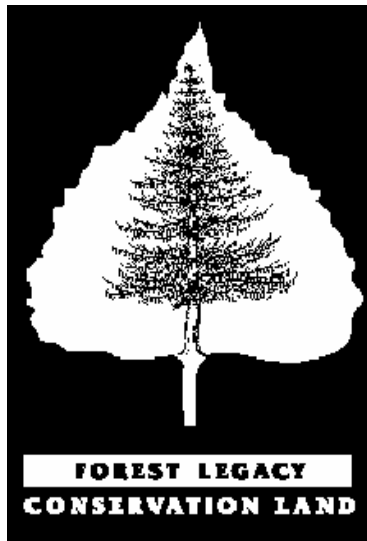


STATE-WIDE FOREST LEGACY
ASSESSMENT OF NEED
FOR THE SOUTH DAKOTA FOREST LEGACY PROGRAM



www.southdakotaforestlegacy.org

South Dakota Department of Agriculture
Division of Resource Conservation and Forestry
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Pierre, South Dakota

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United States Department of Agriculture

NOV - 2 2009

Office of the Secretary
Washington, D.C. 20250

The Honorable Mike Rounds
Governor
State of South Dakota
500 East Capital Avenue
Pierre, South Dakota 57501

Dear Governor Rounds:

Recently, the South Dakota Department of Agriculture requested approval of the Assessment of Need for the South Dakota Forest Legacy Program. Pursuant to our authority under Section 7 of the Cooperative Forestry Assistance Act of 1978 (16 USC 2103c), as amended, and by policy outlined in the Forest Legacy Program Implementation Guidelines of June 30, 2003, we have reviewed and approve the South Dakota Assessment of Need.

The South Dakota Department of Agriculture has identified seven Forest Legacy Areas which meet the eligibility criteria and are consistent with the State's program goals. These areas are described and mapped in the Assessment of Need.

I would like to thank you for your support of the Forest Legacy Program. Please contact Paul Ries, Director of Cooperative Forestry, at (202) 205-1389 for further assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "Tom Vilsack", written over a horizontal line.

Thomas J. Vilsack
Secretary

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- Appendix A: Forest Stewardship Potential and Private Forested Lands Maps
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Introduction

The Forest Legacy Program (FLP) authorizes the USDA Forest Service to provide funds to state governments to purchase lands and permanent conservation easements to prevent private forests from being converted to non-forest uses. Forestlands that contain important scenic, cultural, recreation resources, fish and wildlife habitats, water resources, and other ecological values receive priority. Landowners that choose to participate in the program are required to develop a stewardship plan designed for their forest. Activities consistent with the stewardship plan, including timber harvesting, grazing, and recreation activities are permitted.

For South Dakota to participate in the FLP, the South Dakota Division of Resource Conservation and Forestry (SDDRCF) was selected by the Governor of South Dakota to assess the need for such a program. This Assessment of Need (AON) document contains a background of South Dakota, an overview of the tasks performed, descriptions of each Forest Legacy Area (FLA), and selection criteria for inclusion in the FLP.

The purpose of the Forest Legacy Program is to protect environmentally important private forest areas that are threatened by conversion to non-forest uses. Specifically, the FLP in South Dakota will emphasize:

- 1. Protection of water quality and quantity.**
- 2. Protection of significant wildlife habitat.**
- 3. Protection of lakes, rivers, streams, and other significant riparian areas.**
- 4. Protection of private property owner rights and landowner lifestyles.**
- 5. Protection of forested parcels in danger of conversion to commercial and/or residential development or being cleared for agriculture.**
- 6. Protection and expansion of hunting and other recreation opportunities.**
- 7. Protection of scenic landscapes.**

These seven criteria were developed through a survey conducted as part of this AON. The survey was used to assess and include stakeholder interests in the FLP and to identify protection goals for the FLP.

Section 1 of this document presents information pertaining to the historical, cultural, physical, biological, and ecological elements of South Dakota, all of which influence land ownership and use patterns.

Section 2 presents the FLA assessment methodologies, including generation of the Primary Forest Conversion Map to identify areas in South Dakota that are in danger of

conversion from traditional forest uses, and gathering of information from landowners, natural resource agency personnel, and other stakeholders who may be involved in the FLP in the future as to what they felt were important criteria for the protection of privately owned forests.

Also contained in Section 2 is information gathered to aid the Legacy Program Manager and the State Forest Stewardship Coordinating Committee (SFSCC) in identifying geographic priorities and creating project selection criteria for each area and ranking procedures.

Section 3 identifies the seven Forest Legacy Areas (FLAs) in the state where the FLP will be implemented. For each of the seven FLAs, this document (1) designates the individual areas, (2) specifies Forest Legacy protection goals, and (3) describes topography, ecology, recreation, water, and other resources for each area.

Section 4 describes the project selection and ranking procedures used to support proposed FLP projects. Included in Section 4 are SFSCC selection and ranking criteria for inclusion in the FLP.

Section 5 lists the numerous land conservation programs currently in existence in South Dakota along with land trust organizations.

STATEMENT OF PURPOSE

When people think of South Dakota, things like agriculture, hunting and fishing opportunities, and tourism to places like Mount Rushmore, Deadwood, and the Badlands come to mind, but not necessarily forests. In reality, forests in South Dakota are sometimes overlooked within the state. Slightly more than 3% (1.7 million acres) of the land in South Dakota is forested, with 70% (1.19 million acres) of that forested land in public ownership.

Forest resources in South Dakota represent a unique mix of central hardwood forests, northern boreal forests, and Rocky Mountain forests along with important short and tall grass prairie ecosystems. Forests in South Dakota support the state's tourism opportunities, representing the second largest economic contribution to the state at over 2 billion dollars annually. Forest product utilization through saw lumber, post and pole products, wood pellets, and other products, provide jobs and year round income for many South Dakotans. Shelterbelts, wooded draws, and native woodlands also provide habitat for wildlife, which supports South Dakota's hunting recreation opportunities throughout the state.

With an estimated 14% increase in population statewide from 1990 to 2007, development pressures do not, on the surface, appear to be a direct threat to South Dakota's forests. However, when viewed spatially, many of the population increases are concentrated in the eastern and southeastern portions of the state in forested areas especially along the James and Big Sioux Rivers. In fact, Lincoln County, near Sioux Falls, was the ninth fastest growing county in the United States from 2000 to 2005, by percentage. There is also a significant increase in population and housing density in the Black Hills area that has led to fragmentation of larger privately held forested lands. Changing ownership of forested lands often means a loss of active forest stewardship.

This Assessment of Need for a Forest Legacy Program in South Dakota evaluates the current condition and uses of forests in South Dakota. This was accomplished by research of available literature and data, and with a survey of stakeholders throughout South Dakota that assessed values and attitudes for protection of South Dakota's privately owned forests. The stakeholders' responses were used to develop protection goals for the Forest Legacy Program in South Dakota.

