

2024 South Dakota Grasslands Planner

Thank you for your passion for healthy grasslands.



“And, the really interesting thing about ranchers on working ranches is they’re constantly looking to improve things and looking to learn. And, it’s like this lifetime of learning thing that you see from our producers...I mean, it’s for our economy, it’s wildlife habitat, it’s water quality, it’s bio-diversity, it’s pollinators, it’s all these things that these folks who are managing it, these working ranches, are providing behind the scenes with very little fanfare. That is something that has struck me as being important and profound.”

- Mitch Faulkner, NRCS Range Specialist

To some, pulling a plant – a weed, let’s say – is a mundane task. Give it a short but effective tug, and hopefully that plant will come out root still attached. Gone! Have you ever examined the roots as you pull those “weeds”? What type of structure do the roots boast? Perhaps a long taproot that’s mangled from compaction or a fibrous system with tiny soil aggregates still attached? How was that plant holding the soil together? What impact did that plant’s roots play on the ecosystem below ground?

Now, think of the perennial grasses, flowers, and shrubs of the grasslands. What happens when you attempt to pull a stem of big bluestem or western wheatgrass? If you’re lucky—you might get a smidgen of root, but typically you only get the top end of the plant. Why? Because perennial grasses of the prairie have DEEP roots, and a lot of them. And they are ALIVE!

These living roots are the lifeline of the prairie. In healthy, well-managed grasslands, roots hold the soil in place, increase infiltration, reduce runoff, increase water holding capacity, etc. It’s not only the above ground portion of the plant that is important for grasslands managers, but the below ground portion as well!

The above ground production of the grasslands does not compare to the amazing below ground production of roots that keeps the prairie alive. One would think that the height of the above ground portion of the plant would equal that of the below ground portion. For grasses, the roots can outweigh the leaves by up to four times! No wonder it’s so difficult to pull these plants from the ground!

These roots interact with each other for resources, but also with the microbial ecosystem below ground. The plant produces sugars through photosynthesis above, while below the roots “leak” sugars to share with different microbes – fungi, bacteria. These microbes “trade” the sugar for needed plant resources – water molecules and nutrients. As the plants used those “traded”

resources, the plants continue to grow above and below. As the roots continue to grow and trade, they eventually die. So specific microbes reprocess those dead roots into useable nutrients that can be used by the plants in the future. It’s quite a cooperative system they have going!

Some species of grasses have specific microbes by which they rely on. So, a diverse plant community above ground leads to a diverse plant community below ground as well! This ecosystem has evolved over thousands of years resulting in complex relationships among plants, animals, microbes, and soils.

Because specific plant species have specific microbial associations, keeping the grasslands greenside up is very important. Once a prairie has been tilled, those associations are lost. A soil teeming with microbial life is killed – we can’t ever get that back. We might be able to restore some semblance of the plant community, but if it took thousands of years for the prairie to evolve to where it is today, it’s going to take a long time for a tilled landscape to recover as well.

The grassland loving (root-loving) producers – farmers, ranchers, grassland managers – showcased in this planner recognize the importance of keeping the grasslands in grass, and how important it is to manage them properly not only for the above ground production, but the below ground production as well. These folks have learned through trial and error, mentors, and Mother Nature how to best manage their grasslands and keep their roots running deep. We hope you enjoy their stories and insights.

Tony Sunseri
State Conservationist
USDA Natural Resources
Conservation Service

*Board of Directors
and Members*
South Dakota
Grassland Coalition



The Nature Conservancy
Preserving nature. Preserving life.



Audubon DAKOTA



SOUTH DAKOTA
STATE UNIVERSITY



United States
Department of
Agriculture
Natural Resources Conservation Service

THE CATTLE BUSINESS
WEEKLY

TRI-STATE
LIVESTOCK NEWS



“Maintaining grass is crucial for building soil health. In the winter, the grass captures snow providing moisture retention. This helps keep the roots alive and growing throughout the year, benefiting the overall microbial activity in the soil. This practice is particularly important, especially in years with challenging weather conditions.”

- Larry Wagner, Brule County



Quote has been edited and condensed for clarity.

JANUARY

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday																																																																																																															
	1 New Year's Day	2	3 ☾	4	5	6																																																																																																															
	New Year means new conservation plan! Get started with NRCS.																																																																																																																				
7	8	9	10	11 ●	12	13																																																																																																															
If your operation needs improvements on your grazing lands, consider applying for EQIP or CSP. Sign-up is continuous.																																																																																																																					
14	15 Martin Luther King Jr. Day	16	17 ☾	18	19	20																																																																																																															
21	22	23	24	25 ☽	26	27																																																																																																															
28	29	30	31	<table border="1"> <thead> <tr> <th colspan="7">December 2023</th> <th colspan="7">February</th> </tr> <tr> <th>S</th><th>M</th><th>T</th><th>W</th><th>T</th><th>F</th><th>S</th> <th>S</th><th>M</th><th>T</th><th>W</th><th>T</th><th>F</th><th>S</th> </tr> </thead> <tbody> <tr> <td></td><td></td><td></td><td></td><td></td><td>1</td><td>2</td> <td></td><td></td><td></td><td></td><td>1</td><td>2</td><td>3</td> </tr> <tr> <td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td> <td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td> </tr> <tr> <td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> <td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td> </tr> <tr> <td>17</td><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td> <td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td> </tr> <tr> <td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td> <td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td></td><td></td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td>31</td> <td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>		December 2023							February							S	M	T	W	T	F	S	S	M	T	W	T	F	S						1	2					1	2	3	3	4	5	6	7	8	9	4	5	6	7	8	9	10	10	11	12	13	14	15	16	11	12	13	14	15	16	17	17	18	19	20	21	22	23	18	19	20	21	22	23	24	24	25	26	27	28	29	30	25	26	27	28	29									31							
December 2023							February																																																																																																														
S	M	T	W	T	F	S	S	M	T	W	T	F	S																																																																																																								
					1	2					1	2	3																																																																																																								
3	4	5	6	7	8	9	4	5	6	7	8	9	10																																																																																																								
10	11	12	13	14	15	16	11	12	13	14	15	16	17																																																																																																								
17	18	19	20	21	22	23	18	19	20	21	22	23	24																																																																																																								
24	25	26	27	28	29	30	25	26	27	28	29																																																																																																										
						31																																																																																																															
<p>Conservation easements can keep working lands in production while protecting the grassland resource. Please contact NRCS or U.S. Fish and Wildlife Service for options and payment rates.</p>						 																																																																																																															

