may feel about the view or the smell. The ideal placement for a compost pile is in the shade, but in Washakie County that is not always a possibility, so you can cover the pile with a layer of straw, hay or a sheet of black plastic. This keeps the sun from drying the pile out too much and protects it from the wind. You will need to be near a water source to maintain the moisture content. The ideal size for a compost pile is approximately one cubic yard (3 feet wide x 3 feet long x 3 feet tall); this is important because if the pile is too small it will not heat up enough to kill weed seeds or work efficiently. However, if it is too tall, the weight will compact the pile pushing the air out. For different methods on composting read the cold and hot composting sections below.

Cold/Slow Composting

This method of composting requires very little maintenance; you can just pile grass clippings, leaves, plant waste from gardens, kitchen waste (not including meat or bones), and livestock manure (not pet waste). While it requires little to no maintenance, cold composting is also a fairly slow process that could take from several months to a year. It is important to keep weeds and diseased plants out of the mix seeing as cold composting does not get hot enough to kill weed seeds or disease-causing organisms.

Occasionally “chopping” or turning the pile will help the decomposition by allowing more air to enter the pile. Unlike hot composting, there is no necessary amount to start; as household and animal waste accumulate they can be added to the pile. It is important to remember to use a cover of some type to reduce drying out from wind and sun; using a black plastic sheet in Wyoming will also increase the heat and in turn, the decomposition will be faster.

Cold composting can leave more undecomposed bits of material, which can be screened out if desired but is not necessary.



Hot Composting

The hot composting method requires more work but it also allows you to have finished compost within several weeks (depending on the weather conditions). With this method it is vital to have the recommended size of pile (3'x3'x3') or to stock-pile the “ingredients” until there is enough. Hot piles reach 110 to 160 degrees Fahrenheit, which kills most weed seeds and plant diseases. A downfall of hot composting is the finding that the product is less able to suppress diseases in the soil since the high temperatures may kill good bacteria.

1. Choose a level, well-drained site;
2. Bins are not necessary, although they will help contain your pile; you can also place woody material beneath a pile to help with aeration;
3. You can mix or layer the carbon and nitrogen materials, either way has worked;
4. Water periodically so the pile is moist but not saturated (extreme odors may indicate the pile is oversaturated);
5. Punch holes for aeration;
6. The pile will heat up and then begin to cool. Start turning when the pile's internal temperature peaks at about 130-140 degrees Fahrenheit (you can check this with a compost thermometer, or reach into the pile to determine if it is uncomfortably hot to the touch);
7. Move materials from the center to the outside and vice versa. Do this every day or two and you should get compost in less than four weeks. Turning every other week will make compost in one to three months.



Respect Private Property Rights

We believe that hunting game in our community is a privilege. Please help us to maintain a quality hunting experience by observing these hunting tips:

1. Keep all vehicles on established roads—ATV, Motorbikes, etc. included.
2. Close all gates found closed, open gates - open.
3. Do not shoot where there is livestock.
4. Do not use open fires at any time.
5. Do not drive anywhere—roads included—if ground is muddy. This creates erosion problems and destroys rangeland.
6. Cooperate with all requests of ranch personnel.
7. It is illegal to shoot from, along or across any public road
8. Unless archery hunting during the special archery season or hunting gamebirds, one or more exterior garment shall be of a fluorescent orange color.
9. Hunters transporting the animals they killed must be in possession of their license and carcass coupon. An Interstate game tag is required if someone other than the hunter who killed the animal will transport the animal outside Wyoming.
10. Complete requested information on landowner coupon and give it to the landowner if your animal was taken on private lands.
11. Wyoming law required hunters to have permission to hunt on private property. Most landowners charge access fees. **Why do landowners charge access fees and why do they vary so much?** Farming and ranching is a business much like any other enterprise. Access fees provide an often much needed additional income in these times of declining revenues and increasing costs. Additionally, access fees help compensate our farmers and ranchers for the forage they provide wildlife. Access fees can vary by the services provided, such as guiding and outfitting. Fees also vary because of supply and demand, degree of damage occurred on a farm or ranch, and differences in the management goals each landowner sets for the animals.

Questions? Wyoming Game and Fish Dept. Sportsmen's Information -
Call 1-800-654-1178



PARTNERSHIP THAT WORKS!