During evaluation, the SFSCC identified seven individual Forest Legacy Areas for inclusion in the Forest Legacy Program- the Harding FLA, the Black Hills FLA, The Pine Ridge Rosebud FLA, the Lake Plain FLA, the Lower Missouri FLA, the Red River FLA, and the Big Sioux FLA.

This document, produced for the State of South Dakota, recommends the State of South Dakota priority FLAs and the selection and ranking procedures outlined for inclusion in the National Forest Legacy Program.

SECTION 1: STATE OF South Dakota BACKGROUND INFORMATION

Cultural Heritage

South Dakota has been occupied by humans for thousands of years. Early explorers in the 1700's encountered groups such as the Omaha and Arikara. By the 1800s, the Sioux, including the Dakota, Lakota, and Nakota, were the dominate tribes in the area. In the late 1700's, the area was claimed by the French as part of greater Louisiana.

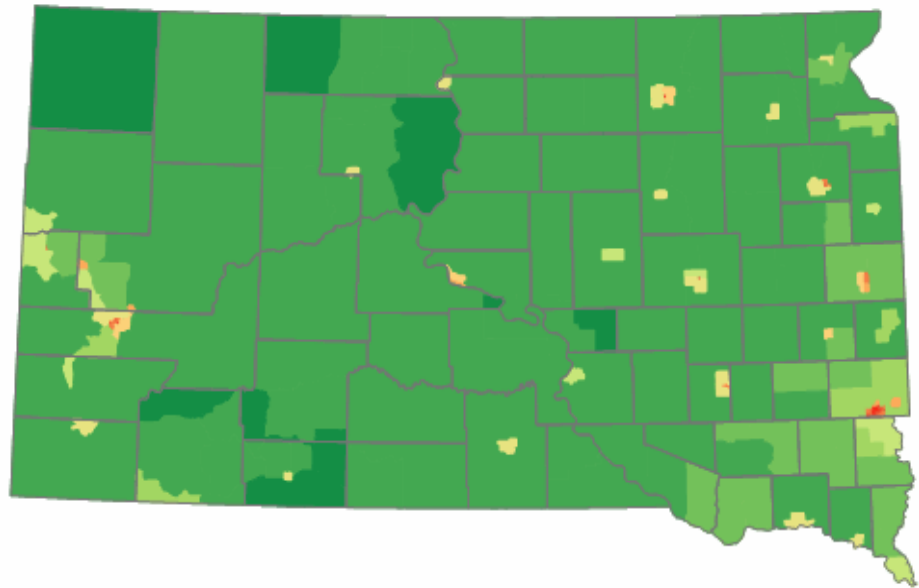
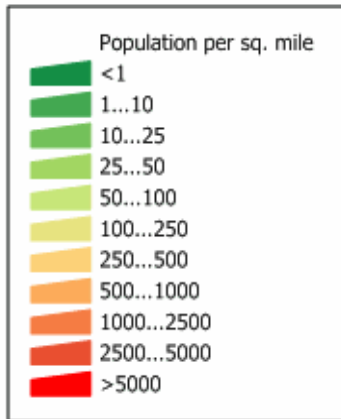
In 1803, the United States purchased the Louisiana Territory from France. In the early 1800's, the Lewis and Clark Expedition followed the Missouri River through the state twice on their expeditions to the Pacific Ocean. In 1817, a fur trading post was established at Fort Pierre and was the economic and cultural center of the area through 1840.

The Dakota Territory was established by the United States government in 1861, which began the influx of northern European and Russian settlers. In 1889, the Dakota Territory was divided into two separate states (North Dakota and South Dakota) and both states were admitted to the Union on November 2, 1889.

Demographics

Demographic shifts throughout South Dakota have not been considerable during the last century. According to the U.S. Census Bureau, the population change from 1990-2000 was just over 13% for the country but only 8.5% (696,004 to 754,844) for South Dakota. The 2006 estimated population was 781,919, an increase of 3.6%. South Dakota's population is approximately 88% white, 2% Hispanic, 0.9% black, 0.7% Asian, and 8.4% Native American, with a median age of 35.6. The population of South Dakota is projected to reach 866,000 by 2025.

Most of the population is concentrated in the eastern one-quarter of the State, along the Missouri, James, and Big Sioux Rivers, and along the foothills of the Black Hills area. Approximately 20% (156,393 people) of the state's population is located in Minnehaha County, which also includes the state's largest city of Sioux Falls. Over 55% of the state's population is concentrated in seven counties: Brookings, Brown, Codington, Lawrence, Lincoln, Meade, Minnehaha, Pennington, and Yankton Counties.



Source: U. S. Census Bureau
 Census 2000 Summary File 1
 population by census tract.

Figure 1: Population density per square mile for South Dakota

Land Ownership and Use

Of the 49.4 million acres (77,116 square miles) that make up South Dakota, 428,000 acres is covered by open water. 5,709,491 acres, or 11.6% of the state, is federal land including National Forest, Bureau of Land Management, National Grasslands, National Wildlife Refuges, and other federal lands. Indian reservations occupy 8,086,756 acres or 16.4% of the state. State owned land includes 856,729 acres or 1.7% of the state. Privately owned lands are the largest use of the state at 69.5% or 34,276,039 acres.