The breeding behavior of the sharp-tailed grouse, greater prairie chicken, and sage grouse involves congregating in specific areas, known as leks, during the breeding season. The process begins as early as February, with peak activity in mid-April. Male grouse engage in elaborate displays, including dancing and vocalizations, to attract females. The lek remains active for an extended period, with the birds being most active during the early morning and late evening. This behavior plays a vital role in their breeding activities and is a notable spectacle during the spring mating season.



FEBRUARY

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
January S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	March S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	 		1	 2 Groundhog Day World Wetlands Day	3
4	5	6	7	8	 9	10
11	Lincoln's Birthday	Mardi Gras	Valentine's Day	15	 16 Great Horned Owl begins nesting	17
18	Presidents' Day Washington's Birthday	20	21	22	23	 24
25	26	27	28	29		

Looking to make improvements in your grassland health? See NRCS for free one-on-one conservation advice. Farm Bill Programs sign-up is continuous.

The Prairie Pothole Region serves as a crucial area for breeding waterfowl and shorebirds. Small, shallow wetlands surrounded by grasslands and muddy flats provide an ideal environment for reproduction. The migration, staggered over weeks, includes a great variety of waterfowl and shorebirds, including Canada geese, killdeer, mallards, northern pintails, and snow geese. Conservation efforts aim to ensure the continued well-being of populations of waterfowl and other birds throughout the entire ecosystem.



MARCH

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
February S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29	April S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	 			1	2 Male Sage Grouse begin attending leks to perform courtship and strutting displays.
 3	4	5	6	7	8	9
Based on rainfall amounts received last fall and precipitation forecast for this spring, determine if grass production will be close to normal or reduced this spring. Develop and/or revise action items within your drought contingency plan as needed. Find the NRCS SD Drought Tool at www.sd.nrcs.usda.gov						
 10 Daylight Savings Begins	11	12	13	14	15	16
		Western Meadowlarks migrate through the state. Nesting in medium height grassland habitat begins mid-May.				
 17 St. Patrick's Day	18	19	20	21	22	23
		First Day of Spring		Chorus frogs emerge and begin calling from small wetlands		
24 Easter 31	 25	26	27	28	29	30
		Make sure your pollinator plot planning and site preparation are on schedule. Add a smaller butterfly or native pollinator garden including milkweeds near your home to attract monarchs.			Good Friday	

An aerial photograph showing a controlled burn in progress. A large plume of white and blue smoke rises from a line of trees and brush. A dirt road curves through the landscape, and a river is visible in the lower right. In the background, a field of wind turbines stretches across the horizon under a clear sky. The foreground shows a mix of dry grass and some green shrubs.

Individuals may consider burning when facing issues like overgrowth of cedar trees impacting the landscape, reducing wildlife habitat, and limiting the carrying capacity for livestock. Factors such as involvement in conservation initiatives, collaboration with relevant groups, and having a well-structured burn plan are keys to initiating successful burns.

APRIL

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday																																																																																																										
	 1 Easter Monday	2 Watch for migrating Sandhill and Whooping cranes. Report Whooping Crane sightings to SD Department of Game, Fish and Parks or the U.S. Fish and Wildlife Service.	3	4	5	6																																																																																																										
7	 8	9	10	11	12	13																																																																																																										
		Warblers migrate through the state, passing through or staying to rest. The Yellow Warbler is a common nesting warbler nearly statewide.																																																																																																														
14	 15 Tax Day	16	17	18	19	20 Average nest initiation for prairie grouse in central SD.																																																																																																										
	Be proud of the difference volunteers make in your community - National Volunteer Week, April 14-20																																																																																																															
21	22 Earth Day	 23	24	25	26	27																																																																																																										
			Mallard and Pintail ducks begin nesting.																																																																																																													
28	29 Grass is greening up, do you need to adjust your mineral program?	30		<table border="1"> <thead> <tr> <th colspan="5">March</th> <th colspan="5">May</th> </tr> <tr> <th>S</th><th>M</th><th>T</th><th>W</th><th>T</th><th>F</th><th>S</th> <th>S</th><th>M</th><th>T</th><th>W</th><th>T</th><th>F</th><th>S</th> </tr> </thead> <tbody> <tr> <td></td><td></td><td></td><td></td><td></td><td>1</td><td>2</td> <td></td><td></td><td></td><td>1</td><td>2</td><td>3</td><td>4</td> </tr> <tr> <td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td> <td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td> </tr> <tr> <td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> <td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td> </tr> <tr> <td>17</td><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td> <td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td> </tr> <tr> <td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td> <td>26</td><td>27</td><td>28</td><td>29</td><td>30</td><td>31</td> </tr> <tr> <td>31</td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>		March					May					S	M	T	W	T	F	S	S	M	T	W	T	F	S						1	2				1	2	3	4	3	4	5	6	7	8	9	5	6	7	8	9	10	11	10	11	12	13	14	15	16	12	13	14	15	16	17	18	17	18	19	20	21	22	23	19	20	21	22	23	24	25	24	25	26	27	28	29	30	26	27	28	29	30	31	31													
March					May																																																																																																											
S	M	T	W	T	F	S	S	M	T	W	T	F	S																																																																																																			
					1	2				1	2	3	4																																																																																																			
3	4	5	6	7	8	9	5	6	7	8	9	10	11																																																																																																			
10	11	12	13	14	15	16	12	13	14	15	16	17	18																																																																																																			
17	18	19	20	21	22	23	19	20	21	22	23	24	25																																																																																																			
24	25	26	27	28	29	30	26	27	28	29	30	31																																																																																																				
31																																																																																																																
						 																																																																																																										

