

Forest management activities have the potential to move soil off site and into water bodies. Known as non point source pollution, this soil movement degrades the forest site as well as the water and its ecosystem. Any activity that exposes mineral soil can begin the process of erosion. Most generally this includes road construction and maintenance, log skidding, and log hauling. By employing the use of Best Management Practices (BMP's), the potential for damage can be greatly reduced or even eliminated.



**The results
of Best
Management
Practices**

Examples of Best Management Practices include:

- ❖ Adequate pre planning. Identifying high risk areas while planning will assure that you prepare for them.
- ❖ Locating roads and skid trails properly.
- ❖ Identifying streamside management zones (SMZ's) and insuring their integrity by restricting heavy equipment use. SMZ's should be at least 50' wide. Steeper terrain necessitates a wider SMZ. (Note: Montana has a SMZ law)
- ❖ The use of water control measures on roads and skid trails such as broad based rolling dips and water bars.
- ❖ Limiting operations during times of heavy precipitation.
- ❖ Reseeding of skid trails and log landings after use with a proper seed mixture. Not only does this prevent soil movement, but it also provides wildlife habitat and helps limit the spread of noxious weeds.
- ❖ Operating on frozen and/or snow covered soils.
- ❖ Proper use and disposal of hazardous chemicals including diesel fuel, oils, and lubricants.

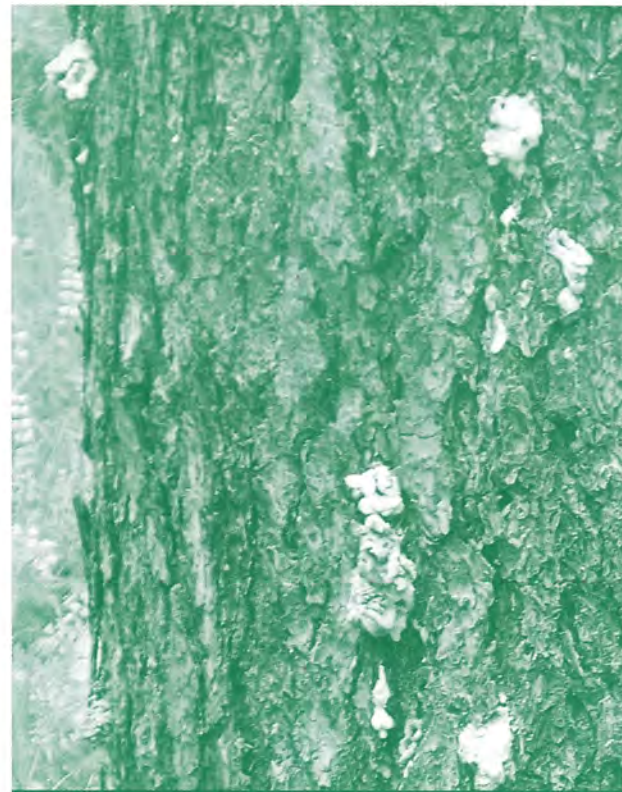
Each state publishes a guide for BMP's. For more information consult this guide or your forester.

Insect Enemies Of The Black Hills

Although there are many insects that may cause damage to ponderosa forests in the Black Hills, there are two that are of main concern for forest landowners. Enemy number one is the Mountain Pine Beetle. The MPB is a native insect that has periodic severe outbreaks which cause large mortality in forest stands. The composition of the Black Hills forests has changed dramatically since 1874 when General Custer made his historic expedition through the region. In general, there has been a dramatic increase in the stocking levels of ponderosa pine trees in the forest. This has led to a habitat of dense 8 inch and larger overstocked and weakened ponderosa pine trees that are perfect for large scale outbreaks of the MPB. The goal is to treat acres and reduce Mountain Pine Beetle populations in a timely and effective manner. There are two strategies in fighting mountain pine beetle. The first strategy is called direct control which includes finding infested trees and then either removing the infested trees from the forest before the beetles fly or killing the beetle larvae in the tree. Removing the trees through commercial harvesting and then processing them into lumber is the most efficient means of reducing mountain pine beetle populations. If commercial harvesting is not an option the trees should be cut down in the fall and then the infested portion of the tree bucked into 18" sections with the bark scored on two sides to allow the cambium to dry out over the winter. This drying will kill about 80% of the larvae. You may also completely remove the bark or split the sections to facilitate drying. Cutting and burning or cutting and chipping is also effective.

The second strategy, which is probably the most effective over the long term, is called indirect control which involves reducing the number of trees per acre through proper spacing. The key to combating the MPB is to reduce stocking levels to around 50-60 square feet of basal area or less over large continuous areas of the Black Hills forests through forest thinning and other silvicultural practices. A healthy managed forest is the most important factor in combating the MPB. Healthy strong trees have a much greater chance in rejecting attacks from this aggressive insect and create an inhospitable microenvironment. Even though the main battle is being fought on the federal lands of the Black Hills National Forest, private landowners have a large stake in the fight. By managing your forest land properly, you are contributing in the fight against the MPB and are helping to protect your investment.