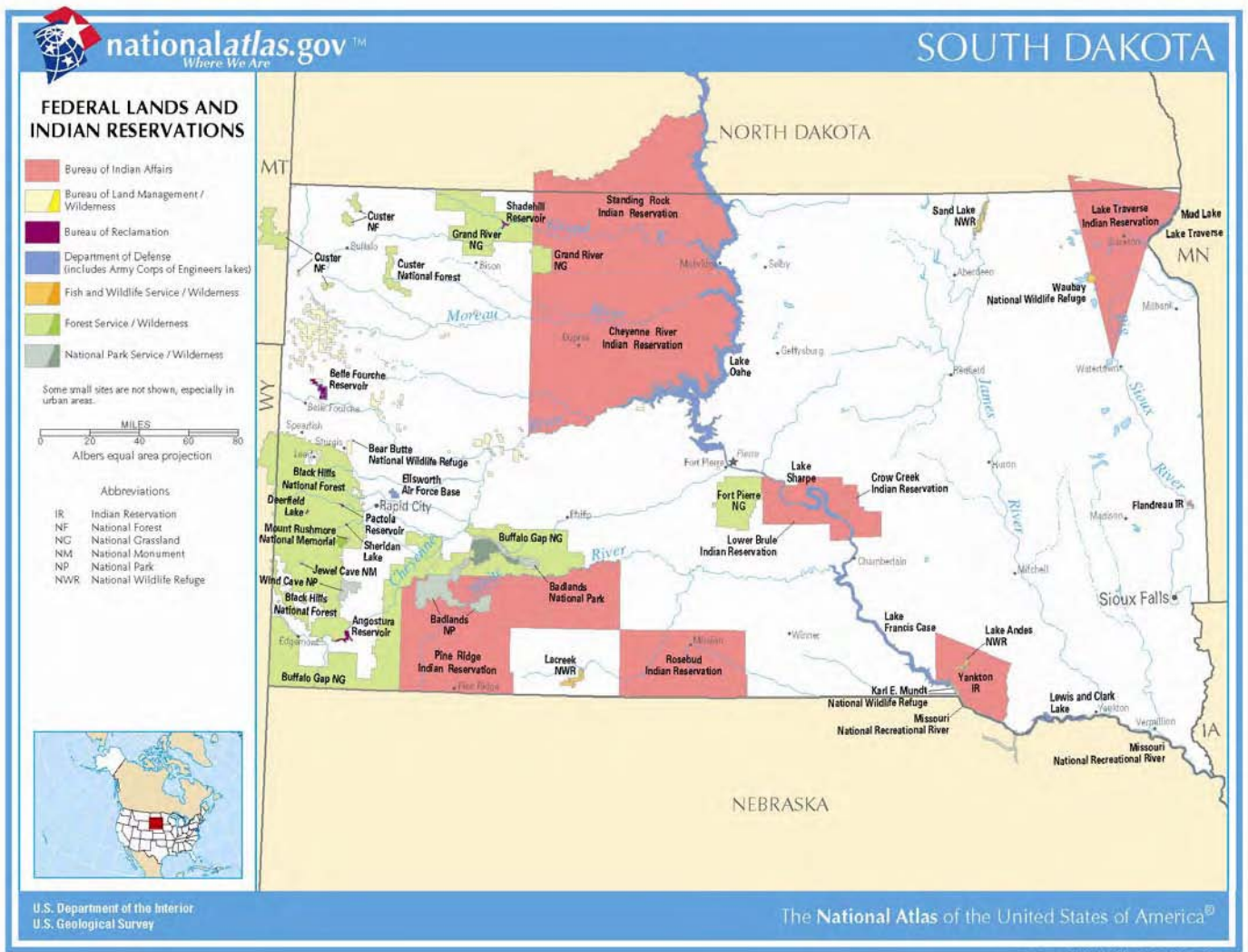


Figure 2: Federal Lands and Indian Reservations in South Dakota

Native American Tribes and Reservations

Native American tribes and reservations play an important role to the history and land use in South Dakota. As noted previously, native tribes have existed in the South Dakota area for thousands of years. Currently Sioux tribes represent the largest Native group in South Dakota. Nine Tribes and reservations are identified by the South Dakota Office of Tribal Government Relations. The nine tribes are as follows:

| Tribe | Reservation | Area in Acres | # of Members |
|-------------------------|--------------------|----------------------|---------------------|
| Cheyenne River Sioux | Cheyenne River | 1,400,000 | 8,000 |
| Crow Creek Sioux | Crow Creek | 125,591 | 1,230 |
| Flandreau Santee Sioux | Flandreau | 2,356 | 726 |
| Lower Brule Sioux | Lower Brule | 132,601 | 1,308 |
| Oglala Sioux | Pine Ridge | 2,000,000 | 38,000 |
| Rosebud Sioux | Rosebud | 882,416 | 21,245 |
| Sisseton-Wahpeton Oyate | Lake Traverse | 106,153 | 9,894 |
| Standing Rock Sioux | Standing Rock | 562,366 | 10,133 |
| Yankton Sioux | Yankton | 40,000 | 3,500 |

Geography and Soils

South Dakota can generally be divided into three distinct regions, eastern, western, and the Black Hills area. Eastern South Dakota is more similar to the semi-humid Mississippi River Valley Region in rainfall and topography than the western portion. This area is dominated by agricultural and prairie lands within the James and Big Sioux River basins. These regions contain numerous glacial till lakes, rolling hills, and fertile soil which extends to neighboring states to the east and south. Most of the soils in eastern South Dakota are silt, silty loam, and silty clay loam with higher organic matter contents giving them a distinctive black appearance.

Western South Dakota is more characteristic of the Great Plains. This area is generally semi-arid and consists of rolling hills, plains, ravines, and buttes which rise 400 to 600 feet above the plains. Also located within this area are the Badlands in the southwestern portion of the state. Most of the soils in western South Dakota are silt, silty loam, and silty clay loam with higher organic matter contents giving them a distinctive black appearance, however this higher organic soil is not as deep as in the eastern portion of the state.

The Black Hills area encompasses 6,000 square miles with mountains that rise from 2,000 to 4,000 feet higher than the surrounding plains. The highest point in the Black Hills and in South Dakota is Harney Peak at 7,242 feet above sea level. This region is rich in mineral deposits such as gold, silver, copper, and lead. Soils in the Black Hills area are generally very shallow silt and loam soils with lower organic matter constituents.

Climate

South Dakota has a continental climate with four distinct seasons ranging from very cold winters to hot summers. Average highs in the summer can reach close to 90 degrees F with occasional hot periods reaching into the 100s. Winter average temperatures are below freezing for several months, occasionally averaging -10 degrees F. Average annual precipitation ranges from semi-arid in the northwestern portion of the state receiving 15 inches, to semi-humid areas in the southeastern portion receiving up to 25 inches of precipitation. Some areas in the Black Hills can receive as much as 30 inches of precipitation per year, much of which occurs as snow.

Summer thunderstorms in South Dakota can bring severe winds, hail, and thunder. The eastern portion of the state is considered part of “tornado alley” and experiences an average of 23 tornados per year. Severe blizzards in the winter and flooding rains in the summer frequently result in loss of crops, life, and millions of dollars of damage.

Rivers and Water Resources

Almost all of South Dakota’s rivers and streams drain into the Missouri River, which runs from north to south through roughly the center of the state. Western rivers such as the White, Bad, Moreau, Cheyenne, Belle Fourche, and Grand Rivers generally flow from west to east to the Missouri. The three major river systems in the eastern portion of the state, the James, Vermillion, and Big Sioux Rivers, flow from north to south and join the Missouri River in the southeastern portion of the state.

South Dakota possesses enormous groundwater reserves. It is estimated that 42% of the water used in South Dakota comes from groundwater supplies and 78% of South Dakotans rely on groundwater for their domestic use. Thirty two percent of the water used for irrigation purposes is also supplied by groundwater resources.

Dams on the Missouri River create four large reservoirs: Lake Oahe, Lake Sharp, Lake Francis Case, and Lewis and Clark Lake. Hydroelectric power generated from these dams provides approximately one-half of the electricity used in South Dakota. Most of the natural lakes found in South Dakota are located in the eastern half of the state and have glacial origins. Reservoirs and smaller impoundments are found throughout the

western portion of the state and are used for irrigation and water for cattle.