“The symptoms of degraded water quality and flooding impacts are directly related to the past and ongoing loss of grasslands. Cleaning up runoff and minimizing flowing water rates are best achieved through the core principle of reestablishing or improving quality grasslands to perform their natural hydrologic function as nature intended.”

- Rick Smith, Hamlin County



MAY

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<p>April</p> <p>S M T W T F S</p> <p>1 2 3 4 5 6</p> <p>7 8 9 10 11 12 13</p> <p>14 15 16 17 18 19 20</p> <p>21 22 23 24 25 26 27</p> <p>28 29 30</p>	<p>June</p> <p>S M T W T F S</p> <p>1</p> <p>2 3 4 5 6 7 8</p> <p>9 10 11 12 13 14 15</p> <p>16 17 18 19 20 21 22</p> <p>23 24 25 26 27 28 29</p> <p>30</p>	 <p>YouTube</p>	 <p>1</p>	<p>2</p>	<p>3</p>	<p>4</p> <p>Peak nest initiation for pheasants in Eastern SD.</p>
<p>5</p>	<p>6</p> <p>Watch for Monarch butterflies.</p>	<p>7</p> 	<p>8</p>	<p>9</p>	<p>10</p>	<p>11</p> <p>Lark Buntings arrive to nest in grasslands. The black-and-white male's courtship display includes a flight 20-30 feet above ground. He then flutters to the ground while singing. The Bobolink is similar in appearance. Mother's Day The male does low display flights, singing while fluttering his wings.</p>
<p>12</p> <p>Mother's Day</p>	<p>13</p>	<p>14</p>	<p>15</p> 	<p>16</p>	<p>17</p>	<p>18</p> <p>Place salt and mineral away from water resources to provide for better range utilization.</p>
<p>19</p>	<p>20</p>	<p>21</p>	<p>22</p>	<p>23</p> 	<p>24</p>	<p>25</p> <p>Peak of White-tailed deer fawn births in Eastern SD.</p>
<p>26</p> <p>Pentecost</p>	<p>27</p> <p>Memorial Day</p>	<p>28</p>	<p>29</p>	<p>30</p> 	<p>31</p>	<p>Remember to enter information in your Record of Livestock Grazing.</p>



“We want to work with our producers to give them the best resources that we can provide and help them find answers to some problems that they might have. We can help provide a solution that changes things in a whole other direction for them in a good way, and not only for themselves but also for the buffalo, for the community, for the land.”

- Arnell Abold, Oglala Lakota Sioux Tribe member
and Tanka Fund Business Development Director

Quote has been edited and condensed for clarity.

JUNE

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
<p>May</p> <p>S M T W T F S</p> <p>1 2 3 4</p> <p>5 6 7 8 9 10 11</p> <p>12 13 14 15 16 17 18</p> <p>19 20 21 22 23 24 25</p> <p>26 27 28 29 30 31</p>	<p>July</p> <p>S M T W T F S</p> <p>1 2 3 4 5 6</p> <p>7 8 9 10 11 12 13</p> <p>14 15 16 17 18 19 20</p> <p>21 22 23 24 25 26 27</p> <p>28 29 30 31</p>	 <p> YouTube</p>	<div style="border: 1px solid black; padding: 5px;"> <ul style="list-style-type: none"> • Graze annual forages at 18-24" height. • Watch pasture for weeds and invasive species. • Remember to enter information in your Record of Livestock Grazing. • Evaluate shade/water needs and plan for next year. </div>				1
2	3	4	5	●	6	7	8
			World Environment Day				Begin to seed summer annual forages.
9	10	11	12	13	◐	14	15
	Practice sustainable harvesting when gathering timsila (prairie turnip) on the prairie.					Flag Day	
16	17	18	19	20	◑	21	22
Father's Day		Peak of pheasant and duck hatch.	Juneteenth	First Day of Summer			Watch grazing heights and rest periods carefully.
23	24	25	26	27	◑	28	29
30	Move animals based on plant height NOT calendar dates.						



The Leopold Award is a prestigious recognition for ranchers who demonstrate exceptional efforts in land management and environmental stewardship. The Slovek Ranch near Philip is the winner of the 2023 Leopold Award, signifying their commitment to sustainable ranching practices and dedication to maintaining and improving the land for both current and future generations.