The second forest pest is the Ips pine engraver beetle which is also a native of the Black Hills. Ips beetles generally infest small trees and trees under significant drought stress. Unthinned young stands and weakened damaged trees from various causes are the most susceptible to mortality from Ips. As with the Mountain Pine Beetle, keeping your forest healthy is a proven strategy for preventing outbreaks of Ips. Another important factor in keeping Ips populations low is properly treating logging slash. Lopping and scattering slash will help dry out the slash quicker making it less hospitable for the development of the Ips beetle. Boom delimber piles produced in the spring can act as an attractor for the beetle and will help keep them out of green trees. However, once the piles dry out they must be burned to prevent emergence of the insect.



An invasive species is any species that is non-native to a given ecosystem and whose introduction has the potential to cause damage. Because they seldom have any natural enemies in their new home, invasives have the potential to proliferate and spread. They can be as small as pathogens which cause tree disease such as Chestnut Blight, as well as plants like Canadian Thistle and Leafy Spurge. Other examples that have caused great damage are the Emerald Ash Borer and Kudzu.

Most invasive species are introduced by the activities of people. Many invasives hitched a ride to their new homes on products or plants that were shipped from overseas or carried by traveler's vehicles. Even activities by sportsmen can transport very noxious species like Didymo, aka rock snot. This species is carried from one watershed to another by clinging to waders and watercraft of fisherman.

The best control of invasives is to prevent its arrival in the first place. After that, early detection and quick eradication are essential to preventing the spread of the species. Take frequent walks through your forestland and look for unusual plants or groups of unhealthy trees. Maintaining a healthy forest by sound forest management is a good way control invasives. Any ground disturbances should be revegetated as quickly as possible with native species. This will help keep non native noxious plant species from getting a hold.

For further information:

www.invasivespeciesinfo.gov/unitedstates/sd.shtml

www.invasivespeciesinfo.gov/unitedstates/wy.shtml

www.invasivespeciesinfo.gov/unitedstates/mt.shtml

www.natureserve.org/publications/americasleastwanted.jsp



Canadian Thistle



Bull Thistle



Leafy Spurge



Common Mullein



Emerald Ash Borer



Common Tansy

Many forest landowners have a concern about adversely impacting the natural beauty of their property when considering a timber harvest. Removing trees imparts a sudden change to a scene that people have become accustomed to observing. However, integrating some proven techniques and following Best Management Practices (BMP's) will soften the visual effects of harvesting a forest stand.

The following are some considerations that should be addressed when planning and implementing a harvest:

- ❖ Try to minimize straight lines in the harvest boundary. Curves and uneven edges are softer and more pleasing to the eyes. Consider the topography when laying out the sale. Ridge tops are seen from a longer distance and should be cut conservatively. Steep slopes need careful planning. Consider leaving heavily limbed trees along the edges of cutting units to provide some screening or increase the intensity of harvesting from the outside to the inside of the stand.
- ❖ Haul roads, skid trails, and log landings are highly visible and should be kept to a minimum as practical for the situation. Use BMP's to protect water quality.
- ❖ Consider a visual buffer along travel corridors. This will also provide additional edge habitat for various wildlife species.
- ❖ Reseed disturbed areas of exposed mineral soil with recommended seed mixtures. This will limit the establishment of noxious invasive species as well as provide additional wildlife habitat.
- ❖ Treat logging slash as appropriate.
- ❖ Discuss expectations with your qualified resource professional and qualified logging professional.
- ❖ Block public access to logging roads to prevent unlawful entry that often results in unsightly damaged roads and trash dumping.



Management of Harvest Residues

The management of logging slash after timber harvest is an important consideration in the Black Hills area. Logging slash is the material that remains after harvesting and includes tops, limbs, and other non merchantable parts of a tree such as cull logs. This material, if left untreated, increases the damaging effects of a wildfire if one should occur in the harvested stand. Also, untreated slash is unsightly and can restrict access to the site.

Generally, logging slash can be treated in three different ways. The first is by lopping and scattering the slash over the logging site. Lopping refers to reducing the size of the logging slash and can be accomplished either manually with chainsaws or mechanically. This method is employed where the top and branches are cut off where the tree is felled in hand cutting or using the cut to length harvesting system. Lopping the material to a maximum depth of 18" is recommended. This will significantly reduce the effects of a wildfire; provide protection to the site after harvest, as well as recycling nutrients back to the forest soil. The material may also be used to close skid trails and log landings in order to provide erosion control. Lopping and scattering also may be more aesthetically pleasing.



Whole tree logging involves the skidding of the entire tree including the branches to the landing where the branches and the unmerchantable portion of the top of the tree are cut off and piled and the main bole of the tree is cut into logs. This reduces fuel loading in the forest and concentrates the material at the landing. This type of slash treatment also generally increases the forage growth and improves access to the forest. It is also generally more aesthetically pleasing to the landowner, especially after the slash has been burned and the site reclaimed. The slash is typically burned in place after allowing the pile to dry for a period of at least one full summer. While drying, the piles provide habitat for small mam-

mals which attract other animals such as raptors. It should be emphasized that you should manage the burning process with heavy equipment. During the burn, push the slash up and then scatter ashes after burning is complete. Do not allow the piles to smolder untreated. After burning, the exposed soil needs to be seeded with a recommended seeding mixture in order to limit invasion of invasive, noxious weeds on the site.