Agriculture

Eighty-eight percent of the state's land area is dedicated to agricultural production. In 2007, South Dakota had approximately 31,300 farms and ranches utilizing 43.47 million acres. An estimated one-half of South Dakotans are employed in agriculture or related industries, such as crop and livestock production and processing. Livestock in the state includes an estimated 3.7 million head of cattle, 1.4 million hogs and pigs, 85,000 milk cows, and 355,000 head of sheep. The top crops produced in South Dakota in 2007 were soybeans (4.1 million acres), forage lands (3.7 million acres), corn for grain (3.2 million acres), wheat for grain (1.6 million acres), and corn for silage (0.6 million acres).

Crops in South Dakota vary by region. With a more arid climate and poorer soils, crops in the Black Hills area are limited to alfalfa, grass hay, and pasturelands. Limited production of oats for feeding of horses and livestock also occurs. Forestry products are also of economic importance in the Black Hills area which consist of Black Hills spruce, aspen, and ponderosa pine.

Agricultural crops in the central-western portion of the state consist of corn, wheat, millet, sorghum, and oats. Sunflower crops are grown for oil production and alfalfa, grass hay, and pastures are managed for livestock production. Other specialty crops planted in this area are buckwheat, chickpeas, safflower, and beans. Due to the semi-arid climate of the area, most of the agricultural production in the central-west depends upon irrigation from surface water and groundwater sources.

Due to the more humid climate and greater available water, agricultural production in eastern South Dakota is more prevalent and productive. Cereal grains such as corn, wheat, oats, sorghum, millet, barley, and rye are economically important crops. Oil based crops such as sunflower, flax, rapeseed, and more recently, soybeans have become major crops for South Dakota. Pasture crops such as alfalfa, grass hay, and pasturelands support the livestock production in the area along with the cereal grains and soybean meal. Specialty crops such as buckwheat, chickpeas, safflower, beans, vegetables, and organic farming are also found to a minor extent in eastern South Dakota. Due to the higher amounts of precipitation, less irrigation is needed in this area than in the western portion of the state.

Recreation and Aesthetics

Tourism and recreation in South Dakota are largely related to the state's forest resources. Although South Dakota is known for its agriculture production, trees create a mosaic that is visually attractive and offer many opportunities for outdoor enthusiasts. Game wildlife, such as ruffed grouse, white-tailed deer, elk, and wild turkeys, are forest-dependent. Additionally, many of the lakes and rivers that provide fishing and boating opportunities depend on the forests for water quality.

Hunting opportunities are present throughout South Dakota for waterfowl, birds, small game, and big game. According to the South Dakota Division of Wildlife, it is estimated that \$275 million was spent in South Dakota for hunting in 2004. With more than 1,100 square miles of rivers and lakes, fishing provides significant recreational opportunities in South Dakota. Expenditures for fishing in 2004 are estimated at \$181 million.

South Dakota has many other tourism destinations, which contribute over \$2 billion annually to the state economy. Notable tourist destinations include the Mount Rushmore National Memorial, the Crazy Horse Memorial, the Black Hills National Forest, Badlands National Park, Jewel Cave, and Wind Cave National Monuments. In addition, with over 60 state parks, recreation areas, and nature areas, South Dakota provides many year round recreational opportunities.

South Dakota also has five designated scenic byways. The Native American Scenic Byway begins near Running Water and travels through four Sioux Nation Tribal lands, the Crow Creek, the Lower Brule, the Cheyenne River, and the Standing Rock Sioux Tribes. This byway gives the traveler a perspective of South Dakota from the view of its Native American tribes. The Peter Norbeck National Scenic Byway travels through the Black Hills through three granite tunnels on Iron Mountain Road. The byway also travels over three pigtail bridges, which were specially designed and constructed for the steep and varied terrain.

The Spearfish Canyon State and National Forest Service Scenic Byway follows a 20-mile route through Spearfish Canyon. The byway travels along spruce, pine, aspen, birch, and oak covered hillsides and by the scenic Bridal Veil and Roughlock Falls. The Badlands Loop state scenic byway is a 30-mile loop through the formations of the Badlands National Park. This is a popular byway for photo opportunities. The Wildlife Loop state scenic byway travels through open grasslands and rolling hills in Custer State Park. This area is home to bison, elk, deer, pronghorn, big horn sheep, and wild burros.

Forest Composition and Resources

According to USDA Forest Service estimates, South Dakota contains approximately 1.7 million acres of forested lands, which accounts for slightly more than 3% of the total area of the state. Private ownership accounts for approximately 30% of that land and federal/state ownership accounting for the remaining 70%. The forests across the state are diverse with black walnut groves in the southeast, cottonwood bottom lands along the James and Big Sioux Rivers in the eastern portion of the state, upland hardwood forests of ash, elm, and oak along the Missouri River, and juniper along the Cheyenne River in the west-central portion of the state. Probably the most recognized forests are the ponderosa pine forests in the Black Hills area in the southwestern portion of the state.

Approximately 1.6 million acres of the state's forestland and 94% of the state's 1.5 million acres of timberland lie west of the Missouri River. Much of this timberland is located in the Black Hills area with 974,178 acres in the Black Hills National Forest, and approximately 177,331 acres in private ownership. The majority of the western timberland is made up of ponderosa pine. The Black Hills area is also home to some of the largest tourism destination spots in the state such as Mount Rushmore National Memorial, Black Hills National Forest, and Custer State Park.

SECTION 2: FOREST LEGACY AREA ASSESSMENT METHODOLOGY

To assess the need for protection of privately owned forest, and provide criteria by which priority forests would be chosen, the following activities were performed:

Step 1: Spatial Analysis

The SFSCC and the SDDRCF used many of the GIS maps constructed for the South Dakota Forest Stewardship Plan, 2007 Revision document to assist them in the assessment process. One of the maps used was the Privately Owned Forested Lands map which was constructed by extracting forested values from the NLCD2001 landcover raster dataset and masking out all of the publicly owned forestlands. The resulting map shows only privately owned forested lands within South Dakota. This map, combined with information from several other data sets, helped guide the selection of the Forest Legacy Areas.

Step 2: Public Participation

Western Environment and the Legacy Program Manager developed a two page questionnaire directed toward natural resource agencies, organizations, and individuals interested in natural resources, requesting their input on the Forest Legacy Program. The questionnaire was designed to provide the demographics of the responder including

age, income, setting, county of residence, zip code, setting of residence, education level, land ownership, and interest in the Forest Legacy Program. Additionally, the respondent was asked to choose their five most important criteria for protection of critical private forests from a list of 23 criteria. Space was available to enter criteria not provided on the list. The questionnaires were mailed with a cover letter and return addressed envelope.