JULY

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday																																																																																																																	
	1	2	3	4	● 5	6																																																																																																																	
If drought conditions occurred in the spring and continue now, forage production will be reduced. Action items for herd management and adjustments to the grazing plan may need to be implemented.				Independence Day																																																																																																																			
7	8	9	10	11	12	◐ 13																																																																																																																	
Check water sources frequently for condition, i.e., sediment or algae can reduce an animal's water intake.				World Population Day																																																																																																																			
14	15	16	17	18	19	20																																																																																																																	
			Thistles are best controlled at boot stage.																																																																																																																				
◐ 21	22	23	24	25	26	◑ 27																																																																																																																	
				Collect flower seeds from annuals for next year's butterfly garden.		National Day of the Cowboy																																																																																																																	
28	29	30	31	<table border="1"> <thead> <tr> <th colspan="7">June</th> <th colspan="7">August</th> </tr> <tr> <th>S</th><th>M</th><th>T</th><th>W</th><th>T</th><th>F</th><th>S</th> <th>S</th><th>M</th><th>T</th><th>W</th><th>T</th><th>F</th><th>S</th> </tr> </thead> <tbody> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td>1</td> <td></td><td></td><td></td><td></td><td>1</td><td>2</td><td>3</td> </tr> <tr> <td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td> <td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td> </tr> <tr> <td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td> <td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td> </tr> <tr> <td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td> <td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td> </tr> <tr> <td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td> <td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td><td>31</td> </tr> <tr> <td>30</td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>		June							August							S	M	T	W	T	F	S	S	M	T	W	T	F	S							1					1	2	3	2	3	4	5	6	7	8	4	5	6	7	8	9	10	9	10	11	12	13	14	15	11	12	13	14	15	16	17	16	17	18	19	20	21	22	18	19	20	21	22	23	24	23	24	25	26	27	28	29	25	26	27	28	29	30	31	30														 	
June							August																																																																																																																
S	M	T	W	T	F	S	S	M	T	W	T	F	S																																																																																																										
						1					1	2	3																																																																																																										
2	3	4	5	6	7	8	4	5	6	7	8	9	10																																																																																																										
9	10	11	12	13	14	15	11	12	13	14	15	16	17																																																																																																										
16	17	18	19	20	21	22	18	19	20	21	22	23	24																																																																																																										
23	24	25	26	27	28	29	25	26	27	28	29	30	31																																																																																																										
30																																																																																																																							



“I wanted to be the best entomologist in the world, and I was getting there. But it didn’t fulfill me the way I thought it would. Meeting farmers, beekeepers, and ranchers opened my eyes to the real problems. The science was being used to support a broken system. So, I quit, started this place, and connected with the land and the people. We conduct science differently now. It’s farmer-driven and relationship-intensive. It’s about breaking down barriers, looking at the bigger picture, and empowering farmers. The impact has been beyond my imagination.”

-Jonathan Lundgren, Deuel County



AUGUST

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<p>July</p> <p>S M T W T F S</p> <p>1 2 3 4 5 6</p> <p>7 8 9 10 11 12 13</p> <p>14 15 16 17 18 19 20</p> <p>21 22 23 24 25 26 27</p> <p>28 29 30 31</p>	<p>September</p> <p>S M T W T F S</p> <p>1 2 3 4 5 6 7</p> <p>8 9 10 11 12 13 14</p> <p>15 16 17 18 19 20 21</p> <p>22 23 24 25 26 27 28</p> <p>29 30</p>	 <p> YouTube</p>		<p>1</p>	<p>2</p>	<p>3</p>
<p>● 4</p>	<p>5</p>	<p>6</p>	<p>7</p>	<p>8</p>	<p>9</p>	<p>10</p>
		<p>Remember to enter details in your Record of Livestock Grazing.</p>			<p>Contact the SD Grassland Coalition about the South Dakota Grazing School</p>	
<p>11</p>	<p>☾ 12</p> <p>Start planing for native seed harvest.</p>	<p>13</p>	<p>14</p>	<p>15</p>	<p>16</p>	<p>17</p>
				<p>Continue to implement Drought Contingency Plan action items as needed.</p>		
<p>18</p>	<p>☽ 19</p>	<p>20</p>	<p>21</p>	<p>22</p>	<p>23</p>	<p>24</p>
<p>Consider cover crops as alternative forage; plant into small grain stubble.</p>					<p>Plan winter feed supply.</p>	
<p>25</p>	<p>☾ 26</p>	<p>27</p>	<p>28</p>	<p>29</p>	<p>30</p>	<p>31</p>



“In the end, we will only conserve what we love.
We only love what we understand, and we will
understand only what we’re taught.”