The third slash treatment is piling the slash in the woods by either hand or machine to be burned or otherwise disposed of at a later time.

It should be noted that management of logging slash is required by state statute in both South Dakota (Chapter 21-10-26&27) and Montana (Title 76 Chapter 13) and is the responsibility of the landowner.

Further information can be obtained from your forester.

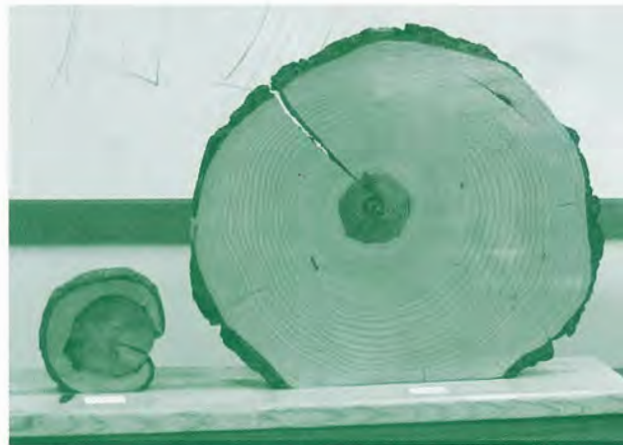
Forest land has a certain capacity for growing wood fiber. The actual amount is influenced by many factors that are relevant to a particular forest stand. These factors include soil characteristics, aspect, position on the slope, and available precipitation. Generally speaking, northwest to northeast slopes are going to be more productive than south and west slopes and ridge tops. Areas with deeper soils are also going to be more productive than rocky or clay-type soils. Learning where your more productive soils is important in determining where you want to focus your management activities. If one of your primary landowner objectives is to produce fiber, you may want to concentrate your efforts on the better sites, especially for saw log production.

The control of stocking levels is the most important consideration when managing ponderosa pine for increased fiber production. Your goal should be to maintain full stocking throughout the rotation. You want to put diameter growth on the optimum number of trees for a particular site. Because of the excellent ability of Black Hills ponderosa pine to reproduce, the usual situation is to have overstocked stands that do not grow to their full potential because of competition for available, moisture, sunlight and nutrients. Silvicultural decisions will be dictated by the condition, stocking level, and stand class of your forest. Your forester will conduct a stand inspection or cruise to determine a recommendation for any number of treatments ranging from precommercial and commercial thinning to a regeneration harvest.

In a young aged sapling forest, a pre-commercial thinning to release the best formed and thrifty trees is recommended. About 600 trees per acre should be selected during the thinning. This is about a 8.5' x 8.5' spacing. As the precommercial trees get larger, the trees should be spaced even farther apart to between 10' x 10' to 14' x 14' spacing. Cost share money may be available through your county Natural Resources Conservation Service for this practice.

If the forest stand is in the polesize class (6" to 8" dbh) or various saw timber (>9" dbh) structural stages, a series of intermediate cuttings called commercial thinnings may be recommended. The goal is to maintain a fully stocked stand that is growing at an acceptable rate. A basal area of between 60 and 80 square feet per acre is desirable depending on the site. This basal area will increase to around 100 to 120 square feet per acre in about 20 years on average. Once the stand increases to this level, growth will begin to slow and a thinning should be considered to bring the stand back to optimum. Spacing will be dictated by the diameter of the trees in the stand. Through judicious thinning, rotations may be shortened by 60 to 80 years.

If the stand is mature, a regeneration harvest will be dictated. Usually, the recommended practice is the two step or three step shelterwood (see Reforestation section for further discussion). Some stands in the Black Hills are decidedly "two storied" with two separate even aged stands. Usually this calls for the removal of the upper story and then subsequent management of the lower story.



Small cross section is from a 190-year-old tree from an unmanaged stand compared to a 74-year-old tree in a stand that has been thinned several times.

Managing For Forage

Black Hills ponderosa pine forests provide an abundance of multiple uses which can be mutually beneficial. Two of these are timberland management for both timber production and animal grazing. Some of the same practices that enhance tree growth, health, and vigor also can produce increased forage. This allows a forest landowner to increased economic benefits between timber sales from his own herd or by grazing leases.

Generally speaking, crown cover of less than 50% is needed to support forage. Because of the tendency of Black Hills ponderosa pine stands to be overstocked, forest thinning is very beneficial to forage production as the increased light and moisture that reaches the forest floor results in a more favorable habitat. As you decrease crown cover, there is a subsequent increase in forage (see chart). In "dog hair" stands, pre commercial thinning will be needed to begin opening the stand for forage production. Cost sharing programs may be available to help cover the cost of the treatment.

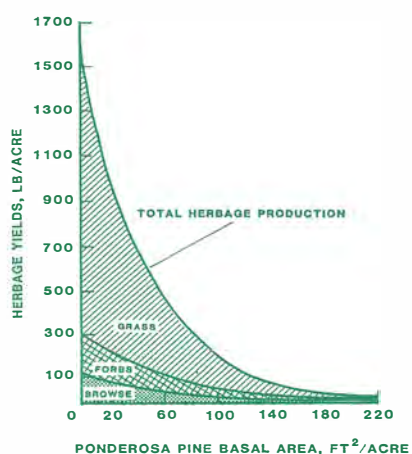


Figure 2.—Relationship of herbage production to timber basal area in the Black Hills (after Pase and Hurd, 1957).