- Most Wyoming ranches are a combination of public and private lands.
- Improved rangeland and water resources means a more efficient ranch.
- Ranchers manage grazing to improve habitat for wildlife and livestock.
- Hunters are part of the big picture in natural resource management.
- All water developments provide wildlife a source of water, a critical element of their habitat.



Wildlife Considerations

Living with Wildlife in Washakie County

One of the amenities of country living is the endless opportunity to observe wildlife. Wildlife habitat includes year-round food supplies, water sources, and cover. Large and small acreages alike provide ample opportunity for wildlife habitat for birds, reptiles, amphibians, fish, and large and small mammals.

Food

Crops and other plants provide forage, fruits and seeds for many species of wildlife. You can enhance food sources through a variety of means including selecting native plant species. The Wyoming Game & Fish Department's publication "Wyoming Wildscape" contains wonderful recommendations for enhancing backyard wildlife habitats. Please realize, however, that planting native shrubs to attract wildlife may also result in wildlife damage to other ornamental shrubs and trees.

Water

Wildlife need a good water source. Streams, ponds and watering tanks can provide useful sources of water. In addition, local fisheries are an important resource that is entirely dependent on ample water supplies.

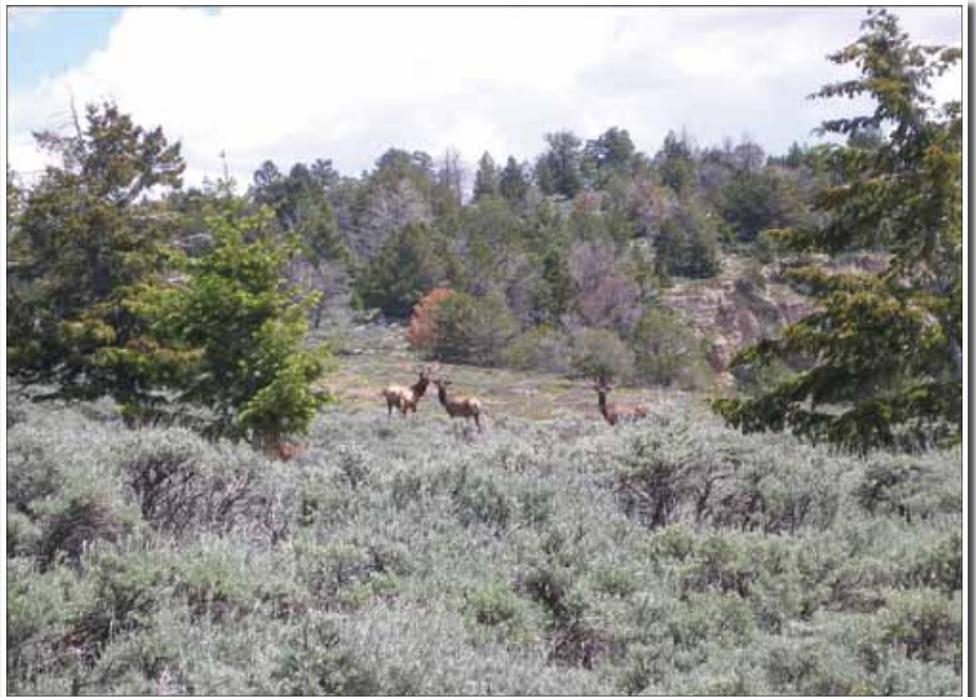
Winter Range

Snow, cold temperatures and a lack of food make winter a stressful time for wildlife. Humans presence stresses wildlife, causing them to use precious energy they need to survive until summer.

Wildlife Friendly Fencing

We share the Big Horn

Basin area with many different species of wildlife and some that are unique to this area. Certain animals migrate and others live as year round residents on ranchlands or in river bottom corridors. Fences act as barriers, and can lead to needless wildlife deaths—something that most people would work to prevent if they could. From wildlife's standpoint, the ideal fence is one that can be easily seen, leapt over or scurried under without injury. Some ranchers use lay-down or temporary fence that is only up during the summer when cows are in the pasture. Consider the reason for building the fence when planning your project; to delineate a property boundary, to contain livestock or pets, to prevent trespassing and to enclose gardens and barns. Evaluating existing fences can help you determine whether or not you may need simple alterations for safe wildlife passage. In addition, if the fence is strictly aesthetic, try a low post and rail fence that wildlife can easily jump. Finally, consider fencing only a portion of your property as a child's play area, dog run or to protect a garden from wildlife. In this case, use a tall fence that will not allow wildlife to enter and become trapped. Wooden plank fences, chain link, or wire mesh fences with top rails work well for these purposes.