Questionnaires were sent to South Dakota Division of Resource Conservation and Forestry personnel, conservation/preservation association members, state elected officials, tribal offices, South Dakota Conservation District personnel, landowners, and other interested stakeholders identified by the program manager. A total number of 885 mailings were sent resulting in 140 returned questionnaires.

An interactive questionnaire was posted on the www.southdakotaforestlegacy.org internet site for interested parties to fill out the questionnaire online. Thirty organizations including conservation/preservation groups, landowner groups, state agencies, and other interested stakeholders were contacted online asking their membership to visit the internet site and fill out the questionnaire. Fifty-one responses were received on www.southdakotaforestlegacy.org. A copy of the questionnaire is presented in Appendix C.

www.southdakotaforestlegacy.org

Western Environment developed and populated www.southdakotaforestlegacy.org as an online resource. The site contains a home page describing the program, a program status page, and a survey page where individuals can provide their opinions regarding the protection of privately owned forestlands. Also included is a links page to other Forest Legacy programs and information, and a page to contact Western Environment or the Legacy Program Manager via e-mail. A copy of the internet site is presented in Appendix B.

Step 3: Statistical Analysis

Following receipt of the questionnaires, the data were entered into a database and queried into separate categories by response group. The groups are as follows; setting, age, income, education, interest, indication of owning >10 acres of forest land, internet site, direct mail, and all responses. Each response group was evaluated as to the percentage of respondents choosing each protection criteria. Those percentages were then tabulated to provide an average percentage of criteria selected for each criterion and a 95% confidence interval was generated for each average. The results of each criterion by group and an average for each criterion with a 95% confidence interval are presented in Appendix D. Graphs of criteria response by group are presented in Appendix E. A map showing survey responses by county is presented in Appendix F.

Step 4: Forest Stewardship Committee Evaluation

The Forest Stewardship Coordinating Committee met with the South Dakota Division of Resource Conservation and Forestry and Western Environment to evaluate 11 GIS maps (Appendix A) and the data from the survey conducted by Western Environment.

The GIS maps evaluated were Private Forest Lands, Riparian Corridors, Forest Patch Size, Forest Health Issues, Priority Watersheds, Housing Density Changes, Public Drinking Water Supply Sources, Forested Watersheds, Proximity to Public Lands, T & E Species, and Slope. The SFSCC developed a list of Protection Goals based on the information in these maps and the results from the survey. Seven Forest Legacy Areas (FLA) were identified and specific goals were assigned to each FLA.

Conclusion

All responses to the questionnaire were entered into a database and queried for both demographic information and criteria selection. The results for each criterion chosen are as follows:

| Criteria | % Chosen | Criteria | % Chosen |
|-------------------------------------|----------|-----------------------------------|----------|
| Water Quality/Quantity | 53.6% | Flora/Fauna Species Diversity | 17.3% |
| Wildlife Habitat | 49.5% | Large Continuous Forests | 17.1% |
| Wetland/Riparian Areas | 31.6% | Threatened and Endangered Species | 16.3% |
| Private Property Rights | 30.3% | Unique Ecological Areas | 16.0% |
| Growth/Sprawl Control | 29.4% | Wildlife Viewing | 9.5% |
| Wildfire Control Issues | 28.9% | Bird Hunting | 8.8% |
| Lakes, Rivers, & Streams | 28.6% | Historical/Archaeological Sites | 7.5% |
| Recreation Opportunities | 26.9% | Fishing | 7.3% |
| Lifestyle Protection for Land Owner | 23.8% | Non-Timber Forest Products | 5.7% |
| Forest Timber Resources | 22.6% | Mineral/Gas/Oil Resources | 5.7% |
| Scenic Landscape Viewing | 19.2% | Private Hunting Reserves | 3.0% |

| | | | |
|------------------|-------|--|--|
| Big Game Hunting | 17.3% | | |
|------------------|-------|--|--|

Based upon the results of the questionnaire, the top five criteria for protection of privately owned forests are water quantity/quality protection, wildlife habitat protection, wetland/riparian area protection, private property rights, and growth/sprawl control. The bottom five criteria chosen were historical/archaeological sites, fishing, non-timber forest products, mineral/gas/oil resources, and private hunting reserves. A breakdown of the demographic information for the respondents is included in Appendix G. A summary of comments made by survey respondents is included in Appendix H.

On August 7, 2008, the State Forest Stewardship Coordinating Committee (SFSCC), using the survey results, chose the following goals for the Forest Legacy Program:

- 1. Protection of water quality and quantity.**
- 2. Protection of significant wildlife habitat.**
- 3. Protection of lakes, rivers, streams, and other significant riparian areas.**
- 4. Protection of private property owner rights and landowner lifestyles.**
- 5. Protection of forested parcels in danger of conversion to commercial and/or residential development or being cleared for agriculture.**
- 6. Protection and expansion of hunting and other recreation opportunities.**
- 7. Protection of scenic landscapes.**

Additionally, the South Dakota SFSCC identified seven Forest Legacy Areas for inclusion in the Forest Legacy Program: the Harding FLA, the Black Hills FLA, The Pine Ridge Rosebud FLA, the Lake Plain FLA, the Lower Missouri FLA, the Red River FLA, and the Big Sioux FLA.