-Jeff Zimprich, Minnehaha County,
quoting Baba Dioum

SEPTEMBER

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday																																																																																				
1	● 2 Labor Day	3	4	5 Remember to enter details in your Record of Livestock Grazing.	6	7																																																																																				
8	9	10	◐ 11 Continue to implement Drought Contingency Plan action items as needed.	12	13	14																																																																																				
15	16	◑ 17 Watch for migrating Monarch butterflies	18	19	20 Target pastures dominated by cool-season species if green-up occurs in order to reduce pressure on native grasses.	21																																																																																				
22 First Day of Autumn	23	◑ 24 Warblers migrate through the state on their way south. Many are neotropical migrants that winter in Central and South America, making migration stops in the Dakotas critical to their survival.	25	26	27 National Native American Day	28																																																																																				
29	30			August <table border="1"> <tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr> <tr><td></td><td></td><td></td><td></td><td>1</td><td>2</td><td>3</td></tr> <tr><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr> <tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td></tr> <tr><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td></tr> <tr><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td><td>31</td></tr> </table>	S	M	T	W	T	F	S					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	October <table border="1"> <tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td></tr> <tr><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td></tr> <tr><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td></tr> <tr><td>27</td><td>28</td><td>29</td><td>30</td><td>31</td><td></td><td></td></tr> </table>	S	M	T	W	T	F	S								6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			 
S	M	T	W	T	F	S																																																																																				
				1	2	3																																																																																				
4	5	6	7	8	9	10																																																																																				
11	12	13	14	15	16	17																																																																																				
18	19	20	21	22	23	24																																																																																				
25	26	27	28	29	30	31																																																																																				
S	M	T	W	T	F	S																																																																																				
6	7	8	9	10	11	12																																																																																				
13	14	15	16	17	18	19																																																																																				
20	21	22	23	24	25	26																																																																																				
27	28	29	30	31																																																																																						



“Beavers play a crucial role in restoring our landscape. Their dams slow down water, stabilize creeks, and contribute to a healthier environment. By mimicking their natural processes, we’re jumpstarting the restoration of our ecosystem.”

-Lori Brown, Pennington County

Quote has been edited and condensed for clarity.

OCTOBER

Sunday							Monday							Tuesday							Wednesday							Thursday							Friday							Saturday													
September							November							1 ●							2							3							4							5													
S	M	T	W	T	F	S	S	M	T	W	T	F	S																																										
1	2	3	4	5	6	7							1	2	Enjoy the results of your management! Plan an outing with a child for pheasant, grouse, deer, or duck hunting and introduce them to what conservation looks like.							Conduct annual soil tests on fertilized pasture.																																	
8	9	10	11	12	13	14	3	4	5	6	7	8	9																																										
15	16	17	18	19	20	21	10	11	12	13	14	15	16																																										
22	23	24	25	26	27	28	17	18	19	20	21	22	23																																										
29	30						24	25	26	27	28	29	30																																										
6							7							8							9 ☾							10							11							12													
If you would like improvements on your grazing lands, get free one-on-one advice from the USDA Natural Resources Conservation Service. Application for financial assistance for a Conservation Plan through Farm Bill programs is continuous																																			National Farmer's Day																				
13							14							15							16 ☽							17							18							19													
							Native American Day (SD) Columbus Day																												Reminder! Tribal Lease Payments are often due around November 1. Contact your local office to ensure you're prepared for a timely payment.																				
20							21							22							23 ☾							24							25							26													
27							28							29							30							31																											
																												Halloween							 																				



“The pronghorn have increased in numbers, and we’ve noticed the steady rise in their population. Through our management practices, focusing on conservation and proper grazing techniques, we’ve created an environment that benefits not only our livestock but also wildlife. The awareness and responsible management of resources have contributed to the positive impact on wildlife. It’s evident in the increasing numbers of pronghorn, showcasing the effectiveness of our approach over the years.”

- Dan Anderson, Perkins County

Quote has been edited and condensed for clarity.

NOVEMBER

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<p>October</p> <p>S M T W T F S</p> <p>1 2 3 4 5</p> <p>6 7 8 9 10 11 12</p> <p>13 14 15 16 17 18 19</p> <p>20 21 22 23 24 25 26</p> <p>27 28 29 30 31</p>	<p>December</p> <p>S M T W T F S</p> <p>1 2 3 4 5 6 7</p> <p>8 9 10 11 12 13 14</p> <p>15 16 17 18 19 20 21</p> <p>22 23 24 25 26 27 28</p> <p>29 30 31</p>	 <p> YouTube</p>			 <p>1</p>	<p>2</p> <p>Try strip grazing corn stalks to reduce trampling.</p>
<p>3</p> <p>Daylight Savings Ends</p>	<p>4</p> <p>Prepare water systems and equipment for freezing temperatures.</p>	<p>5</p> <p>Election Day</p>	<p>6</p> <p>Watch for Snowy Owls as they move south into South Dakota during years when food may be scarce farther north.</p>	<p>7</p>	<p>8</p>	<p>9</p> 
<p>10</p>	<p>11</p> <p>Veterans' Day</p>	<p>12</p>	<p>13</p> <p>Evaluate end of year pasture use.</p>	<p>14</p>	<p>15</p>  <p>Prepare your financial statements for your lender and yourself.</p>	<p>16</p>
<p>17</p> <p>Test forages and hay before feeding; results can improve winter feeding efficiency separate animals by nutritional needs; lactating or gestating stock need your best forages.</p>	<p>18</p>	<p>19</p>	<p>20</p>	<p>21</p>	<p>22</p> 	<p>23</p>
<p>24</p> <p>Start the tax planning process.</p>	<p>25</p>	<p>26</p>	<p>27</p>	<p>28</p> <p>Thanksgiving</p>	<p>29</p>	<p>30</p>

A photograph of a herd of deer in a field. The deer are in the foreground, looking towards the camera. The background is a large, snow-capped mountain range under a clear sky. The overall scene is a natural, outdoor setting.

“We changed our priorities to taking care of the natural resources and suddenly we started to see the wildlife begin to flourish. Looking at the landscape in a holistic way allowed us to see the interconnectedness of land management, wildlife conservation, and, most importantly, profitability.”