Aspect and slope location are important factors when planning for management treatments for forage. You may want to utilize heavier stocking on southern slopes where the sun intensity is higher. Increased crown cover on these slopes provides protection and increased forage. Concurrently, northern and lower slopes can be thinned heavier as there is less direct sunlight and usually better, moister conditions.

Cattle are especially tough on aspen stands. However, if the landowner has a strong desire for forage management, aspen stands can contain significantly higher levels of forage than pine stands. Aspen is an early succession species that is relatively short lived that can be regenerated by clearcutting. However in old stands, care needs to be taken as they may not regenerate and a less aggressive method may be needed such as patch

cutting. Removing pine from a mixed stand will enhance forage production. In addition, remove stock until new reproduction is tall enough to survive browsing.

Added benefits of a thoughtful vegetation management plan is a reduction of wildfire risk, damage from insect pests, and a broader variety of wildlife species.

Managing For Water

It is generally understood that forest management activities can have an effect on both water quantity and quality. Research conducted throughout the United States in various forest types and watersheds have clearly indicated that forest management has a direct impact on water yield. Removing tree cover has two direct effects. The first is that there is an increase in the amount of precipitation that reaches the forest floor. In a coniferous forest that has a 70% closed canopy, only about 10% of precipitation reaches the forest floor. The remaining 90% is captured by the foliage and is lost to the atmosphere. Once the forest canopy is opened, more precipitation finds its way into the forest soil. The second effect of reducing forest cover i.e., stocking level is that there are fewer trees that are removing moisture from the soil through transpiration. Trees in a forested watershed amount to thousands of water pumps that are pumping water into the atmosphere every day that they are growing. By removing a portion of the trees, more water is available to reach area water features and aquifers.

The actual increase in water yield from forest management activities is hard to predict. There are a number of variables that will affect the hydrologic process. Among them are aspect, position on slope, soil type, precipitation rate, and the actual reduction in the stocking level. However, one study conducted in the Black Hills near Sturgis, reported that after a forest thinning, water yields increased between 14% to 82% over an eight year period. The largest increase over predicted yield came during years of lower precipitation. Forest thinning would appear to be a very important component in managing for water especially in drought periods. The same study predicted that water yield increases would continue to at least the tenth year after treatment.

For further information contact your local National Conservation Resource Service office.

Forest management for timber production and wildlife habitat, both game and non game species, are very compatible. The Black Hills ecosystem is unique in that there are four major plant communities that merge in the area. They include a Rocky Mountain Coniferous Forest Complex, a Northern Coniferous Forest Complex, a Grasslands Complex, and Deciduous Forest Complex. These communities, although dominated by Ponderosa Pine of the Rocky Mountain Coniferous Forest Complex, provide a wide range of habitats for various wildlife species.

When planning your timber management, assess your property for suitable wildlife habitat and then incorporate your wildlife goals into a workable forest management plan. Generally, a wide range of habitats will attract and support a diverse and healthy species mix. If possible, your management activities should provide a mixture of tree species and age classes including reproduction, poles, and saw timber. Other valuable features may include forest openings and planted shrubs and food plots.

Also, be sure to leave a scattering of snags and den trees throughout the property as these are important for food and cover to many species.

Edges between harvested areas and other land use areas can provide a valuable transition zone as many wildlife species use the forest edge as protective cover and a food source. Irregular shaped timber harvests (e.g. avoiding square blocks) not only creates additional edge, but also softens the visual impacts of the harvest.

Riparian corridors and streamside management zones create travel routes and aquatic protection.

For more information, contact your state's wildlife division:

South Dakota: <http://www.sdgfp.info/Wildlife/Index.htm>

Wyoming: <http://gf.state.wy.us/>

Montana: <http://fwp.mt.gov/>

Nebraska: <http://www.ngpc.state.ne.us/wildlife/wildlife.asp>

Cost sharing for wildlife habitat treatments may be available through your local USDA Natural Resources Conservation Service office:

<http://www.nrcs.usda.gov/programs>



Principles of Sustainable Forestry 2022 SFI Standard

1. Sustainable Forestry

To practice sustainable forestry to meet the needs of the present while promoting the ability of future generations to meet their own needs by practicing a land steward ethic that integrates reforestation and the managing, growing, nurturing and harvesting of trees for useful products, and for the provision of ecosystem services such as the conservation of soil, air, and water quality and quantity, climate change adaptation and mitigation, biological diversity, wildlife and aquatic habitats, recreation and aesthetics.

2. Forest Productivity and Health

To provide regeneration after harvest, maintain the health and productive capacity of the forest land base, and to protect and maintain long-term soil health and productivity. In addition, to protect forests from economically, environmentally, and social undesirable impacts of wildfire, pests, diseases, invasive species, and other damaging agents and thus maintain and improve long-term forest health and productivity.

3. Protection of Water Resources

To protect and maintain the water quality of water bodies and riparian areas and to conform with forestry best management practices to protect water quality, to meet the needs of both human communities and ecological systems.

4. Protection of Biological Diversity

To manage forests in ways that protect and promote biological diversity, including animal and plant species, wildlife habitats, ecologically and culturally important species, threatened and endangered species (i.e. Forest with Exceptional Conservation Values) and native forest cover types at multiple scales.

