South Dakota Forest Action Plan

Section IV:

Forest Resource Strategy

INTRODUCTION

South Dakota's forest resource strategy provides a long-term, comprehensive, coordinated strategy for investing state, federal, and partner resources. The purpose of this strategy is to provide a comprehensive management plan for priority areas identified in the assessment. The resource strategy details Goals, Objectives, Strategies, Resource Needs, Threats Addressed, and the National Themes. The threats and strategies described here were assembled with input from the South Dakota Forest Stewardship Coordinating Committee and the Community Forestry Advisory Council.

The South Dakota Statewide Assessment of Forest Resources (SAFR) is a compilation of existing forest management documentation, U.S. Department of Agriculture (USDA) Forest Inventory and Analysis (FIA) data, and a state priority area analysis conducted by the South Dakota Department of Agriculture (SDDA). Section I of the SDFAP provides a summary of the extent and condition, values, threats, ownership, needs, problems, and opportunities for each major forest type

in the state. The major forest types include coniferous, upland hardwood, bottomland, agroforestry, and community forests.

These assessment and strategy documents are intended to not only satisfy the requirements of the 2008 Farm Bill, which requires that each state prepare a statewide forest resource assessment and strategy to qualify for funding through USDA Forest Service state and private forestry grants, but also to guide the direction for management of forest resources in South Dakota. The grants provided by USDA Forest Service state and private forestry are administered by the SDDA Resource Conservation and Forestry Division (RC&F) and Wildland Fire Division (WF).

PRIORITY LANDSCAPES

The South Dakota Statewide Forest Resource Strategy (Resource Strategy) is intended to address the threats faced by South Dakota's forest and move priority landscapes toward preferred conditions. Section II of the SDFAP identified several threats and priority areas related to forest management in South Dakota. Analysis for determining priority areas in the state was developed from 11 geospatial data layers; these layers and analysis weighting are fully described in Section II of the SDFAP. For ease of reference, the priority area map is presented again in this document (Figure 1).

The priority map shows areas that have a high or moderate need for risk management and mitigation.   The high priority areas (red) and medium priority areas (green) emphasize areas that are either in need of immediate protection or areas that are simply important resources that need protection. Approximately 78% of forested land is classified as high priority, and approximately 13% of forested land is classified as medium priority (Figure 1). Compared to the total land area in the state, only 4% of the total area is of high priority. High and moderate priority areas are primarily located within the Black Hills and along the Missouri River, Big Sioux River, and James River valleys. Project areas within the larger priority areas will be identified through a strategic, focused approach to accomplish work on the watershed scale.

The priority map and Section I of the SDFAP are intended to serve as tools to direct forest management. The statewide map is not applicable for use at smaller scales or to identify specific management areas. Section I does not give site-specific directives or details of local threats; instead, specific detailed planning is left to local landowners and managers. Additionally, strategies in the Resource Strategy are meant to provide guidance for timelines and accomplishment milestones.
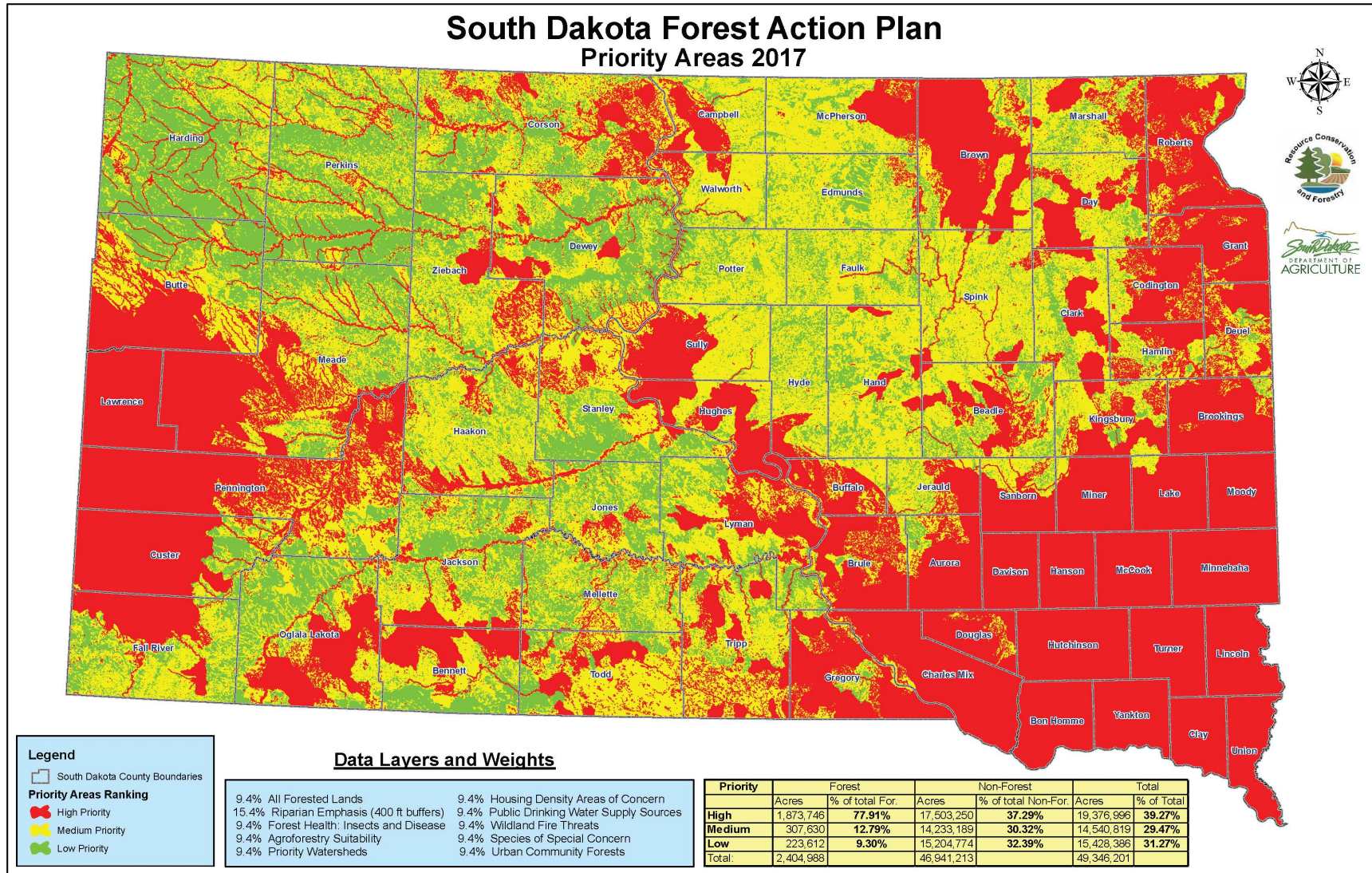
South Dakota Forest Action Plan
Priority Areas 2017

Legend

South Dakota County Boundaries

Priority Areas Ranking

High Priority

Medium Priority

Low Priority

Data Layers and Weights

9.4% All Forested Lands	9.4% Housing Density Areas of Concern
15.4% Riparian Emphasis (400 ft buffers)	9.4% Public Drinking Water Supply Sources
9.4% Forest Health: Insects and Disease	9.4% Wildland Fire Threats
9.4% Agroforestry Suitability	9.4% Species of Special Concern
9.4% Priority Watersheds	9.4% Urban Community Forests

Priority	Forest		Non-Forest		Total	
	Acres	% of total For.	Acres	% of total Non-For.	Acres	% of Total
High	1,873,746	77.91%	17,503,250	37.29%	19,376,996	39.27%
Medium	307,630	12.79%	14,233,189	30.32%	14,540,819	29.47%
Low	223,612	9.30%	15,204,774	32.39%	15,428,386	31.27%
Total:	2,404,988		46,941,213		49,346,201	

Figure 1: Map of the priority areas for the South Dakota Forest Action Plan

STRATEGY KEY:

Each of the following ten goals is accompanied by a table that lays out the objectives and strategies to accomplish those goals. The resources needed to achieve each strategy, the threat addressed by each strategy, and the corresponding national themes are also included in each goal table.

Each strategy is color coded according to which program area is responsible for overseeing and accomplishing that strategy (Figure 2).