- Jim Faulstich, Hyde County

DECEMBER

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday																																																																																					
 1	2	3	4	5	6	7																																																																																					
	Check pastures and the SD Drought Tool for 2025 forage production forecast.			World Soil Day		Pearl Harbor Remembrance Day																																																																																					
 8	9	10	11	12	13	14																																																																																					
	National Audubon Society's Christmas Bird Counts completed throughout the state. These counts have been performed since 1901, making this the longest running Citizen Science Bird Project in the U.S.																																																																																										
 15	16	17	18	19	20	21																																																																																					
	Monitor body condition score trends of your herd.					First Day of Winter																																																																																					
 22	23	24	25	26	27	28																																																																																					
		Christmas Eve	Christmas Day		Did you remember to take a vacation this year? Plan for next year.																																																																																						
29	 30	31		November <table border="1"> <tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr> <tr><td></td><td></td><td></td><td></td><td>1</td><td>2</td><td></td></tr> <tr><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr> <tr><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td></tr> <tr><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td></tr> <tr><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td></tr> </table>		S	M	T	W	T	F	S					1	2		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	January 2025 <table border="1"> <tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr> <tr><td></td><td></td><td></td><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td></tr> <tr><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td></tr> <tr><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td></tr> <tr><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td><td>31</td><td></td></tr> </table>	S	M	T	W	T	F	S				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		 
S	M	T	W	T	F	S																																																																																					
				1	2																																																																																						
3	4	5	6	7	8	9																																																																																					
10	11	12	13	14	15	16																																																																																					
17	18	19	20	21	22	23																																																																																					
24	25	26	27	28	29	30																																																																																					
S	M	T	W	T	F	S																																																																																					
			1	2	3	4																																																																																					
5	6	7	8	9	10	11																																																																																					
12	13	14	15	16	17	18																																																																																					
19	20	21	22	23	24	25																																																																																					
26	27	28	29	30	31																																																																																						
		New Year's Eve																																																																																									

HOLISTIC MANAGEMENT

SAVORY FRAMEWORK FOR HOLISTIC MANAGEMENT

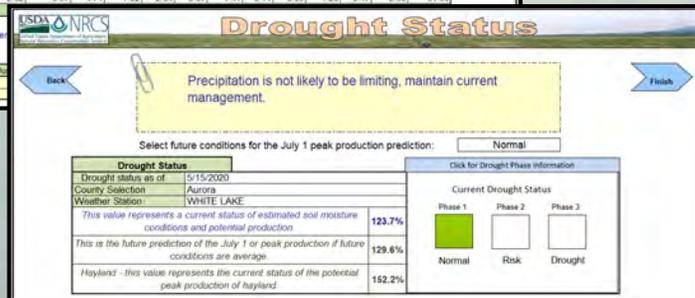
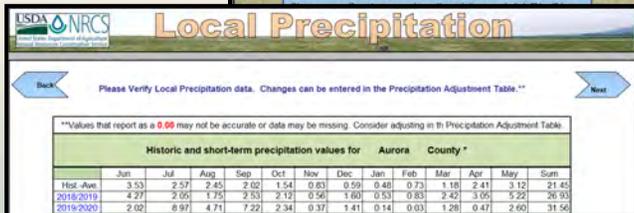
WHOLE UNDER MANAGEMENT	DECISION MAKERS	RESOURCE BASE	MONEY
Holistic Context	Statement of Purpose Quality of Life Forms of Production Future Resource Base		
Eco system Processes			
Conventional Decision Making	Objectives	Goals	Vision
Tools	Human Creativity	Technology	Fire
One or More Factors	Past Experience	Expert Opinion	Research Results
Testing Questions	Cause & Effect	Weak Link	Marginal Reaction
Management Guidelines	Learning & Practice	Organization & Leadership	Marketing
Processes Unique to Holistic Management	Holistic Financial Planning	Holistic Planned Grazing	Holistic Land Planning
Feedback Loop	Replan	Plan	Monitor

“Agriculture is not crop production as popular belief holds - it’s the production of food and fiber from the world’s land and waters. Without agriculture it is not possible to have a city, stock market, banks, university, church, or army. Agriculture is the foundation of civilization and any stable economy.” - Allan Savory

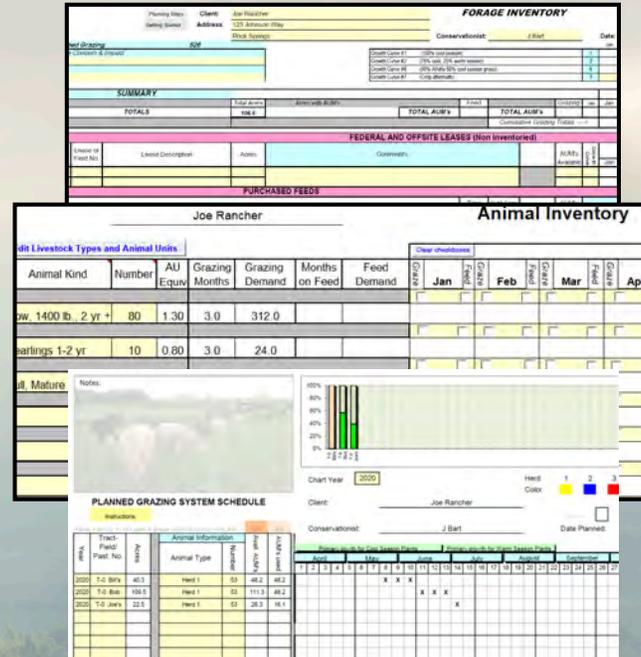
Grassland Planning Tools Available from SD NRCS

SD NRCS has developed Excel-based tools that can be useful to managers when planning management for their grasslands.