5. Aesthetics and Recreation

To manage the visual impacts of forest operations, and to provide recreational opportunities for the public.

6. Protection of Special Sites

To manage lands that are geologically or culturally important in a manner that takes into account their unique qualities.

7. Legal Compliance

To comply with applicable federal, provincial, state, and local forestry and related environmental laws, statutes, and regulations.

8. Research

To support advances in sustainable forest management through forestry research, science and technology.

9. Training and Education

To improve the practice of sustainable forestry through training and education programs.

10. Community Involvement and Social Responsibility, and Respect for Indigenous Rights

To broaden the practice of sustainable forestry on all lands through community involvement, socially responsible practices, and through recognition and respect of Indigenous Peoples' rights and traditional forest-related knowledge.

11. Transparency

To broaden the understanding of forest certification to the SFI 2022 Fiber Sourcing Standard by documenting certification and audits and making the findings publicly available.

12. Continual Improvement

To continually improve the practice of forest management, and to monitor, measure and report performance in achieving the commitment to sustainable forestry.

13. Responsible Fiber Sourcing

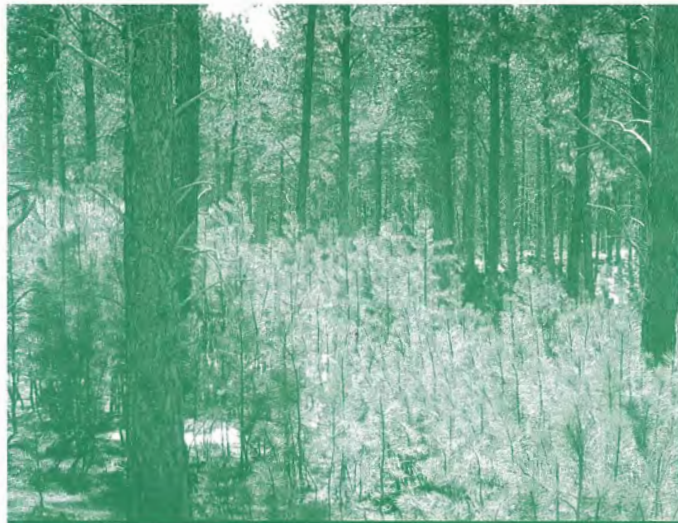
To use and promote sustainable forestry across a diversity of ownership and management types in the United States and Canada that is both scientifically and credible and socially, environmentally, and economically responsible and to avoid sourcing from controversial sources both domestically and internationally.

Regeneration of the forest after harvest is a basic building block of sustainable forestry. Fortunately, the Black Hills region is known for the ability to naturally regenerate its Ponderosa Pine resource and generally the species does not require replanting. Black Hills ponderosa pine produce dependable seed crops and the area normally has adequate spring precipitation. These two factors combined with a proper regeneration harvest assure more than adequate reproduction. In fact, overstocking is often a problem in new forest stands. Because of this, a thinning program may be needed for your forest, both pre-commercial and commercial. There may be cost sharing programs available for pre-commercial thinning.

Black Hills Ponderosa Pine is semi tolerant, i.e. the species does not require full sunlight to establish itself. Even-aged silviculture is most generally employed utilizing the two step shelterwood. This system is applicable throughout the Black Hills region and its use has been highly successful in regenerating the ponderosa pine forest type. In this method, even-aged stands regenerate beneath the protection of the older stand through a series of intermediate cuttings. These cuttings open up the forest canopy and allows sunlight to hit the forest floor as well as exposes mineral soil which acts as a suitable seed bed. As a result, seed already present or distributed in subsequent dispersals, produce abundant seedlings that will become the future forest. Once the new forest is established, the over story is removed in a final harvest cut and the process begins again.

If your management plan includes the management of hardwoods such as aspen or oak, a different silvicultural system will be needed to regenerate these species.

Your forester will guide you through the reforestation process and can offer further information.



As a successful steward of forest land, you should be aware of the variety of animals, plants, and ecological communities that may be found on your property, particularly, those that are designated as “imperiled, critically imperiled, threatened or endangered.” Critically imperiled (G1) or imperiled (G2) species (or ecological communities) are globally rare, or because of some factor(s) especially vulnerable to extinction. They are designated as imperiled or critically imperiled by non-government organizations such as NatureServe (and its constituent Natural Heritage programs) or the IUCN (the World Conservation Organization). Threatened and endangered species are listed by government agencies under the U.S. Endangered Species Act and also may be listed under state laws; yet they may not be listed as critically imperiled or imperiled, globally.



It is important that as a forest landowner you understand how your forest management activities may impact these species. Each state has a Natural Heritage Program that provides information and a data base of imperiled, threatened, and endangered species within the state:

South Dakota Wildlife

Diversity Program: www.sdgap.info/Wildlife/Diversity/index.htm

Wyoming Heritage: www.uwadmweb.uwyo.edu/wyndd

Montana Heritage: www.mtnhp.org

Nebraska Heritage: www.ngpc.state.ne.us/wildlife/programs/legacy/contact.asp

Special Sites

Also, you should be aware of any special sites that may be located on your property.