Solid Waste Services

The town of Worland and Ten Sleep both maintain a landfill in Washakie County. Fees vary for regular household disposal, and special fees may apply for construction waste or large items.



Both landfills also recycle paper products, which they began to reduce the volume of materials being land-filled, which in turn, prolongs the life of the Landfill.

Paper Product Recycling Options for Washakie County

There are large **green** dumpsters placed in and around the city of Worland expressly for the purpose of collecting paper products for recycling. Most of these dumpsters are close to businesses, but anyone can use them. **These dumpsters are not for trash, they are only for recyclable paper products.** The Landfill employs staff who run the routes to empty the dumpsters and then sort, and bundle or bale the materials.

Ten Sleep also has paper recycling available to them. The Washakie County Conservation District has provided a recycling trailer and bins next to the Town Hall where area residents can take their recyclable paper products. In addition, a bin is used by the Ten Sleep School. The Ten Sleep Sage Stompers 4-H Club and FFA Chapter then empty the dumpsters and bring those items to the Worland Landfill as a community service project.

The following is a list of those paper products that can be recycled and those that cannot, help out our recycling effort by putting only recyclable materials into the dumpsters.

You can help out by **sorting and bundling** your recyclable newspaper, office paper and magazines with either string or putting them in plastic bags. Plastic bags are especially good for the wet seasons; wet paper products such as newspaper, office paper and magazines will not be accepted by the recycling companies, so when a load of wet items come in, the materials have to be land-filled instead of being recycled. Shredded paper should be double bagged to ensure that it comes out of the truck still intact, if the bags break and cannot be emptied directly into the baler; the shreds too will have to be land-filled. Please flatten corrugated cardboard boxes before putting them into the dumpsters, this allows more room for other recyclables.

Recyclable	Not Recyclable
Corrugated Cardboard	Pressed Cardboard
Office paper	Florescent paper
Magazines and catalogs	Construction paper
Newspaper and inserts	Phone books
Shredded office paper	Paper towel or Kleenex

Aluminum Can Recycling

There is also opportunity to recycle your aluminum cans in Washakie County. There are several service groups who collect donated aluminum cans; Worland Senior Citizens Center and Ten Sleep Sage Stompers 4-H Club (green dumpster located at Ten Sleep Town Hall).



The Small Acreage Project is an interagency team of natural resource professionals throughout Wyoming that provide educational information to the growing audience of rural landowners about management of natural resources on small acreages. Helping Wyoming landowners practice sustainable land management is their mission. They strive to maintain and improve the quality of life in Wyoming by helping raise healthier crops, lawns, and animals, while protecting our natural resources. The groups involved are: the University of Wyoming Cooperative Extension Service , Audubon Wyoming, Natural Resource Conservation Service , Wyoming Association of Conservation Districts, Wyoming Resource Conservation & Development, the Wyoming State Forestry Division, and Wyoming Weed & Pest Councils.

One of the main goals of the Small Acreage Project is to provide information and education to these landowners so they can more effectively manage their natural resources. A multi-pronged approach is used to communicate the information to the landowners. The development and distribution of a quarterly user-friendly publication, student interns/volunteers extending outreach and education in a one-on-one situation, and the development and implementation of small acreage landowner workshops are the methods used to convey information.

Through this rural living guide we hope any land owners or prospective landowners will use the resources available to manage their land in a sustainable manner. It also creates a way for other members of the community to become aware of the resources that are available through the hard work and dedication of the Small Acreage Issue Team. For more information on the Small Acreage project, Barnyards & Backyards magazine, or rural living contact the Washakie County Conservation District, the Washakie County Cooperative Extension Office, or visit www.barnyardsandbackyards.com.

Photo & Technical Information Credit:

- Washakie County Conservation District
- USDA, Natural Resources Conservation Service
- University of Wyoming Cooperative Extension Service
- Barnyards & Backyards Publications
- Wyoming Association of Conservation Districts
- Wyoming State Forestry Division
- Wyoming Game & Fish
- Wyoming Department of Environmental Quality
- Small Acreage Issue Team Interns
- Washakie County Weed & Pest District
- Popo Agie Conservation District
- <http://www.wyomingtalesandtrails.com>

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