The **South Dakota Drought Tool** utilizes weather station data, historical averages, and state-wide clipping data to determine a percent of normal calculation for grassland managers to use for determining the production status of their grasslands. The tool is simple to use, and provides a Drought Planning template for managers that wish to create a written drought plan.



The **SD Grazing Tool** includes instructions on how to build a forage inventory based on Web Soil Survey soils data, create an animal inventory, and match the forage resources to the animal resources in order to build a balanced grazing plan. The tool also provides multiple grazing plan formats depending on the grazer's experience.



These tools are available on the SD NRCS website. Search "SD NRCS". Click on "Range & Drought Information" on the right hand side of webpage under "Popular Topics" to find the SD Drought Tool, SD Grazing Tool, and other useful planning documents.

Grassland Planning Tools and other useful information are taught at the SD Grassland Management School, the SD Grazing School and the SD Soil Health School. These schools provide the opportunity to network and learn new ways to increase efficiency and improve their operations. Visit www.sdgrass.org or the www.sdsoilhealth.org web sites for event updates.

The contents of the South Dakota Grassland Planner calendar pages are now available online as a Google Calendar. Find the new calendar with the latest updates and events on Google Calendar at <https://bit.ly/SDGrasslandCalendar>.

Grassland Planning

Through this Grassland Planner, the U.S. Department of Agriculture NRCS is working with the South Dakota Grassland Coalition (SDGC) and other partners to improve the health of grassland resources. The NRCS, SDGC, and South Dakota State University Extension Service and other entities can assist you to determine and formulate resource protection and enhancement options that fit your operation. Depending upon the area of expertise and need for financial assistance, staff are available through NRCS and SD Conservation Districts, and other partners such as the SD Grassland Coalition and SDSU Extension specialists, the U.S. Fish and Wildlife Service, the South Dakota Departments of Agriculture and Game, Fish and Parks, and private organizations, such as Pheasants Forever, Ltd.

Many resources are available to help you determine and formulate resource protection and enhancement options that fit your operation. Technical help is available for:

- Soil health
- Water quality and quantity
- Fencing
- Monitoring techniques
- Drought management
- Grasses for forage production
- and more!



Depending upon the area of expertise and/or need of financial assistance, staff are available through the following conservation partners.

USDA Natural Resources Conservation Service
www.sd.nrcs.usda.gov
South Dakota State Office
(605) 352-1200

SD Department of Agriculture and Natural Resources
www.danr.sd.gov
(605) 773-3375

Ducks Unlimited
www.ducks.org/southdakota

South Dakota Grassland Coalition
www.sdgrass.org

South Dakota Department of Game, Fish and Parks Wildlife Division
www.gfp.sd.gov
(605) 223-7700

Pheasants Forever
www.peasantsforever.org
(605) 692-6006

South Dakota Conservation Districts
www.sdconservation.org
(605) 895-4099

U.S. Fish and Wildlife Service - SD Partners for Fish and Wildlife
www.fws.gov/partners
(605) 697-2500

South Dakota Soil Health Coalition
www.sdsoilhealthcoalition.org
sdsoilhealth@gmail.com

South Dakota State University (SDSU) Extension Service
extension.sdstate.edu
(605) 688-4792

Special distribution provided by
Cattle Business Weekly and
Tri-State Livestock News

Photography
Joe Dickie

Design
Beth Bird

The USDA is an equal opportunity provider, employer, and lender.

South Dakota Grasslands eCalendar

An eCalendar that can help you
take your ranch management
to the next level by providing
helpful tips and reminders right
at your fingertips!

How to integrate within an existing platform:

Google Calendar

1. On your computer, open your Google Calendar.
2. On the left, next to Other Calendars, Click Add+ From URL.
3. Visit www.indianag.org/ncalendar and copy the Google Calendar URL.
4. Enter the Calendar URL in the field provided.
5. Click Add Calendar. The calendar will appear on the left side under Other Calendars.

Outlook Calendar

1. Go to www.indianag.org/21calendar and copy the iCal URL for the Outlook Calendar.
2. Go to your personal Outlook Calendar and right-click *Shared Calendars > Add Calendar > From Internet*
3. Paste the iCal URL.
4. Choose Yes when asked to subscribe to updates.
5. The SD Grasslands eCalendar will now be integrated within your personal outlook calendar.

iPhone Calendar

1. On your iPhone, go to www.indianag.org/ncalendar and copy the iCal URL for your iPhone Calendar.
2. Go to *Settings > Mail > Accounts > Add Account > Other > Add Subscribed Calendar*.
3. Paste the iCal URL.
4. The SD Grasslands eCalendar will now be integrated within your personal iPhone Calendar.