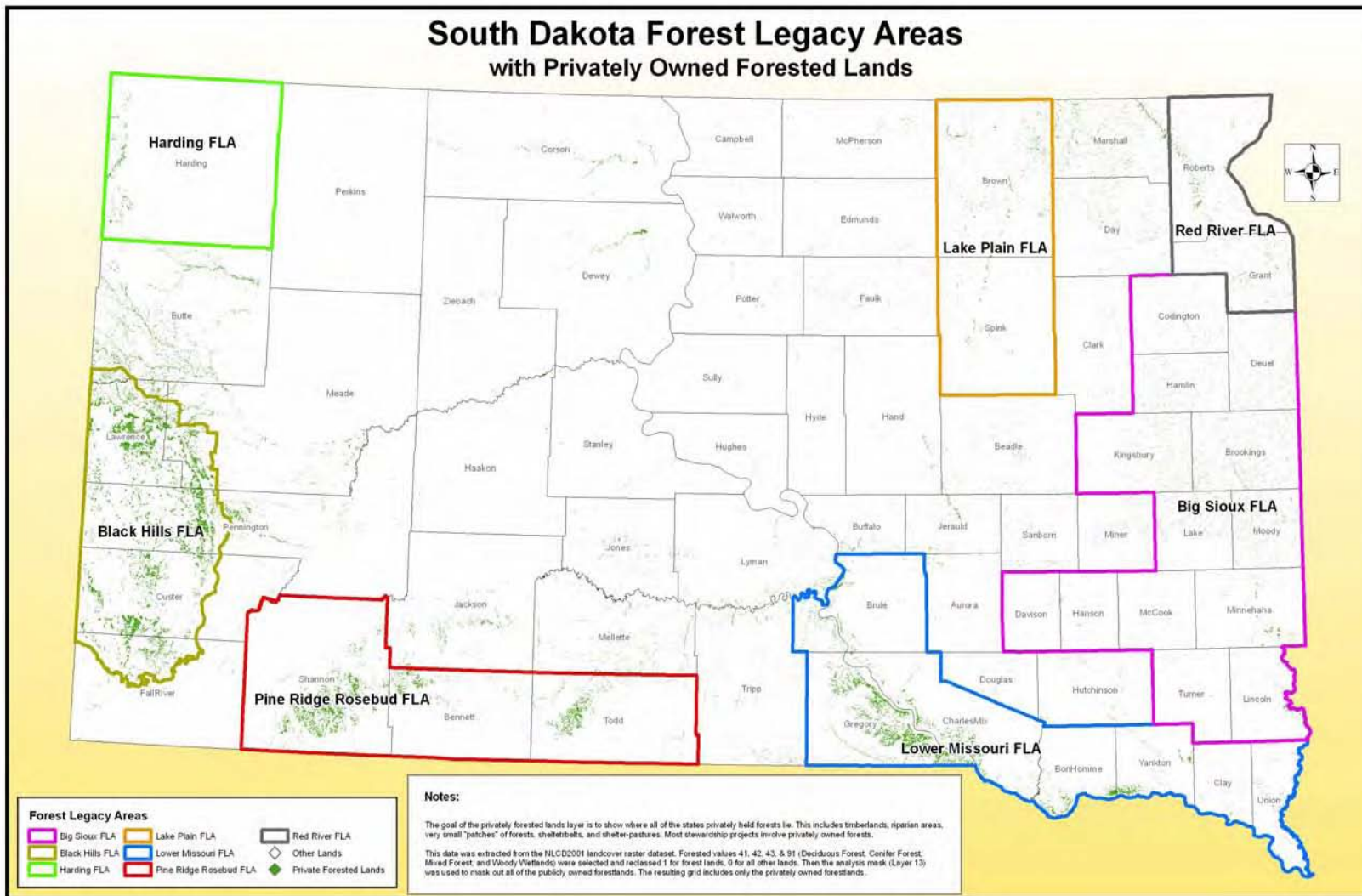


Figure 3: South Dakota Forest Legacy Areas with Privately Owned Forested Lands

SECTION 3: FLA DESCRIPTIONS

Harding Forest Legacy Area

Area Coverage Description: This Forest Legacy Area includes all privately owned, forested parcels in Harding County.



Forest Legacy Protection Goals for the Harding Area:

- 1. Protection of unique ecological areas.**
- 2. Protection of water quality/quantity resources.**
- 3. Protection of significant wildlife habitat.**

This Forest Legacy Area is located in Harding County in the northwestern most portion of South Dakota. With a reported population of 1,353 people, this is a sparsely populated county. Harding County is known for its unique and ecologically diverse landscapes and wildlife. This FLA is described as islands of green in a sea of rolling prairie, which refers to sporadic ponderosa pine hills, which rise above the grasslands. This area is known for its hunting opportunities and the primary uses of the area are for ranching. Historically this area was also home to several uranium mines.

Contained within the Harding FLA are areas of the Custer National Forest and BLM Land. Notable landmarks within the FLA are the Castles, which are a massive limestone uplift that resembles a medieval castle, and the Cave Hills, which hold important religious significance to Native American people.

Black Hills Forest Legacy Area

Area Coverage Description: This Forest Legacy Area includes all privately owned, forested parcels in portions of Butte, Meade, Lawrence, Pennington, Custer, and Fall River Counties. The boundary of the Black Hills FLA is described in Appendix F.



Forest Legacy Protection Goals for the Black Hills Area:

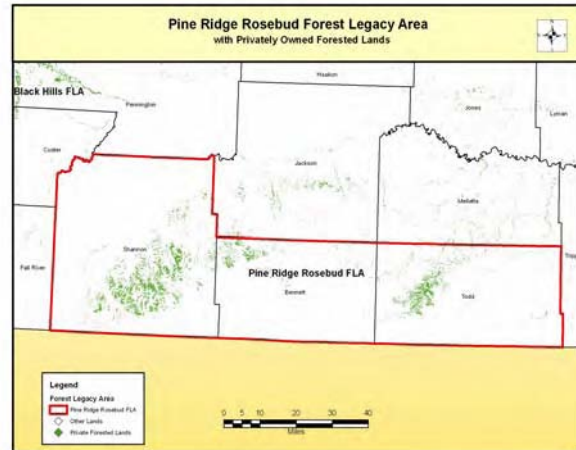
- 1. Protection of forest timber resources.**
- 2. Protection of scenic landscapes.**
- 3. Protection of significant wildlife habitat.**
- 4. Protection of forested parcels in danger of conversion to commercial and/or residential development or being cleared for agriculture.**
- 5. Management for wildfire control.**
- 6. Protection of private property owner rights.**
- 7. Protection of water quality/quantity resources.**

This Forest Legacy Area encompasses the Black Hills area in the southwestern portion of South Dakota. With a combined population of 158,442, these counties represent approximately 21% of the total population of South Dakota. Development pressures, especially along the northern, eastern, and southern boundaries of the FLA, present fragmentation threats to the privately owned forests in this FLA. This area also presents significant threats to the forests from bark beetle infestation and wildfire occurrences. This FLA also contains the majority of sawtimber-sized forests and commercial use forests for the State of South Dakota.

Contained within the Black Hills FLA are numerous additional federal and state managed lands including the Black Hills National Forest, Mount Rushmore National Memorial, Jewel Cave National Monument, Bear Butte State Park, Roughlock Falls Nature Area, Custer State Park, and the George S. Mickelson Trail. This FLA also generates the majority of the tourism-based economies for the state.

Pine Ridge/Rosebud Forest Legacy Area

Area Coverage Description: This Forest Legacy Area includes all privately owned and non-tribal forested trust land parcels in Shannon, Bennett, and Todd Counties.



Forest Legacy Protection Goals for the Pine Ridge/Rosebud Area:

- 1. Protection of flora/fauna species diversity.**
- 2. Protection of areas of cultural significance.**
- 3. Protection of scenic landscapes.**
- 4. Protection of the landowners' lifestyle.**
- 5. Protection of unique ecological areas.**

This Forest Legacy Area includes the counties of Shannon, Bennett, and Todd in the southwestern portion of South Dakota with a combined population of 25,090. This area is unique as it contains two of the nine Indian Reservations, the Rosebud and a portion of the Pine Ridge. Shannon County, in the western portion of the FLA, contains the highest population of Native Americans for any county in the United States. Economic opportunities in this FLA are limited with all three counties falling in the lowest 25 counties for per capita income in the United States.