These may be sites with biological, aesthetic, cultural, or historical significance. Examples include caves, cemeteries, old home sites, and Native American sites. If you should have any special sites on your property, we will take all necessary precautions to preserve and protect the site.

South Dakota State Historical Society: www.sdhistory.org

Wyoming State Historical Society: www.wyshs.org

Montana Historical Society: www.his.state.mt.us

Nebraska Historical Society: www.nebraskahistory.org



*H*istorically, wildfire has had a significant influence on the forests of the Black Hills. As a steward of forested property, you should be aware of fire issues relevant to your particular situation and ownership. The threat of large stand replacing wildfires is significant. Although it is probably impossible to completely fireproof your property, some safeguards can be instituted to lessen your exposure to potential damage from wildfires. The same practices that reduce fire danger also help control destructive forest pests.

Over stocked stands in a pine forest are substantial contributors to the severity of damage from a wildfire. Wildfire will spread quickly through forests with tree crowns that are too crowded. Managing your forest to get the optimum spacing between the crowns of the trees reduces the potential for damage and helps slow the travel of the wildfire through the forest. This becomes even more important as terrain becomes steeper.

In the Black Hills region, management of logging residues or slash is an important consideration for your wildfire planning. The goal of proper slash treatment is the reduction of forest fuels. In the Black Hills there are generally 3 types of logging slash treatments. The first is lop and scatter. In this method, the logging slash is cut down to 18 inches in depth and where heavily concentrated, it is evenly spread over the area. In some cases, machinery may be employed to further masticate the slash into small pieces. The second slash treatment method is whole tree logging where the trees are cut and then skidded to a landing where they are limbed, topped and processed into logs. This system concentrates most of the slash in landings where it can be disposed of by either burning or chipping/grinding. The third slash treatment system is piling the slash in the woods by either hand or machine to be burned or otherwise disposed of at a later time. You should discuss with your forester the use of the most appropriate system for your property and how it may relate to your objectives.

Another consideration for your property may be strategically located fuel breaks to help stop the spread of a wildfire. Fuel breaks can be heavily thinned strips of forest. They can utilize existing openings as well as using hardwoods, specifically aspen, to lessen the intensity of the wildfire as it moves through the forest. Fuel breaks can also help maintain access and increase biological diversity on your forestland. Maintenance is required to maintain their effectiveness.

Houses and outbuildings on your property add to the potential for damage from catastrophic wildfire. Extra care needs to be taken in what is known as the Wildland Urban Interface or WUI. A "survivable" space should be created around buildings. There are a number of agencies as well as your local fire department that specialize in assisting landowners with this special need.

For further information concerning wildfire you may want to visit:

FIREWISE: www.firewise.org

South Dakota Wildland

Fire Suppression: www.sdda.sd.gov/wfs

Black Hills

National Forest: www.fs.fed.us/outernet/bhnf

National Interagency

Fire Center: www.nifc.gov

Montana Fire and

Aviation Bureau: www.dnrc.mt.gov/forestry/Fire/default.asp

Wyoming Wildland

Fire Management: www.slf-web.state.wy.us/forestry/firemanagement.aspx

Nebraska Wildland

Fire Protection: www.nfs.unl.edu/program-wildlandfireprotection.asp

Hotspots/FECV

Areas of particular significance are sometimes termed hotspots. They can be ecological, cultural, geological, or historical. Some of the ecological hotspots are termed FECV's or Forests of Exceptional Conservation Value. FECV's support plants or animals that are classified as globally imperiled (G2) or globally critically imperiled (G1). Each state maintains a Natural Heritage Program where you can access information and status of state threatened and endangered species as well as FECV's. The Heritage programs are valuable for obtaining habitat information for enhancing biodiversity on your property. Other good sources of information on biodiversity are The Nature Conservancy, World Resources Institute, as well as state forest wildlife action plans and assessments.

Finding Help

Additional landowner resources for guidance and outreach are:

- American Tree Farm System
- State Extension Agencies
- State Departments of Natural Resources
- Natural Resources Conservation Service (NRCS)
- State Wildlife Agencies



Neiman Enterprises, Inc.

Spearfish Forest Products, Inc.
1510 W. Oliver St, PO Box 910
Spearfish, SD 57783
605-642-7741

Devils Tower Forest Products, Inc.

51 Hwy 112, PO Box 218
Hulett, WY 82720
307-467-5252

Rushmore Forest Products, Inc.