Strategy color	Corresponding Program Responsibility
	Forest Stewardship
	Forest Health
	Urban & Community Forestry
	Wildland Fire
	Forest Inventory & Analysis
	Agroforestry
	Cooperative Forestry Assistance
	Resource Conservation

Figure 2: Program color key for strategies within each goals table.

GOAL I: IDENTIFY AND CONSERVE HIGH PRIORITY FOREST ECOSYSTEMS AND LANDSCAPES.

Goal one of the SDFAP is to Identify and conserve high priority forest ecosystems and landscapes. Using the strategies identified as part of this goal, RCF will work to achieve twelve objectives in the following table (Table 1.1). The strategies will also address the threats of fragmentation, inadequate forest inventory, and poor water quality.

South Dakota's population continues to increase which in turn increases the demand for water and land. Identifying the high priority forest ecosystems will enable RCF's ability to conserve these ecosystems to the benefit of the citizens of South Dakota.

Through funding, technical assistance capability, information gathering, inventories, communication and networking RCF will focus on the national themes of Conserve Working Forest Landscapes (CWF), Protect Forests from Harm (PFH), and Enhance Public Benefits from Trees and Forests (EPB).

Table 1.1. *Goal 1 of the SD Forest Resource Strategy*

Goal 1	Identify and conserve high priority forest ecosystems and landscapes.			
Objectives	**Strategies**	**Resource Needs**	**Threat Addressed**	**National Theme**
Objective 1.1 Support property tax laws that do not lead to forest fragmentation.	*Strategy 1.1.1 State law continues to recognize forest land as agricultural for property tax purposes.*	Technical assistance, capability to write and implement management plans	Fragmentation	CWF
Objective 1.2 Encourage counties to recognize productive forest lands as agricultural properties.	*Strategy 1.2.1 Periodically educate county tax assessors and commissioners about the importance, cost, and value of managed forests.*	A property tax classification system that will not encourage fragmentation or conversion of forest lands to other uses	Fragmentation	CWF
Objective 1.3 Assist landowners that are actively managing their forest lands to qualify for agricultural land classification.		Have current information regarding cost and value of managed forests.		CWF
Objective 1.4 Collaborate with other federal, state, and local agencies to coordinate programs and incentives that discourage fragmentation of forest lands.	*Strategy 1.4.1 Annually meet with Forest Stewardship Coordinating Committee to explore potential projects and programs to discourage forest land fragmentation.*	Established partnerships	Fragmentation	CWF
Objective 1.5 Support federal tax laws that are favorable to non-industrial private forest landowners.	*Strategy 1.5.1 Comment on position papers and federal register documents related to federal tax laws for non-industrial private forest landowners.*	Access to congressional delegation, information networking	Fragmentation	CWF

Goal 1	Identify and conserve high priority forest ecosystems and landscapes.			
Objectives	**Strategies**	**Resource Needs**	**Threat Addressed**	**National Theme**
Objective 1.5 Continued	*Strategy 1.5.2 Engage in National Association of State Foresters and Council of Western State Foresters.*	Pay annual dues	Fragmentation	CWF
Objective 1.6 Promote Forest Legacy and similar conservation programs to conserve high priority forest ecosystems and landscapes.	*Strategy 1.6.1 Annually review and maintain public outreach efforts including website and literature to educate the public on conservation programs available to conserve forest ecosystems and landscapes.*	Public relations efforts, including public service announcements, Web-based information, social networking	Fragmentation	CWF
Objective 1.7 Identify where riparian forests occur, where they occurred in the past, and where they are most likely to be successfully reestablished	*Strategy 1.7.1 Create and maintain geospatial forest datasets using specialized software by 2023.*	Inventory of bottomland ecosystems	Inadequate forest inventory, poor water quality	CWF, EPB
Objective 1.8 Support FIA program for monitoring changes to South Dakota forests and trees outside of forests.	*Strategy 1.8.1 Maintain an annual agreement with the Northern Research Station to collect FIA data.*	Funding for existing program	Inadequate forest inventory	CWF, EPB
	Strategy 1.8.2 Comment on position papers and federal register documents related to FIA.	Access federal register publications		

Goal 1	Identify and conserve high priority forest ecosystems and landscapes.			
Objectives	**Strategies**	**Resource Needs**	**Threat Addressed**	**National Theme**
Objective 1.9 Continue inventory sampling of the prairie portion of South Dakota to gather more information about upland, bottomland, windbreak, community forests, and other treed land outside of forests utilizing FIA guidance.	*Strategy 1.9.1 Collect supplemental inventory data every five years.*	Funding for inventories	Inadequate forest inventory	CWF
Objective 1.10 Continue the street tree inventories of communities using a geospatially based data retrieval system.	*Strategy 1.10.1 Conduct 80 community street tree inventories by 2028.*	Funding for inventories	Inadequate forest inventory	CWF, PFH
Objective 1.11 Encourage communities to maintain their own street tree inventories.	*Strategy 1.11.1 Ten communities will update and maintain their own street tree inventories by 2028.*	Technical assistance capability	Inadequate forest inventory	CWF
Objective 1.12 Adopt new technologies to inventory forest land and trees outside of forests that prove to be more efficient and more accurate.	*Strategy 1.12.1 Review current methods and emerging technologies at least every 5 years and implement when appropriate.*	Training to use new technologies and funding to purchase technologies	Inadequate forest inventory	CWF

GOAL II: ACTIVELY AND SUSTAINABLY MANAGE FORESTS

Goal two is to actively and sustainably manage forests. Using the strategies identified as part of this goal, RCF will work to achieve ten objectives listed in the following table (Table 1.2). Delivering program services and technical assistance in coordination with partner agencies' and organizations' efforts will increase the impact of achieving our goal.

The active threats to South Dakota's forest resource will continue to shift over time. The negative impacts of those threats will be magnified if the forest resource is not actively managed. Achieving our goal will create a resilient forest landscape that will be able to withstand a myriad of disturbances.

Collaborative efforts and a well-trained staff will be crucial to provide the technical and educational assistance required to reach our goal.   RCF will work to achieve the following to address all three national themes: conserve working forest landscapes, protect forests from harm, and enhance public benefits from trees and forests.

Figure 3: A processor cuts hole trees into log length in the Black Hills. (SDDA, 2016)

Table 1.2. *Goal 2 of the SD Forest Resource Strategy*

Goal 2	Actively and sustainably manage forests			
Objectives	**Strategies**	**Resource Needs**	**Threat Addressed**	**National Theme**
Objective 2.1 Utilize USFS State and Private Forestry Programs to provide forest management technical assistance to private forest landowners.	*Strategy 2.1.1 Complete 300 assists to private landowners each year.*	Technical assistance capability	Lack of management	CWF
	Strategy 2.1.2 Annually apply for and implement Forest Stewardship, Urban Community Forestry, Forest Health Monitoring, and Landscape Scale Restoration Program grants.	Partnerships, incentive programs, technical assistance capability		
	Strategy 2.1.3 Write and/or approve 15 new forest stewardship plans each year.	Technical assistance capability		
Objective 2.2 Provide educational opportunities for private forest landowners about the importance of forests, forest management, planning, programs, availability of assistance, and how to implement plan recommendations to accomplish landowner objectives.	*Strategy 2.2.1 Deliver 3 landowner education workshops per year.*	Public relations efforts, including public service announcements, Web-based information, social networking	Disengaged public	CWF
Objective 2.3 Provide financial incentives to help private forest landowners implement healthy forest restoration practices	*Strategy 2.3.1 Provide private forest landowners one or more incentive programs for forest restoration by 2028.*	Technical assistance capability	Lack of management	CWF, PFH, EPB