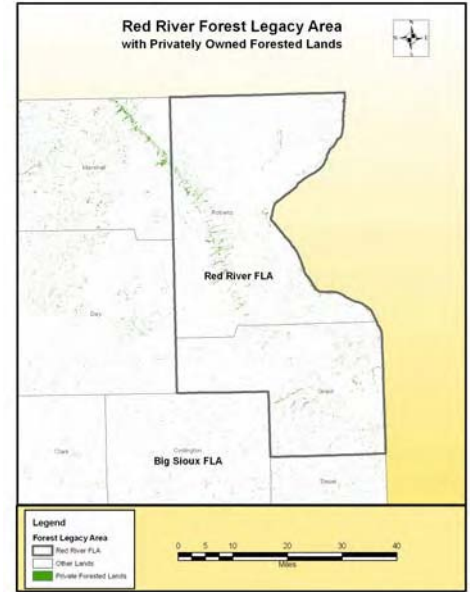
Contained within this FLA are several lands managed by the federal government including Badlands National Park and Lacreek National Wildlife Refuge. As noted previously, the entire Rosebud Indian Reservation and a portion of the Pine Ridge Indian Reservation are included within the Pine Ridge/Rosebud FLA. The primary uses of this area are for tourism and agriculture.

Red River Forest Legacy Area

Area Coverage Description: This Forest Legacy Area includes the privately owned and non-tribal trust forested land parcels in Roberts and Grant Counties.

Forest Legacy Protection Goals for the Red River Area:

- 1. Protection of flora/fauna species diversity.**
- 2. Protection of significant riparian areas.**
- 3. Protection of significant wildlife habitat.**
- 4. Protection of unique ecological areas.**
- 5. Protection and expansion of recreation opportunities.**
- 6. Protection of water resources.**



This Forest Legacy Area contains the counties of Roberts and Grant in the northeastern corner of South Dakota with a combined population of 17,863. This area contains many of the glacial lakes, which are popular spots for walleye and perch fishing. Agricultural production is high in the FLA due to higher precipitation and fertile soils. Crops such as corn, oats, wheat, and soybeans are prevalent which support whitetail deer and pheasant populations.

Included in the Red River FLA is a portion of the Lake Traverse Indian Reservation. The only federally managed land within the FLA is Lake Traverse, which is managed by the Army Corps of Engineers. State managed lands include a portion of Sica Hollow State Park, Hartford Beach State Park, and Big Stone Island Natural Area. The primary uses of this FLA are agricultural, tourism, hunting, and fishing.

Lake Plain Forest Legacy Area

Area Coverage Description: This Forest Legacy Area includes the privately owned, forested parcels in Brown and Spink Counties.

Forest Legacy Protection Goals for the Lake Plain Area:

- 1. Protection of flora/fauna species diversity.**
- 2. Protection of significant riparian areas.**
- 3. Protection of lifestyle for the landowner.**
- 4. Protection of unique ecological areas.**
- 5. Protection and expansion of recreation opportunities.**
- 6. Protection of water resources.**



This Forest Legacy Area consists of Brown and Spink Counties in northeastern South Dakota with a combined population of 42,914. With an estimated population of 35,000, Aberdeen in Brown County is the third largest city in South Dakota and has become a center for manufacturing, finance, and healthcare. This area contains many glacial lakes, which are popular spots for walleye and perch fishing. Agricultural production is significant in the FLA due to higher precipitation and fertile soils. Crops such as corn, oats, wheat, and soybeans are prevalent which also support whitetail deer, waterfowl, and pheasant populations.

The only federally managed lands within the Lake Plain FLA is the Sand Lake National Wildlife Refuge located in northeastern Brown County. The Sand Lake NWR is a 21,500 acre area, which is home to over 266 species of birds. State managed lands within the FLA include Richmond Lake Recreation Area, and Fisher Grove State Park. The primary uses of this FLA are agricultural, tourism, hunting, and fishing opportunities.

Big Sioux Forest Legacy Area

Area Coverage Description: This Forest Legacy Area includes the privately owned and non-trust tribal forested land parcels in Codington, Hamlin, Deuel, Kingsbury, Brookings, Lake, Moody, Davison, Hanson, McCook, Minnehaha, Turner, and Lincoln Counties.

Forest Legacy Protection Goals for the Big Sioux Area:

- 1. Protection of threatened and endangered species habitat.**
- 2. Protection of lakes, rivers, and streams.**
- 3. Protection of significant wildlife habitat.**
- 4. Protection of significant riparian areas.**
- 5. Protection and expansion of recreation opportunities.**
- 6. Protection of water resources.**
- 7. Protection of forested parcels in danger of conversion to commercial and/or residential development or being cleared for agriculture.**



This Forest Legacy Area consists of the counties of Codington, Hamlin, Deuel, Kingsbury, Brookings, Lake, Moody, Davison, Hanson, McCook, Minnehaha, Turner, and Lincoln, along the eastern portion of South Dakota. This is the largest and most populous of the FLAs with a combined population of 296,814, or approximately 39% of the population of South Dakota. This FLA follows the majority of the Big Sioux Valley and contains many of the most fertile agricultural lands in the state along with the City of Sioux Falls, the largest city in South Dakota. Historically, the Sioux Falls economy has centered on quarries and agriculture. Currently Sioux Falls is a popular location for banking, health care facilities, and manufacturing. This FLA also contains countless glacial lakes.

The Big Sioux FLA contains a portion of the Lake Traverse Indian Reservation, and the Flandreau Indian Reservation in Moody County. State managed lands in this FLA include Sandy Shore, Pelican Lake, Lake Poinsett, Oakwood Lakes, Lake Cochrane, Lake Thompson, Lake Herman, Walkers Point, Lake Vermillion, Big Sioux, Palisades, Beaver Creek, Newton Hills, Lake Alvin, Spirit Mound, and Union Grove recreational areas. The primary uses of this FLA are agricultural, tourism, hunting, and fishing.

Lower Missouri Forest Legacy Area

Area Coverage Description: This Forest Legacy Area includes the privately owned and non-trust tribal forested land parcels in Brule, Gregory, Charles Mix, Bon Homme, Yankton, Clay, and Union Counties.