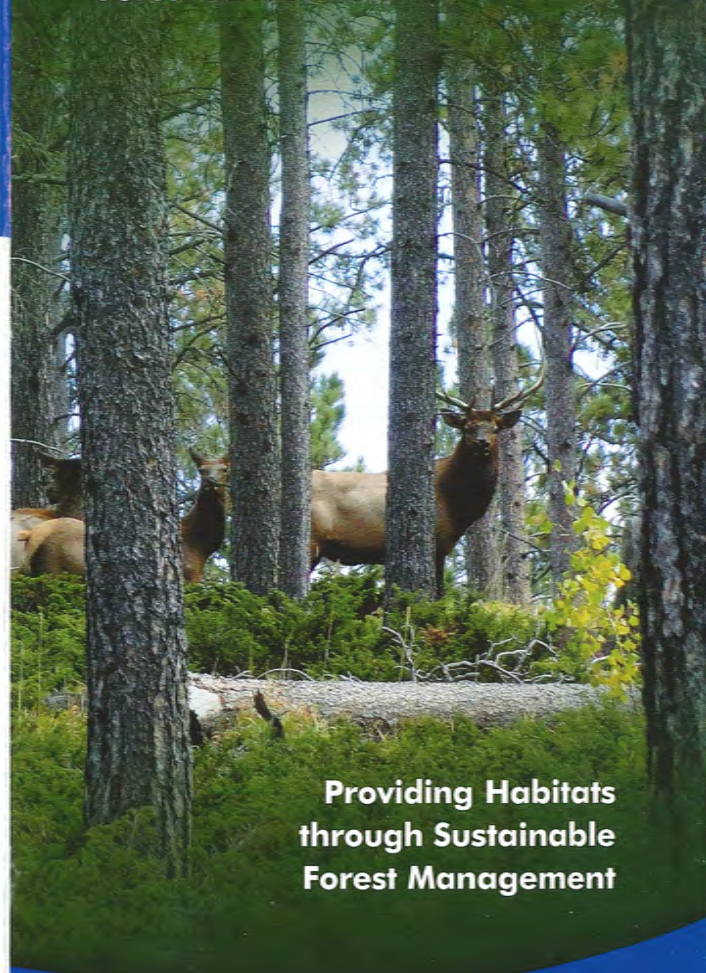
23848 Hwy 385, PO Box 619
Hill City, SD 57745
605-574-2512

Spearfish Pellet Co., LLC

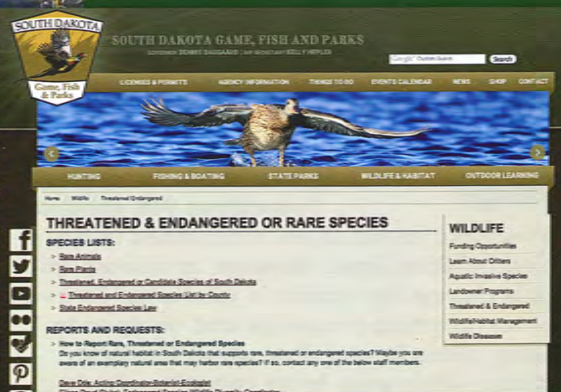
1930 McGuigan Rd.
Spearfish, SD 57783
605-642-2363

Biodiversity Guide

for Central Rockies
Forest Landowners



Providing Habitats
through Sustainable
Forest Management



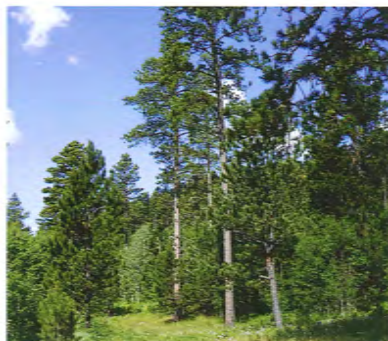


Biodiversity is the variety of organisms in an ecosystem and the processes that support them.

As a forest landowner, you have a special opportunity in conserving and enhancing biodiversity on your property. Thoughtful planning, beginning with identifying your goals and objectives, will lay down a solid base for all activities that may take place on your forested acres. Included may be a consideration for providing varied habitats for plants and animals within the capability of your forest land. You may also want to consider the surrounding landscape and how it interfaces with your property.

Elements of Habitat

Vegetation Layers/ Species Diversity



Different wildlife species require a variety of habitats for food and shelter. Vertical diversity in forest stands increases habitat types available for a wider array of animals. It is best to have varied age classes, which includes

seedlings, saplings, poles, and mature trees. Forest openings provide edge effect preferred by many species. Hardwoods such as aspen and birch enhance tree species diversity and increase browse. Mast producing trees and shrubs, such as oak provide food for many different animals.

Riparian Areas and Wetlands

Perhaps more than any other habitat, riparian zones

(the areas along watercourses) and wetlands provide quality habitat for a wide amount of wildlife species, especially songbirds, reptiles, and amphibians. Riparian areas are important travel



ways for many wildlife species. Establish Streamside Management Zones (SMZ) by limiting activity in the zone. See your states Best Management Practices book for recommendations in your state.

Snags and Downed Wood

Standing dead trees and coarse woody

debris play an important part in species diversity. They supply foraging sites as well as nesting and



denning locations. Home to many invertebrates, they also are important foraging locations to many species of birds and small mammals.



Landscapes Change

Landscapes change over time. For instance, meadows will gradually

transition into forests if not maintained as an opening. Wildfire, insect damage, or disease can radically change the habitat in your area. Be aware of the surrounding properties and be open to changing plans to vary diversity in the local landscape within your lands capacity.

Where can you learn
more about forest sustainability
and our forest resources?

SFI Inc.
www.sfiprogram.org

Black Hills Forest Resource Association
www.bhfra.org

Society of American Foresters
www.safnet.org

American Tree Farm System
www.treefarmssystem.org

Black Hills National Forest
www.fs.fed.us/outernet/bhnf

American Forest Foundation
www.forestfoundation.org

Project Learning Tree
www.plt.org

South Dakota Forestry Division
www.sdda.sd.gov/forestry

Wyoming Forestry Division
slf-web.state.wy.us/forestry.aspx

Montana Forestry Division
www.dnrc.mt.gov/forestry

Nebraska Forestry Division
www.nfs.unl.edu

Western Wood Products Association
www.wwpa.org

American Forest and Paper Association
www.afandpa.org

Forest Resources Association
www.forestresources.org

Recreation in a sustainable forest.