Goal 2	Actively and sustainably manage forests			
Objectives	**Strategies**	**Resource Needs**	**Threat Addressed**	**National Theme**
Objective 2.3 continued	*Strategy 2.3.2 Deliver forestry incentive program technical assistance using annual agreements*	Federal or state funded incentive programs	Lack of management, lack of forest resiliency, climate change, disengaged public	CWF, PFH, EPB
Objective 2.4 Collaborate with stakeholders to deliver programs and incentives that encourage and implement landscape scale restoration projects.	*Strategy 2.4.1 Meet annually with Forest Stewardship Coordinating Committee to explore potential projects and programs.*	Technical assistance capability, information networking, private contractors, partnerships	Lack of management	CWF
	Strategy 2.4.2 Work with other collaborative groups such as Conservation Leaders Group and Black Hills Resilient Forest Working Group to explore and develop projects.		Lack of management, lack of forest resiliency, climate change, disengaged public	CWF, EPB
Objective 2.5 Utilize active management to achieve structurally diverse and resilient forests	*Strategy 2.5.1 Deliver forestry incentive program technical assistance*	Technical assistance capability, partnerships, annual agreements, federal or state funded incentives	Lack of management, disengaged public, lack of forest resiliency	CWF
	Strategy 2.5.2 Participate in semiannual working group meetings regarding resilient forest landscapes.	Cooperation among agencies		

Goal 2	Actively and sustainably manage forests			
Objectives	**Strategies**	**Resource Needs**	**Threat Addressed**	**National Theme**
Objective 2.5 continued	*Strategy 2.5.3 Participate in annual Forest Service timber output meetings to provide input on the 5-year timber harvest planning process.*	Cooperation among agencies	Lack of management, disengaged public, lack of forest resiliency	CWF
	Strategy 2.5.4 Complete 300 assists to private landowners each year.	Technical assistance capability		
	Strategy 2.5.5 Prepare and/or approve 150 new and/or updated forest stewardship plans by 2028.			
Objective 2.6 Coordinate Forest Stewardship Plan preparation with Natural Resources Conservation Service (NRCS) conservation plans to facilitate delivery of Environmental Quality Incentives Program (EQIP) funding for plan implementation.	*Strategy 2.6.1 Meet annually with Forest Stewardship Coordinating Committee to explore potential projects and programs and discuss program compatibility.*	Partnerships	Lack of management	CWF
	Strategy 2.6.2 Meet with NRCS State Technical Committee to explore potential projects and discuss program compatibility.			

Goal 2	Actively and sustainably manage forests			
Objectives	**Strategies**	**Resource Needs**	**Threat Addressed**	**National Theme**
Objective 2.7 Take an active role in federal forest land management	*Strategy 2.7.1 Utilize Cooperating Agency Status to secure a position on Interdisciplinary Teams for land management plan amendments and revisions.*	Partnerships	Lack of management	CWF, PFH, EPB
	Strategy 2.7.2 Use Good Neighbor Authority and tools and opportunities as they become available to implement landscape scale projects.	Technical assistance capability, partnerships, annual agreements	Lack of management, lack of forest resiliency	CWF, EPB
Objective 2.8 Promote the use of tree canopy cover to mitigate storm water runoff.	*Strategy 2.8.1 Complete one annual storm water mitigation specific outreach effort utilizing news media and social media.*	Technical assistance capability	Disengaged public, poor water quality	CWF
Objective 2.9 Support a consistent definition of renewable biomass for the federal Renewable Energy Standard and Renewable Fuels Standard that includes woody biomass from federal lands	*Strategy 2.9.1 Comment on position papers and federal register documents related to renewable energy and renewable fuels.*	Knowledge of laws, regulations, and policies	Lack of markets for wood products, disengaged public	CWF, EPB
Objective 2.10 Track and participate in developing federal legislation and policies to ensure South Dakota's forestry interests are represented	*Strategy 2.10.1 Comment on position papers and federal register documents related to forest management.*	Knowledge of laws, regulations, and policies	Lack of management, lack of forest resiliency	CWF, PFH, EPB
	Strategy 2.10.2 Engage in National Association of State Foresters	Pay annual dues		

GOAL III: CONSERVE AND ENHANCE TREES OUTSIDE OF FORESTS THAT PROVIDE BENEFITS TO RURAL LANDSCAPES.

Goal three is to conserve and enhance trees outside of the forested areas while providing benefits to the rural landscapes. Using the strategies as part of this goal, RCF will work to achieve eight objectives in the following table (Table 1.3.) The strategies will also address new priority areas, as well as provide technical services to partners like the NRCS and Conservation Districts. They will also address creating and updating publications and conducting multiple workshops.

The threats to trees outside of forest are from the lack of forest inventory, management, lack of markets for wood products, poor survival, maintenance of planted trees, disengaged public, loss of wildlife habitat, and lack of species diversity. Technical assistance will be provided from RCF to curb these threats to South Dakotas rural landscapes.

Figure 4: A shelterbelt in Davison County, SD. (SDDA, 2018)

Table 1.3. *Goal 3 of the SD Forest Resource Strategy*

Goal 3 Conserve and enhance trees outside of forests that provide benefits to rural landscapes.				
Objectives	**Strategies**	**Resource Needs**	**Threat Addressed**	**National Theme**
Objective 3.1 Inventory trees outside of forests in rural areas with specific emphasis on windbreaks and wooded riparian areas.	*Strategy 3.1.1 Annually identify priority areas where data can be collected for windbreak inventory and coordinate with USFS FIA program.*	Funding for inventories	Inadequate forest inventory	CWF
Objective 3.2 Utilize conservation districts to increase technical assistance throughout South Dakota.	*Strategy 3.2.1 Provide technical assistance to NRCS offices and/or Conservation districts through visits twice a year and regular communication.*	Technical assistance capability	Lack of management	CWF
Objective 3.3 Improve species diversity and proper windbreak management.	*Strategy 3.3.1 Conduct two workshops and deliver six social and news media articles annually.*	Technical assistance capability	Lack of species diversity, lack of forest resiliency, disengaged public	CWF
Objective 3.4 Promote wood product markets for trees outside of forests.	*Strategy 3.4.1 Annually review, maintain, and update the Log Finder website.* *Strategy 3.4.2 Promote the log finder website through news releases and social media at least three times per year.* *Strategy 3.4.3 Annually review and update forest products utilization public outreach efforts including website and literature.*	Public relations efforts	Lack of markets for wood products, lack of management, disengaged public	CWF, EPB

Goal 3	Conserve and enhance trees outside of forests that provide benefits to rural landscapes.				
Objectives	**Strategies**	**Resource Needs**	**Threat Addressed**	**National Theme**	
Objective 3.4 continued	*Strategy 3.4.4 Meet annually with Forest Stewardship Coordinating Committee to explore potential projects and programs.*	Partnerships	Lack of markets for wood products, lack of management, disengaged public	CWF, EPB	
Objective 3.5 Identify barriers to biomass utilization from trees outside of forests.	*Strategy 3.5.1 Develop a document identifying barriers to biomass utilization from trees outside of forests by 2023.*	Current technical expertise, geospatial inventory of biomass,	Lack of markets for wood products, inadequate forest inventory, disengaged public	CWF, EPB	
Objective 3.6 Provide technical assistance, implement cost-share programs or grants, and promote the benefits of trees outside of forests.	*Strategy 3.6.1 Increase planting of trees outside of forests by 10 percent by 2028 using NRCS tree planting statistics 2017 as a baseline.*	Public relations efforts, including public service announcements, Web-based information, social networking	Lack of management, disengaged public, loss of trees to development	CWF, PFH, EPB	
	Strategy 3.6.2 Prepare or approve 110 tree plantings each year.	Technical assistance capability and continuance of funding			
	Strategy 3.6.3 Develop one new publication showing the benefits of windbreaks and non-forest lands, as well as, updating current publications by 2023.	Public relations efforts, including public service announcements, Web-based information, social networking			
	Strategy 3.6.4 Deliver eight educational workshops by 2028.	Public relations efforts, including public service announcements, web-based information, social network			