Forest Legacy Protection Goals for the Lower Missouri Area:

- 1. Protection of threatened and endangered species habitat.**
- 2. Protection of forest timber resources.**
- 3. Protection of significant wildlife habitat.**
- 4. Protection of forest health issues.**
- 5. Protection of areas of cultural significance.**
- 6. Protection of water resources.**
- 7. Protection of large continuous forest parcels.**
- 8. Protection of forested parcels in danger of conversion to commercial and/or residential development or being cleared for agriculture.**

This Forest Legacy Area consists of the counties of Brule, Gregory, Charles Mix, Bon Homme, Yankton, Clay, and Union in the southeastern portion of South Dakota with a combined population of 74,539. The Lower Missouri FLA follows the Missouri River from its confluence with the White River, to the southeastern corner of South Dakota. The primary feature of this FLA is the Missouri River, which flows through and along the southern boundary. Two of the four reservoirs on the Missouri, Lake Francis Case and Lewis and Clark Lake, are located within the Lower Missouri FLA. This area is known for agricultural production, tourism, and hunting and fishing.

The Yankton Indian Reservation, located in the eastern portion of Charles Mix County, is located within the Lower Missouri FLA. Federally managed lands within the FLA include the Missouri National Recreation River area and the Karl E. Mundt National Wildlife Refuge. State managed lands include North Wheeler, Pease Creek, North Point, Randall Creek, Springfield, Lewis and Clark, Chief White Crane, Pierson Ranch, Adams Homestead, Spirit Mound, Union Grove, Burke Lake, Platte Creek, Buryanek, and Snake Creek recreation areas.

SECTION 4: FOREST LEGACY PROGRAM SELECTION CRITERIA

Following a meeting of the State Forest Stewardship Coordinating Committee (SFSCC), on August 7, 2008, 23 criteria were identified with which prospective Forest Legacy Projects (FLP) will be ranked. Project proposals will be reviewed by a subcommittee of the SFSCC. Each proposal will receive a qualitative ranking based on the extent to which they address the criteria. Eight of the first nine criteria, marked with an “*”, are required and must be clearly addressed in the project proposal. The remaining criteria will be evaluated as adding value to the proposal.

1. ***FLA Area Inclusion:** The proposed property boundary must lie, at least in part, within a defined Forest Legacy Area.
2. ***Easement Condition:** Easement terms must be clearly consistent with FLP guidelines.
3. ***Plan Quality:** The land management plan should encourage active forest stewardship in compliance with Forest Stewardship Program plan guidelines.
4. ***Money Leverage:** At least 25% of the project costs must be secured from non-federal cash or in-kind sources.
5. **Readiness:** Proposal must clearly describe the status of project development and the time line for transaction completion.
6. ***Value of Project:** Proposal must clearly describe the cost-benefit relationships of the project.
7. ***Size:** A parcel must be at least 5 acres to qualify for ranking. Larger parcels will generally be given a higher value than smaller parcels. Smaller parcels may be qualified for a higher value during ranking depending upon other considerations at the discretion of the selection committee.
8. ***Area Goals:** Project must support individual Forest Legacy Area goals. These goals were developed based on the results of the public participation survey.
9. ***Mineral Rights:** The Mineral Estate must be controlled by the FLP Applicant or the extraction, by surface methods, of mineral resources was so unlikely as to be deemed remote in the United States Internal Revenue Service Regulations 26 CFR 1.170A-14 (g)(4)(ii)(3). The aforementioned section includes in the definition of remote “Relevant factors to be considered in determining if the probability of

extraction or removal of minerals by surface mining is so remote as to be negligible include: Geological, geophysical or economic data showing the absence of mineral reserves on the property, or the lack of commercial feasibility at the time of the contribution, of surface mining the mineral interest”.

10. **Forest Cover Condition:** Proposed property must meet the 75% forest cover program requirement. Current condition of the forested area and its use will be graded on a numbering system.
11. **Continuity With Other Protected Lands:** Proposed lands which are contiguous or adjacent to other public and protected lands will be given a higher point value than those that do not border public or protected lands.
12. **Wildlife Habitat:** Proposed lands which demonstrate important habitat to wildlife, or demonstrate a high diversity of wildlife species on the land will be given a higher ranking to those lands which do not contain significant wildlife habitat.
13. **Urgency:** Submitted projects will be given consideration dependent on the urgency of the project need, i.e. projects with an immediate danger of development or projects submitted by a landowner in advanced years or questionable health will be given a higher ranking than projects with a lesser threat of conversion.
14. **Partnerships With Plan:** Public or private partnerships with other conservation organizations will give proposed projects higher ranking than those that are relying on the FLP solely.
15. **Community Support:** Projects which can demonstrate support and/or acceptance from surrounding landowners or communities will be given a higher ranking than projects which have little or no acceptance from local community groups.
16. **Scenic Resources:** As scenic resources are an important part of the South Dakota forests, and to recreation enjoyment, proposed properties which have a positive aesthetic appearance, or those properties which would preserve an overall positive aesthetic appearance to the surrounding areas will be given higher consideration than areas that do not, or would not promote a positive aesthetic appearance.
17. **Ecological/Environmental Significance and Resources:** The projects which can display the occurrence of significant ecological or environmental resources, including threatened and endangered species, will be given a higher ranking than projects which do not have significant quantities or qualities of ecological or environmental resources.

18. **Wildfire Hazard Reduction:** As Wildland Fire/Urban Interface concerns are an increasingly important issue in South Dakota, projects located within the identified Red Zones, or projects that demonstrate a support for reduction of wildfire occurrences will receive greater consideration.
19. **Forest Health:** Projects which provide access for wildfire mitigation and insect control will be given a higher consideration and ranking than projects which do not.
20. **Aquatic Resources:** Submitted project plans which show a demonstrated effort to protect or enhance aquatic resources, such as lakes, rivers and streams, will be given a higher ranking and consideration than projects which do not.
21. **Controlled Public Access:** At the discretion of the SFSCC, project areas which allow public access for use of the subject property, or use of adjacent public lands will be ranked higher than plans which do not allow for access.
22. **Water Quality/Quantity Protection:** Submitted project plans which protect or enhance water quality resources in lakes, rivers, and streams will be given a higher ranking and consideration than projects which do not.
23. **Cultural Significance:** Project areas which contain significant cultural resources, such as historic homestead sites, archeological resources, or other historic sites, will be given a higher consideration than projects which do not.
24. **Multi State Proposals:** Proposals which incorporate Forest Legacy Areas in adjacent states will be given higher consideration.

SECTION 5: FOREST LAND CONSERVATION AND LAND TRUSTS

Existing Land Trust Programs

National, regional, and local land conservation organizations play a vital role in the protection of private and non-trust tribal lands in South Dakota. These organizations will be important partners in the success of the South Dakota Forest Legacy Program. South Dakota currently has a wide and extensive network of land trust and conservation partnerships.

National, Statewide, and Regional Land Trusts Operating in South Dakota.

American Farmland Trust

The Conservation Fund

The Nature Conservancy

Northern Prairies Land Trust

Land Trust Alliance

Rocky Mountain Elk Foundation

Spirit Mound Trust

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