Neiman Enterprises, Inc.

We are a third generation forest products company. Our first mill, now known as Devils Tower Forest Products, began operation in 1958. Upgrades and improvements continue today.

Our Hill City, SD mill, Rushmore Forest Products, was acquired from Continental Lumber in 1998.

Spearfish Forest Products, Inc., formerly Pope & Talbot, was acquired in 2008. Located in Spearfish, SD, the acquisition doubled the company's yearly lumber production to nearly 200 million bd.ft.

Primary Products:

1" Boards, 4"-12" Wide
5/4" & 6/4" Heavy Shop
5/4" Radius Edge Decking
Pattern

By-Products:

Sawdust and shavings are used by our sister company, Spearfish Pellet Co., LLC, for manufacture of wood pellets for home heating and horse bedding. Additionally, shavings are bagged for animal bedding. Residual sawmill chips are shipped to other locations to be used for the manufacture of paper and particleboard. Bark is sold for decorative mulch and used internally for boiler fuel.



Professional forestry staffs are located at all of our sawmill locations. Call for a free timber appraisal and additional sustainable forestry information.



Renewable Resources For A Sustainable World.

Neiman Enterprises, Inc.
PO Box 218
Hulett, WY 82720
307-467-5252
307-467-5594 (Fax)
www.neimanenterprises.com

Jim D. Neiman
Vice President and CEO

Devils Tower Forest Products, Inc.
51 Hwy 112, PO Box 218
Hulett, WY 82720
307-467-5252
307-467-5418 (Fax)

Rushmore Forest Products, Inc.
23848 Hwy 385, PO Box 619
Hill City, SD 57745
605-574-2512
605-574-4154 (Fax)

Spearfish Forest Products, Inc.
1510 W. Oliver St, PO Box 910
Spearfish, SD 57783
605-642-7741
605-642-5902 (Fax)

Spearfish Pellet Co., LLC
1930 McGuigan Rd
Spearfish, SD 57783
605-642-2363

Tours are available at any of our facilities.



 **SUSTAINABLE FORESTRY INITIATIVE**
Good for you. Good for our forests.®

Neiman
ENTERPRISES, INC.



**Ensuring the future success
of our company and
communities through:**

- The sustainable stewardship of our natural resources.
- The efficient manufacturing of wood products.

www.sfiprogram.org

What is Sustainable Forestry?

Sustainable forestry means providing for today's needs without jeopardizing future generations the ability to provide for their needs.

What We Do To Ensure Forest Sustainability

Our commitment to sustainable forestry includes:

- Training our resource professionals and contractors on sustainable forestry and its practice.
- Providing the best and most accurate sustainable forestry information to landowners.
- Educating landowners and the general public on sustainable forestry and its principles.
- Continually improving our forestry and management practices.
- Participating with forestry associations, public agencies, educators, and others to broaden the practice of sustainable forestry.
- Monitoring the forest resources of our fiber sourcing area.
- Full utilization of the resource.

Renewable Resources For A Sustainable World.

Practicing Sustainable Forestry Provides:



All the benefits of abundant and clean water.



Economic benefits to local landowners and communities.



Diverse wildlife habitat for multiple species.



Educational opportunities for forest landowners and the public.



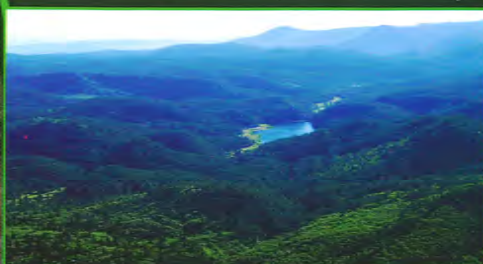
Improved forest health and ecosystem diversity.




Reforestation after harvest.

Our Fiber Sourcing Area

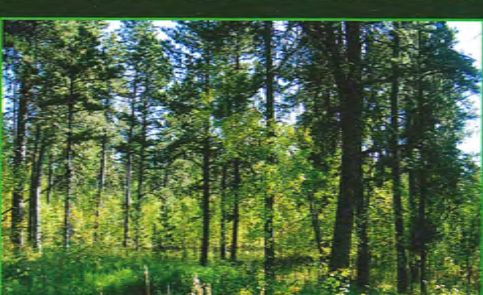
Ponderosa pine found in the Black Hills region and surrounding states provide the raw material for our manufacturing facilities.



The Black Hills National Forest, home of the first federal timber sale near Nemo, SD in 1899, is required by law and regulation to practice sustainable forestry. Our professional forest resource staff works closely with U.S. Forest Service personnel to accomplish the national forest land and resource management plan.



Thinning overstocked stands in our fiber sourcing area reduces the risk of catastrophic wildfires and insect infestations such as the Mountain Pine Beetle.



Forest aesthetics, watershed enhancement, and grazing are important considerations when managing both public and private forestlands.