Goal 3	Conserve and enhance trees outside of forests that provide benefits to rural landscapes.			
Objectives	**Strategies**	**Resource Needs**	**Threat Addressed**	**National Theme**
Objective 3.6 continued	*Strategy 3.6.5 Develop one new publication showing the different pollinating plants that benefit bees that can be used within a windbreak by 2023.*	Public relations efforts, including public service announcements, Web-based information, social networking	Lack of management, disengaged public, loss of trees to development	CWF, PFH, EPB
	Strategy 3.6.6 Include pollinator information in one workshop annually.	Public relations efforts, including public service announcements, web-based information, social network		
Objective 3.7 Design tree and shrub plantings to maximize natural resource benefits.	*Strategy 3.7.1 Develop one new document showing the benefits of forest farming within windbreaks and trees outside of forest by 2023.*		Poor survival and maintenance of planted trees, disengaged public, loss of wildlife habitat, poor water quality, lack of species diversity	CWF, EPB
Objective 3.8 Collaborate with partners to better integrate trees into agricultural practices and promote sustainable management of existing agroforestry practices.	*Strategy 3.8.1 Meet annually with Forest Stewardship Coordinating Committee to explore potential projects and programs.*	Coordination among agencies	Poor survival and maintenance of planted trees, disengaged public, loss of wildlife habitat, poor water quality, lack of species diversity	CWF, EPB
	Strategy 3.8.2 Develop one new document highlighting the importance of selecting the right trees, shrubs, and designs for the appropriate location and to consider effects on other resources by 2021.	Public relations efforts, including public service announcements, Web-based information, social networking		

Goal 3 Conserve and enhance trees outside of forests that provide benefits to rural landscapes.				
Objectives	Strategies	Resource Needs	Threat Addressed	National Theme
Objective 3.8 continued	*Strategy 3.8.3 Maintain participation on the NRCS technical committee and attend annual quarterly meetings to discuss projects and programs that encourage sustainable agroforestry.*	Funding, coordination among agencies and technical assistance capability.	Poor survival and maintenance of planted trees, disengaged public, loss of wildlife habitat, poor water quality, lack of species diversity	CWF, EPB

GOAL IV: PROTECT LIVES AND PROPERTY BY REDUCING THE RISK OF WILDFIRE

Goal four is to protect lives and property by reducing the risk of wildfire. Using the strategies identified as part of this goal, RCF, in coordination with SD Wildland Fire, will work to achieve 13 objectives listed in the following table (Table 1.4).   Promoting public awareness and landowner participation through educational outreach and cost-share programs are key factors in accomplishing this goal.

South Dakota's forest resources are increasingly at risk of wildfire damage as the wildland urban interface continues to expand and the most recent mountain pine beetle (MPB) outbreak has left thousands of acres of dead trees as fuel. The need to collaborate between agencies and across federal, state, and private ownerships is important because hazardous fuels extend across all boundaries. A Community Wildfire Protection Plan (CWPP) will be updated and implemented in all Black Hills counties to address areas of concern and resource needs. Annual job training, public educational events, and distribution of educational literature will help ensure safe working practices and increase public awareness of wildfire mitigation across ownerships.

RCF will be able to provide training and educational events as well as manage suitable lands for a more resilient forest.   RCF and WF will work to achieve the following to address all three national themes: conserve working forest landscapes, protect forests from harm, and enhance public benefits from trees and forests by collaborating with state, federal, and private partners.

Figure 5: Fireline on the Cold Brook fire through a managed forest in the Black Hills. (SDDA, 2018)

Table 1.4. *Goal 4 of the SD Forest Resource Strategy*

Goal 4. Protect lives and property by reducing the risk of wildfire.				
Objectives	**Strategies**	**Resource Needs**	**Threat Addressed**	**National Theme**
Objective 4.1 Encourage prescribed fire across ownerships	*Strategy 4.1.1 Develop and implement a cost share assistance program to incentivize private landowners to utilize prescribed burning practices by 2025.*	Funding and technical assistance capability	Wildfire, lack of forest resiliency	CWF, PFH, EPB
Objective 4.2 Mitigate the potential for catastrophic fires	*Strategy 4.2.1 Reduce fuels by providing financial incentives to 75 landowners annually.*	Funding and technical assistance capability	Wildfire, lack of forest resiliency, disengaged public	CFW, PFH, EPB
	Strategy 4.2.2 Annually review and update public outreach efforts including website and literature to increase public awareness of the need for fire prevention and fuels mitigation	Updated information		
	Strategy 4.2.3 Reduce fuel loading on 800 acres on private and state lands annually.	Technical assistance capability	Wildfire, lack of management	PFH, EPB
Objective 4.3 Provide financial incentives to landowners to reduce fuels	*Strategy 4.3.1 Increase the capacity of the State's Fuels Reduction Program by staffing an Urban Interface Technician in each field office.*	New FTE positions and continued funding	Wildfire, lack of management	CWF, PFH
	Strategy 4.3.2 Maintain funding for at least two cost-share programs for the next 10 years.	Availability of funding through grants	Wildfire, unpredictable budget	CWF, PFH PFH

Objective 4.4 **Complete, update, and implement Community Wildfire Protection Plans (CWPPs)**	*Strategy 4.4.1 Assist counties to update CWPPs every 10 years.*	Technical assistance capability	Wildfire, unpredictable budget	PFH
	Strategy 4.4.2 Provide geospatial and GIS technical assistance for local government agencies.			
Objective 4.5 **Increase public awareness of the need for fire prevention and fuels mitigation**	*Strategy 4.5.1 Distribute educational literature to at least 150 people annually through site visits and mailings.*	Technical assistance capability	Wildfire, unpredictable budget	PFH
	Strategy 4.5.2 Annually review and update public outreach efforts including website and literature.			
	Strategy 4.5.3 Host 5 public educational events annually.			
Objective 4.6 Increase the training and capacity of the state's local fire suppression resources	*Strategy 4.6.1 Explore nontraditional funding sources and partnerships to increase equipment and personnel capabilities by 10% by 2025.*	Availability of funding through grants and partnerships	Wildfire, unpredictable budget	PFH
	Strategy 4.6.2 Host a training academy annually.	Technical assistance capability		
Objective 4.7 Provide basic and advanced wildland fire training to state, local, and federal fire suppression agencies to sustain efficient suppression activities and maintain healthy forests	*Strategy 4.7.1 Host at least 1 training exchange every 2 years.*	Technical assistance capability	Wildfire, lack of forest resiliency	PFH
	Strategy 4.7.2 Complete three fire training workshops annually.	Technical assistance capability	Wildfire, lack of forest resiliency	

Objective 4.8 Manage suitable lands to achieve structurally diverse, healthy forests to develop more resilient forest landscapes	*Strategy 4.8.1 Coordinate with NRCS and conservation districts to deliver forestry incentive program technical assistance using annual agreements.*	Technical assistance capability and partnerships	Lack of management, lack of forest resiliency, climate change, disengaged public	PFH
	Strategy 4.8.2 Complete 300 assists to private landowners each year.	Technical assistance capability	Lack of management, lack of forest resiliency, climate change, disengaged public	PFH CWF, PFH
	Strategy 4.8.3 Prepare and/or approve 150 new and/or updated forest stewardship plans by 2028.	Technical assistance capability		
Objective 4.9 Reduce fuels by prescribed burning	*Strategy 4.9.1 Host prescribed fire training exchange annually.*	Funding and technical assistance capability	Wildfire, lack of management	
	Strategy 4.9.2 Utilize prescribed fire as a management tool to burn at least 2,000 acres annually.			CWF, PFH PFH
Objective 4.10 Provide prescribed burning assistance to private landowners and governmental land management agencies	*Strategy 4.10.1 Utilize prescribed fire as a management tool to burn at least 2,000 acres annually across all ownerships.*	Funding and technical assistance capability	Wildfire, disengaged public	
	Strategy 4.10.2 Host at least 2 public workshops annually.			PFH
Objective 4.11 Increase fire management capacity in eastern South Dakota	*Strategy 4.11.1 Establish a WF East River field office by 2022.*	New NTE positions and continued funding	Wildfire	
Objective 4.12 Develop and promote a statewide fire prevention program to safeguard forest and grassland health	*Strategy 4.12.1 Obtain funding for a statewide program by 2025.*	Availability of funding	Wildfire, lack of forest resiliency, unpredictable budget	PFH

21

Objective 4.13 Provide direct fire suppression on all state and private forest lands and provide technical assistance on other wildland fires in the state	*Strategy 4.13.1 Develop annual agreements with counties to increase assistance capabilities.*	Partnerships with counties	Wildfire	PFH

GOAL V: IDENTIFY, MANAGE, AND REDUCE THREATS TO TREES, FORESTS, AND ECOSYSTEM HEALTH

Goal five is to identify, manage, and reduce threats to trees, forests, and ecosystem health. Using the strategies identified as part of this goal, RCF will work to achieve 15 objectives listed in the following table (Table 1.5). Producing an annual Forest Health Highlights report and staff attendance at the annual Great Plains Tree Pest Council allow for timely information to be shared within and between agencies and the public across the region.

The threats to South Dakota's forest resource continue to shift as the most recent mountain pine beetle (MPB) outbreak has abated. The public focus is now toward the emerald ash borer (EAB), an invasive insect that spread from other states to South Dakota and was identified here in 2018. The recent discovery of this pest is a good reminder of the importance of interagency collaboration and the need for plant diversity across all landscapes. The presence of EAB combined with existing threats to forest health, both native and invasive, requires a determination of the economic impacts using a geospatial database. The promotion of Integrated Pest Management techniques will be a principal theme for early detection and control of insect, disease, and weed/noxious plant issues.

Collaborative efforts and a well-trained staff will be crucial to provide the technical and educational assistance required to reach our goal.   RCF will work to achieve the following to address all three national themes: conserve working forest landscapes, protect forests from harm, and enhance public benefits from trees and forests.

Figure 6: Stand of green ash infested with emerald ash borer in Sioux Falls, SD. (SDDA, 2018)

Table 1.5. *Goal 5 of the SD Forest Resource Strategy*

Goal 5	Identify, manage, and reduce threats to trees, forests, and ecosystem health			
Objectives	**Strategies**	**Resource Needs**	**Threat Addressed**	**National Theme**
Objective 5.1 Monitor forest insect, disease, and invasive species outbreaks within the state, as well as neighboring states, as they occur.	*Strategy 5.1.1 Meet annually with the Great Plains Tree Pest Council to share information on forest insect, disease, and invasive species within our state and receive information on these issues from neighboring states.*	Technical assistance capability, first detectors, network with other states	Invasive species, lack of forest resiliency	PFH
	Strategy 5.1.2 Collaborate with APHIS and other agencies to monitor invasive pest presence and populations through annual trapping efforts.	Partnerships and funding		
	Strategy 5.1.3 Produce an annual Forest Health Highlights report.	Forest health information and program		
Objective 5.2 Collaborate with other federal, state, and local agencies to coordinate programs and incentives that encourage and implement healthy forest restoration practices.	*Strategy 5.2.1 Meet annually with Forest Stewardship Coordinating Committee to explore potential projects and programs.*	Incentives, cost-share funding, technical assistance capability, information sharing	Lack of management, lack of forest resiliency, climate change, disengaged public	CWF, PFH, EPB
	Strategy 5.2.2 Deliver forestry incentive program technical assistance using annual agreements.	Technical assistance capability and partnerships		

Goal 5	Identify, manage, and reduce threats to trees, forests, and ecosystem health			
Objectives	**Strategies**	**Resource Needs**	**Threat Addressed**	**National Theme**
Objective 5.3 Promote diversity of genera within native forest lands, windbreaks, woodlots, and communities	*Strategy 5.3.1 Incorporate the importance of genera diversity in at least 2 public outreach efforts per year.*	Public relations efforts, including public service announcements	Lack of species diversity, disengaged public	CWF, PFH, EPB
	Strategy 5.3.2 Require a diversity of genera in tree planting and work plans approved by the division.	Technical assistance capability and partnerships		
	Strategy 5.3.3 Annually review and update promotional material with new cultivars.	Updated information	Lack of species diversity, lack of forest resiliency, disengaged public	PFH
Objective 5.4 Determine the economic impact of forest health problems to South Dakota	*Strategy 5.4.1 Create and maintain a geospatial database of forest and trees outside of forests inventory for State Lands by 2023.*	Funding to gather the information needed to determine the impact.	Inadequate forest inventory	PFH, EPB
	Strategy 5.4.2 Create and maintain a geospatial database of forest health problems by 2023.	Geospatial insect and disease data, availability of funding		
Objective 5.5 Promote, develop, and implement direct suppression and preventive management options to suppress forest insect and disease outbreaks	*Strategy 5.5.1 Publish a weekly pest update to educate the public on forest insect and disease topics.*	Technical assistance capability, research, networking	Lack of management, invasive species, lack of species diversity, lack of forest resiliency, disengaged public	CWF, PFH
	Strategy 5.5.2 Develop and distribute "Don't Move Firewood" poster every year.	Funding		

Goal 5	Identify, manage, and reduce threats to trees, forests, and ecosystem health			
Objectives	**Strategies**	**Resource Needs**	**Threat Addressed**	**National Theme**
Objective 5.5 continued	*Strategy 5.5.3 Meet annually with the Great Plains Tree Pest Council to share information on new and developing methods for suppressing and preventing forest insect, disease, and invasive species outbreaks.*	Involvement with the Great Plains Tree Pest Council	Lack of management, invasive species, lack of species diversity, lack of forest resiliency	CWF, PFH
	Strategy 5.5.4 Collaborate annually with USFS Forest Health Monitoring to track forest insect and disease issues in South Dakota.	Technical assistance capability, research, networking		
	Strategy 5.5.5 Pest bulletins and fact sheets reflecting the most current management and control options for forest insects and diseases will be developed as needed and reviewed annually.			
Objective 5.6 Implement rehabilitation and restoration practices on fire-effected ecosystems using native or desired nonnative species	*Strategy 5.6.1 Participate on burn area rehabilitation teams when state or private lands are affected.*	Technical assistance capability	Lack of forestry resiliency, poor water quality	CWF, PFH
Objective 5.7 Implement the National Invasive Species Management Plan strategies of prevention, early detection rapid response, control and management, restoration, and organizational collaboration	*Strategy 5.7.1 Review Division practices annually to ensure they conform to the National Invasive Species Management Plan strategies.*	Technical assistance capability, cross-boundary projects, first detector program, public awareness	Invasive species, lack of forest resiliency	PFH

Goal 5	Identify, manage, and reduce threats to trees, forests, and ecosystem health			
Objectives	**Strategies**	**Resource Needs**	**Threat Addressed**	**National Theme**
Objective 5.8 **Collaborate with other federal, state, and local agencies to coordinate programs and incentives that encourage control of weeds and invasive species**	*Strategy 5.8.1 Apply for and administer State and Private Forestry Grant funds each year or as available and disperse through the state's subaward grant process*	Cooperation among agencies, adequate budget	Invasive species, lack of management	CWF, PFH, EPB
	Strategy 5.8.2 Participate in the Black Hills Invasive Plant Partnership annually	Partnerships		
Objective 5.9 **Promote use of Integrated Pest Management (IPM) for treating weeds and other invasive species**	*Strategy 5.9.1 Participate in semiannual weed and pest working group meetings to discuss current and ongoing management practices for weeds and invasive species across South Dakota.*	Cooperation among agencies, adequate budget	Invasive species, lack of management, disengaged public	CWF, PFH, EPB
	Strategy 5.9.2 In conjunction with partners participate in two public workshops annually.	Partnerships, public relations efforts, including public service announcements, Web-based information, social networking		
Objective 5.10 **Assist communities with the development of tree ordinances that require developers to replace trees lost to construction**	*Strategy 5.10.1 Five communities will update or enact tree ordinances by 2028.*	Funding, technical assistance capability	Loss of trees to development, disengaged public	PFH

Goal 5	Identify, manage, and reduce threats to trees, forests, and ecosystem health			
Objectives	**Strategies**	**Resource Needs**	**Threat Addressed**	**National Theme**
Objective 5.11 Promote grazing management techniques that are not detrimental to riparian areas, bottomland forests, and upland hardwood forests	*Strategy 5.11.1 Meet annually with Forest Stewardship Coordinating Committee to explore potential projects and programs.*	Cooperation among agencies, adequate budget	Overgrazing, poor water quality	CWF, PFH, EPB
	Strategy 5.11.2 Maintain participation on the NRCS technical committee and attend quarterly meetings to discuss projects and programs that encourage grazing management.			
	Strategy 5.11.3 Collect information and summarize grazing methods that are not detrimental to riparian areas, bottomland forests, and upland hardwood forests by 2028.	Public relations efforts, including public service announcements, Web-based information, social networking	Livestock grazing	
	Strategy 5.11.4 Distribute grazing information through one outreach effort per year and web based literature.			
Objective 5.12 Promote development of new techniques to inventory forest land that are more efficient and more accurate	*Strategy 5.12.1 Review current methods and emerging technologies at least every five years and implement when appropriate.*	New inventory techniques	Inadequate forest inventory	PFH
Objective 5.13 Provide education on methods for controlling cedar/juniper encroachment.	*Strategy 5.13.1 Deliver five educational workshops over the next ten years.*	Technical assistance capability	Lack of management, disengaged public, lack of markets for wood products	PFH
	Strategy 5.13.2 Participate in the annual Missouri River Forestry Meeting.	Cooperation among agencies, adequate budget		

Goal 5	Identify, manage, and reduce threats to trees, forests, and ecosystem health			
Objectives	**Strategies**	**Resource Needs**	**Threat Addressed**	**National Theme**
Objective 5.13 continued	*Strategy 5.13.3 Communicate with partners on current and improved methods on controlling cedars and junipers.*	Partnerships, public relations efforts, including public service announcements	Lack of management, disengaged public, lack of markets for wood products	PFH
Objective 5.14 Restore/renovate rural windbreaks impacted by invasive pests and plants.	*Strategy 5.14.1 Provide 50 windbreak renovation assists by 2028.*	Funding and technical assistance capability	Lack of forest resiliency, invasive species, lack of species diversity, disengaged public	CWF, PFH, EPB
	Strategy 5.14.2 Develop literature describing renovation methods for controlling invasives in windbreaks by 2020.			
Objective 5.15 Provide guidance to help forest landowners implement forest climate adaptation and mitigation management practices based on the best available science and proven best practices	*Strategy 5.15.1 Deliver forestry incentive program technical assistance using annual agreements.*	Technical assistance capability and continuance of funding	Climate change, lack of management, disengaged public	CWF, PFH, EPB
	Strategy 5.15.2 Complete 300 assists to private landowners each year.			
Objective 5.16 Promote methods to remove nuisance woody plants in windbreaks and non-forest lands.	*Strategy 5.16.1 Complete one annual outreach effort specific to removal of nuisance woody plants utilizing news media and social media.*	Public relations efforts, including public service announcements, Web-based information, social networking	Invasive species, lack of management	CWF, PFH

Goal 5	Identify, manage, and reduce threats to trees, forests, and ecosystem health			
Objectives	**Strategies**	**Resource Needs**	**Threat Addressed**	**National Theme**
Objective 5.16 continued	*Strategy 5.16.2 Develop literature describing methods to remove nuisance woody plants from windbreaks by 2022.*	Updated information, funding	Invasive species, lack of management	CWF, PFH
Objective 5.17 Promote and support practices that improve resilience of forested landscapes and restore impacted landscapes to maintain ecological functions and critical ecosystem services	*Strategy 5.17.1 Annually review and update public outreach efforts including website and literature.*	Updated information	Lack of forest resiliency, invasive species, climate change, disengaged public	CWF, PFH, EPB
	Strategy 5.17.2 Deliver forestry incentive program technical assistance using annual agreements.	Technical assistance capability, cooperation between agencies, and continuance of funding		
	Strategy 5.17.3 Complete 300 assists to private landowners each year.			

GOAL VI: PROTECT AND ENHANCE WATER QUALITY AND QUANTITY

Goal six is to protect and enhance water quality and quantity. Using the strategies identified as part of this goal, RCF will work to achieve seven objectives listed in the following table (Table 1.6). Annual monitoring and promoting of best management practices (BMPs) to protect and enhance water quality, educating on the benefits of forest management for quality water and promoting trees as a tool for storm water infrastructure will allow for timely information to be shared within and between agencies and the public across the region.

The threats to South Dakota's water quality and quantity continue to shift as the amounts of precipitation vary each year. Most recently, South Dakota has seen above normal precipitation, while drought has also been a common occurrence in the state. When it comes to managing stormwater and preserving the quality of water, taking advantage of planting trees will be one of the keys. The promotion of stormwater infrastructure and the influence of trees on water will be a key in working with other agencies.

Funding, public relations efforts, and agency collaboration will be crucial to provide the technical and educational assistance required to reach our goal. RCF will work to achieve the following to address all three national themes: conserve working forest landscapes, protect forests from harm, and enhance public benefits from trees and forests.

Figure 7: Box Elder Creek near Nemo, SD. (SDDA, 2019)

Table 1.6. *Goal 6 of the SD Forest Resource Strategy*

Goal 6 Protect and enhance water quality and quantity				
Objectives	**Strategies**	**Resource Needs**	**Threat Addressed**	**National Theme**
Objective 6.1 Monitor and promote the implementation of forestry BMPs to protect and enhance water quality; implement recommendations that come from periodic monitoring.	*Strategy 6.1.1 Coordinate a field audit every four years to monitor BMP implementation. Implement any resulting recommendations.*	Available grant opportunities and partnerships	Poor water quality, disengaged public	CWF, PFH, EPB
	Strategy 6.1.2 Complete one annual BMP specific outreach effort utilizing news media and social media.	Public relations efforts, including public service announcements, Web-based information, social networking		
	Strategy 6.1.3 Conduct or support one BMP workshop every four years	Technical assistance capability, adequate budget		
Objective 6.2 Educate the public on the values and benefits of managing forests for water quantity and water quality	*Strategy 6.2.1 Annually review and update public outreach efforts including website and literature.*	Technical assistance capability, public information, social networking	Poor water quality, lack of management, disengaged public	EPB
Objective 6.3 Promote establishment of trees and shrubs for riparian buffers to protect and improve watersheds	*Strategy 6.3.1 Develop one riparian forest buffer education and outreach effort by 2023*	Public relations efforts, including public service announcements, Web-based information, social networking	Poor water quality, disengaged public	CWF, PFH, EPB

Goal 6	Protect and enhance water quality and quantity			
Objectives	**Strategies**	**Resource Needs**	**Threat Addressed**	**National Theme**
Objective 6.4 Collaborate with other federal, state, and local agencies and boards to coordinate programs, initiatives, and incentives that encourage protection of water quality	*Strategy 6.4.1 Deliver forestry incentive program technical assistance using annual agreements.*	Cooperation among agencies, adequate budget	Lack of management, poor water quality	EPB
Objective 6.5 Develop and implement management plans based on watersheds	*Strategy 6.5.1 Develop two landscape level cross boundary management plans by 2028.*	Technical assistance capability, adequate budget	Lack of management, poor water quality	CWF, EPB
Objective 6.6 Promote the management of forested areas to increase water quantity and quality	*Strategy 6.6.1 Annually review and update public outreach efforts including website and literature.*	Public relations efforts, including public service announcements, Web-based information, social networking	Lack of management, poor water quality	CWF, EPB
Objective 6.7 Promote the use of trees and urban forests for effective storm water management, wastewater treatment, and green infrastructure.	*Strategy 6.7.1 Complete one annual storm water mitigation specific outreach effort utilizing news media and social media.*	Public relations efforts, including public service announcements, Web-based information, social networking	Poor water quality and quantity, lack of management, disengaged public	CWF, EPB

GOAL VII: IMPROVE AIR QUALITY AND CONSERVE ENERGY

Goal seven is to improve air quality and conserve energy. Using the strategies identified as part of this goal, RCF will work to achieve three objectives listed in the following table (Table 1.7). Through the promotion of renovating windbreaks, the replacement of dead and dying trees in open areas within communities, and education of landowners based around the energy saving values of trees, the importance of air quality and energy conservation can be highlighted for agencies and public across the state.

The threats to South Dakota's air quality and energy conservation include aging shelterbelts across the state, lack of tree care and management, insect and disease, and lack of public engagement with these issues. South Dakota's current shelterbelts are not only aging, but they are also lacking species diversity and their effectiveness will be compromised by Emerald Ash Borer (EAB). When it comes to managing air quality and energy conservation, it is imperative that the energy benefits and environmental benefits of planting trees are made known. The promotion of air quality and energy conservation through forest management will be a key in working with other agencies who value natural resources and the people of South Dakota.

Collaborative efforts and a well-trained staff will be crucial to provide the technical and educational assistance required to reach our goal.   RCF will work to achieve the following to address all three national themes: conserve working forest landscapes, protect forests from harm, and enhance public benefits from trees and forests.

Figure 8: Sunset over the Missouri River near Pierre, SD. (SDDA, 2018)

Table 1.7. *Goal 7 of the SD Forest Resource Strategy*

Goal 7	Improve air quality and conserve energy			
Objectives	**Strategies**	**Resource Needs**	**Threat Addressed**	**National Theme**
Objective 7.1 Promote renovation of windbreaks	*Strategy 7.1.1 Annually review and update public outreach efforts including website and literature.*	Public relations efforts, including public service announcements, Web-based information, social networking	Lack of management, over mature and dying trees in communities and windbreaks, lack of forest resiliency	CWF, EPB
	Strategy 7.1.2 Windbreak condition reports are used as available to establish areas of resource concern to qualify for EQIP funding for windbreak renovation.	Continued funding for inventories and availability of EQIP funding		
Objective 7.2 Replace dead and dying trees and expand tree plantings in open areas within communities.	*Strategy 7.2.1 Include tree planting in the annual Urban and Community Forestry Challenge Grant program.*	Technical assistance capability, continuance of funding	Over mature and dying trees in communities and windbreaks	EPB
Objective 7.3 Educate landowners and communities about planting the right tree in the right location for energy conservation.	*Strategy 7.3.1 Deliver three public education efforts per year that emphasize proper design to achieve energy conservation.*	Public relations efforts, including public service announcements, Web-based information, social networking	Poor survival and maintenance of planted trees, disengaged public	EPB

GOAL VIII - MAINTAIN AND ENHANCE THE ECONOMIC BENEFITS AND VALUES OF TREES AND FORESTS.

Goal eight is to maintain and enhance the economic benefits and values of trees and forests. Using the strategies identified as part of this goal, RCF will work to achieve eight objectives in the following table (Table 1.8). The strategies will also address the threats of the lack of markets for wood products, inadequate forest inventory, disengaged public, overgrazing, lack of management, inadequate forest inventory, poor water quality, loss of wildlife habitat, invasive species, lack of forest resiliency, climate change and the loss of trees to development.

South Dakota trees and forests provide a wide range of economic benefits and values to the citizens and visitors of the state. The economic benefits can be calculated by the hundreds of jobs associated the timber industry, property values, energy savings and crop protection to name a few. The values can be associated with social, community, ecological, environmental, personal and social. There are many more economic benefits and social values associated with trees and forest for not only the forest in the area of the Black Hills but the trees in our communities, along our rivers and streams, and the windbreaks throughout the state. Each of these provides South Dakota with unique benefits and values.

Through funding, cooperation, coordination and public relations efforts RCF will focus on all three national themes: conserve working forest landscapes, protect forests from harm, and enhance public benefits from trees and forests.

Figure 9: Log deck of ponderosa pine at a sawmill in the Black Hills, SD. (SDDA, 2019)

Table 1.8. *Goal 8 of the SD Forest Resource Strategy*

Goal 8	Maintain and enhance the economic benefits and values of trees and forests			
Objectives	**Strategies**	**Resource Needs**	**Threat Addressed**	**National Theme**
Objective 8.1 Promote markets to enhance utilization, maintain and expand a viable and diverse forest products industry, and support sustainable forest management.	*Strategy 8.1.1 Annually review, maintain, and update the Log Finder website.*	Public relations efforts, including public service announcements, Web-based information, social networking	Lack of markets for wood products, inadequate forest inventory, disengaged public	CWF, EPB
	Strategy 8.1.2 Complete 2 outreach efforts each year to promote the Log finder website			
	Strategy 8.1.3 Update the Wood Products Industry directory every 10 years as funding allows.	Engagement with Forest Utilization Network.		
	Strategy 8.1.4 Complete five small sawmill workshops by 2028.	Public relations efforts, including public service announcements, Web-based information, social networking		
	Strategy 8.1.5 Comment on position papers and federal register documents related to woody biomass utilization.	Access to congressional delegation, information networking		

Goal 8	Maintain and enhance the economic benefits and values of trees and forests			
Objectives	**Strategies**	**Resource Needs**	**Threat Addressed**	**National Theme**
Objective 8.2 Collaborate with other federal, state, and local agencies to coordinate programs and incentives that encourage grazing for natural resource improvement	*Strategy 8.2.1 Meet annually with Forest Stewardship Coordinating Committee to explore potential projects and programs that encourage grazing management.*	Coordination among agencies	Overgrazing, lack of management	CWF, PFH, EPB
	Strategy 8.2.2 Maintain participation on the NRCS technical committee and attend quarterly meetings to discuss projects and programs that encourage grazing management.	Cooperation among agencies, adequate budget		
Objective 8.3 Promote a predictable, dependable, and sustainable supply of raw material from all ownerships to help sustain a viable forest products industry	*Strategy 8.3.1 Maintain an annual agreement with the Northern Research Station to collect FIA data.*	Funding, coordination among agencies and private sector	Inadequate forest inventory, lack of markets for wood products	CWF, EPB
	Strategy 8.3.2 Comment on position papers and federal register documents related to FIA.	Access to congressional delegation, information networking		
Objective 8.4 Provide information about the size and distribution of forest resources in South Dakota to interested parties	*Strategy 8.4.1 Create and maintain a geospatial database of trees outside of forests inventory for State Lands across South Dakota within five years.*	Accurate inventory information	Inadequate forest inventory	CWF, EPB

Goal 8	Maintain and enhance the economic benefits and values of trees and forests			
Objectives	**Strategies**	**Resource Needs**	**Threat Addressed**	**National Theme**
Objective 8.4 continued	*Strategy 8.4.2 Support full funding from Congress to maintain a viable FIA program during the annual federal budget process.*	Continued funding for FIA	Inadequate forest inventory	CWF, EPB
	Strategy 8.4.3 Maintain an annual agreement with the Northern Research Station to collect FIA data.	Cooperation among agencies, adequate budget		
	Strategy 8.4.4 Comment on position papers and federal register documents related to FIA.	Coordination among agencies		
Objective 8.5 Identify and promote improvement to laws, regulations, and policies that will make it easier and more economical to use woody biomass from forest lands regardless of ownership	*Strategy 8.5.1 Comment on position papers and federal register documents related to woody biomass use across all ownerships*	Knowledge of laws, regulations, and policies	Lack of management, lack of markets for wood products	CWF, EPB
Objective 8.6 Provide incentives to public government building projects to convert to biomass boilers	*Strategy 8.6.1 Apply for grant opportunities to incentivize biomass utilization.*	Available grant opportunities	Lack of markets for wood products	CWF, EPB

Goal 8	Maintain and enhance the economic benefits and values of trees and forests			
Objectives	**Strategies**	**Resource Needs**	**Threat Addressed**	**National Theme**
Objective 8.7 Encourage the proper management and use of forest resources to achieve multiple benefits including recreation, air quality, aesthetics, wildlife habitat, water, quality, forest health, forest products, and grazing	*Strategy 8.7.1 Annually review and update public outreach efforts including website and literature.*	Funding, public relations efforts	Lack of management, poor water quality, loss of wildlife habitat, invasive species, lack of forest resiliency, climate change, overgrazing, disengaged public, lack of markets for wood products	CWF, PFH, EPB
	Strategy 8.7.2 Complete 5 outreach efforts utilizing news media and social media promoting sustainable forest management each year.	Funding, coordination among agencies and technical assistance capability.		
	Strategy 8.7.3 Deliver forestry incentive program technical assistance using annual agreements.			
	Strategy 8.7.4 Organize three landowner workshops per year.	Funding, coordination among agencies and technical assistance capability.		
Objective 8.8 Develop tools to improve and highlight the relationship between improved public health, wellness and urban and community forestry and green infrastructure.	*Strategy 8.8.1 Collaborate with partners to develop two productive food forest demonstration sites by 2028.*	Public relations efforts, including public service announcements, Web-based information, social networking	Disengaged public, lack of management, loss of trees to development	EPB
	Strategy 8.8.2 Complete six outreach efforts utilizing news media and social media.			
	Strategy 8.8.3 Prepare public outreach materials highlighting health benefits of trees by 2020.			

Goal 8	Maintain and enhance the economic benefits and values of trees and forests			
Objectives	**Strategies**	**Resource Needs**	**Threat Addressed**	**National Theme**
Objective 8.9 Promote the carbon sequestration potential of natural forest lands, woodlots, and windbreaks	*Strategy 8.9 Develop and maintain literature using existing research to quantify carbon sequestration potential of forests and trees by 2020.*	Updated information on current research	Climate change, lack of management, disengaged public	EPB

GOAL IX: PROTECT, CONSERVE, AND ENHANCE WILDLIFE AND FISH HABITAT.

Goal nine is to protect, conserve, and enhance wildlife and fish habitat. Using the strategies identified as part of this goal, RCF will work to achieve four objectives in the following table (Table 1.9). The strategies will also address the threats of disengaged public, lack of management, loss of trees to development, loss of wildlife habitat, wildfire and fragmentation.

Wildlife and fish habitat are important to all species both nongame and game as the quality and extent of it directly impacts their populations. South Dakota's hunting and fishing bring over $950 million annually to the state. Other outdoor recreation such as boating, hiking and wildlife viewing bring additional revenue to the state.

Through funding, public relations efforts and coordination RCF will focus on all three national themes: conserve working forest landscapes, protect forests from harm, and enhance public benefits from trees and forests.

Figure 10: Pronghorn antelope in Custer State Park. (SDDA, 2019)

Table 1.9. *Goal 9 of the SD Forest Resource Strategy*

Goal 9	Protect, conserve, and enhance wildlife and fish habitat			
Objectives	**Strategies**	**Resource Needs**	**Threat Addressed**	**National Theme**
Objective 9.1 Develop a geospatial map of past, present, and potential bottomland forest types and forested habitats important to species of greatest conservation need as identified in South Dakota's State Wildlife Action Plan and applicable species specific management plans	*Strategy 9.1.1 Create and maintain geospatial forest datasets using specialized software by 2023.*	Funding, knowledge and ability to utilize software.	Inadequate forest inventory, loss of wildlife habitat, loss of trees to development	CWF, EPB
Objective 9.2 Promote silviculture and prescribed burning to manage plant communities to improve wildlife habitat	*Strategy 9.2.1 Coordinate with GFP to complete 5 outreach efforts utilizing news media and social media Each year.* *Strategy 9.2.2 Organize three landowner workshops per year in coordination with GFP.*	Public relations efforts, including public service announcements, Web-based information, social networking, coordination with GFP	Loss of wildlife habitat, lack of management, wildfire	CWF, PFH, EPB
Objective 9.3 Collaborate with SD Game, Fish and Parks (GFP) to help implement strategies found in the South Dakota State Wildlife Action Plan and applicable species specific management plans for forested areas	*Strategy 9.3.1 Meet annually with Forest Stewardship Coordinating Committee to discuss potential projects and implementation.*	Coordination with GFP	lack of management, loss of wildlife habitat	CWF, EPB
Objective 9.4 Educate landowners on the value of forest	*Strategy 9.4.1 Complete 5 outreach efforts each year utilizing news media and*	Public relations efforts, including public service announcements, Web-	Disengaged public, lack of management, loss	CWF, EPB

Goal 9	Protect, conserve, and enhance wildlife and fish habitat			
Objectives	**Strategies**	**Resource Needs**	**Threat Addressed**	**National Theme**
management and benefits to wildlife habitat	*social media in coordination with GFP.*	based information, social networking, coordination with GFP	of trees to development, loss of wildlife habitat	CWF, EPB
	Strategy 9.4.2 Organize three landowner workshops per year in coordination with SD GF&P.			

GOAL X: CONNECT PEOPLE TO TREES AND FORESTS, AND ENGAGE THEM IN ENVIRONMENTAL STEWARDSHIP ACTIVITIES

Goal ten is to connect people to trees and forests and engage them in environmental stewardship activities. Using the strategies identified as part of this goal, RCF will work to achieve six objectives listed in the following table (Table 1.10). Through annual public education and social media efforts, the environmental benefits of trees will be explored along with the employment opportunity that the green industry has to offer in the state.

The threats to South Dakota's forest resource continue to go unknown amongst the general population and the importance of trees is not always fully understood. Increasing fragmentation and loss of trees across the state continues to be a large obstacle. Through partnerships with other environmental agencies and educational associations, education can help expose the value of forests.

Collaborative efforts and a well-trained staff will be crucial to provide the technical and educational assistance required to reach our goal.   RCF will work to achieve the following to address all three national themes: conserve working forest landscapes, protect forests from harm, and enhance public benefits from trees and forests.

Figure 11: Arbor Day tree planting in Spearfish, SD. (SDDA, 2019)

Table 1.10. *Goal 10 of the SD Forest Resource Strategy*

Goal 10	Connect people to trees and forests, and engage them in environmental stewardship activities			
Objectives	**Strategies**	**Resource Needs**	**Threat Addressed**	**National Theme**
Objective 10.1 Create public awareness and educate the public about forests, fragmentation, and the benefits of forest management	*Strategy 10.1.1 Annually review and maintain web presence to educate the public on conservation programs available to conserve forest ecosystems and landscapes.* *Strategy 10.1.2 Organize three education workshops per year for the general public.* *Strategy 10.1.3 Complete 12 outreach efforts utilizing news media and social media.*	Public relations efforts, including public service announcements, Web-based information, social networking	Disengaged public, fragmentation, loss of trees to development, lack of management	CWF, EPB
Objective 10.2 Encourage communities to develop community forest plans	*Strategy 10.2.1 Work with municipalities to develop community forest plans for 10 communities by 2028.*	Technical assistance capability, adequate budget	Disengaged public, loss of trees to development, over mature and dying trees in communities and windbreaks, lack of management	CWF, EPB
Objective 10.3 Promote development of community tree banks	*Strategy 10.3.1 Complete 5 outreach efforts each year utilizing news media and social media.*	Public relations efforts, including public service announcements, Web-based information, social networking	Disengaged public, loss of trees to development	CWF, EPB

Goal 10	Connect people to trees and forests, and engage them in environmental stewardship activities			
Objectives	**Strategies**	**Resource Needs**	**Threat Addressed**	**National Theme**
Objective 10.4 Increase exposure to professional opportunities in forestry focusing on youth across various demographics.	*Strategy 10.4.1 Participate in 10 youth organization workshops in conjunction with PLT, 4H, FFA, Scouting, Envirothon and/or other natural resource youth groups to promote forestry and careers in forestry by 2028.*	Public relations efforts, including public service announcements, Web-based information, social networking	Disengaged public	EPB
Objective 10.5 Engage underserved and diverse communities with educational and outreach programs.	*Strategy 10.5.1 Coordinate with tribes and municipalities to complete 12 outreach efforts utilizing news media and social media.*	Public relations efforts, including public service announcements, Web-based information, social networking	Disengaged public	EPB
	Strategy 10.5.2 Coordinate with tribes and municipalities to organize three landowner workshops per year.			
Objective 10.6 Provide training and education opportunities in urban and community forestry.	*Strategy 10.6.1 Conduct ten community education events by 2028.*	Public relations efforts, including public service announcements, Web-based information, social networking	Disengaged public	EPB

MONITORING

RCF will continually evaluate the effectiveness of forest management programs and strive to adapt these programs to address changes to threats and priorities. Monitoring progress toward addressing threats will be a continuous, long-term process.

Monitoring requirements of federal programs will be followed according to established procedures. Forest Stewardship Program monitoring will continue as required by program standards and guidelines. Many forest health issues, including age-class diversity, will continue to be monitored annually as part of the FIA and other programs. Monitoring to satisfy other program and project funding through special grants or competitive grants will be defined on a project-by-project or program-by-program basis, although annual or periodic monitoring of all strategies would be difficult. For example, measuring changes in water quality and climate change requires years of study, yet for other issues, there are no existing reporting mechanisms.

Efforts will be made to establish monitoring procedures to determine the effectiveness of strategies. Effective strategies will be continued; ineffective strategies will be modified or dropped.

LITERATURE CITED

https://19january2017snapshot.epa.gov/sites/production/files/2016-09/documents/climate-change-sd.pdf

https://www.capjournal.com/cjbureau/departments/gfp/study-outdoor-recreation-drives-billion-of-economic-activity-in-sd/article_082d6478-3da3-11e8-ac6f-2b073044c413.html