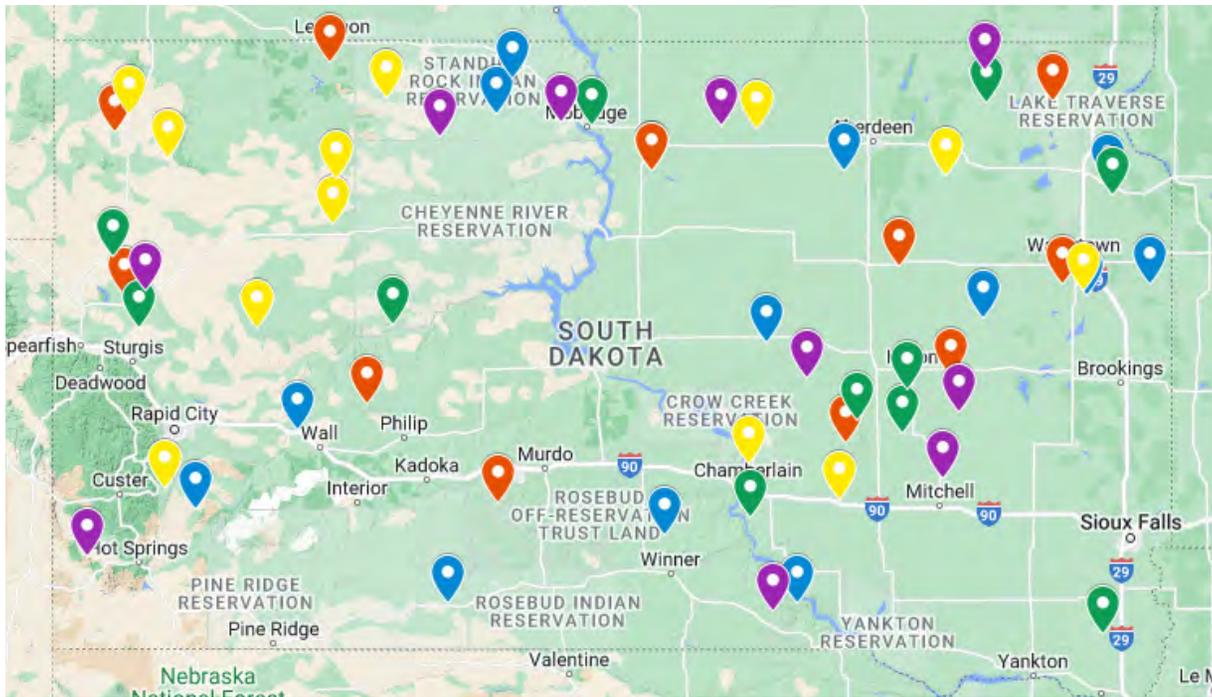
For questions, please contact

Sha'Teal Pearman, IAC Natural Resources Program Assistant

shateal@indianag.org



South Dakota Grassland Planner Featured Operators



The video stories of the “Our Amazing Grasslands” families and operations that have been featured in the 2018–2023 South Dakota Grassland Planners can be viewed on the USDA NRCS South Dakota YouTube channel at www.youtube.com/NRCSSouthDakota.

Search “Amazing Grasslands” to see all of the stories or search for the last name for a particular story.



2018

Schell Ranch, Wasta
 Steve & Paula Livermont, Martin
 Sara & Rich Grim, Bonesteel
 Darin & Jessica Michalski, Willow Lake
 Ron & Carol Brownotter, Bullhead
 Tracy Rosenberg, Marvin
 Sharon & Dan Anderson, Meadow
 Candice & Dean Lockner, Ree Heights
 Chad & Heidi Schooley, Castlewood
 Mimi Hillenbrand & Moritz Espy, Rapid City
 Jorgenson Land & Cattle, Ideal
 Hamann Family, Clear Lake

2019

Jody & JoAnn Brown, Faith
 Bart & Shannon Carmichael, Faith
 Dan & Cindi Conner, Belle Fourche
 Stuart & Lisa Schmidt, Keldron
 Sandy & Jacki Limpert, Buffalo
 Gary & Amy Cammack, Union Center
 Ausland Family, Webster
 Rittberger Family, Hermosa
 Charlie & Tanya Totton, Chamberlain
 Suelflow Family, White Lake
 Rohrbach Family, Roscoe
 Little Family, Castlewood

2020

Chuck & Koreen Anderson, Lemmon
 Jeannie Franceus, Wessington Springs
 George & Suzanne England, Midland
 Jeff & Marci Dell, Nisland
 Lance Vilhauer, Mina
 Johnson Family, Frankfort
 Hove Family, Sisseton
 Fran Fritz, Iroquois
 Rick & Karen Smith, Hayti
 Slovek Ranch, Philip
 Gilbert Family, Buffalo
 Perman Family, Lowry

2021

Erickson Family Ranch, Langford
 Bendigo Family Ranch, Howes
 Turtle Peak Ranch, Wessington Springs
 Summit Lake Partnership, Summit
 Shubeck Family, Centerville
 Blair Bros. Angus Ranch, Vale and Belle Fourche
 Mizera Family, McLaughlin
 Grandview Angus Ranch, Chamberlain
 Davis Family Ranch, Forestburg
 Bohlander Family, Mobridge
 The Wind Ranch, Newell
 Cain Creek, Beadle Co. Conservation Dist., Huron

2022

Smikle Family, Herrick
 Bad Warrior Family, Dupree
 Moore Family, Artesian
 Hanson Family, Letcher
 Boyland Family, Newell
 Neuharth Family, Ft. Pierre
 Thompson Family, McLaughlin
 Effling Family, Britton
 Hollenbeck Family, Edgemont
 Haerter Family, Hosmer
 Magness Family, Miller
 Lower Brule Tribal Ranch, Ft. Pierre

2023

Ollila Family, Newell
 Breyer and Wollschlager Families, Strandburg
 Sander Family, Custer
 Jean & Dennis Fagerland, Langford
 Dutton Family, Faith
 Bien Family, Veblen
 Holt Family, Wecota
 Rasmussen-Lehman 33 Ranch, Belvidere
 Mary & Dave Walkes, Avon
 Kammerer Family, Piedmont
 Blaaid Family, Mitchell
 Anderson

South Dakota Grazing Exchange

sdgrazingexchange.com

Connecting Crop and Livestock Producers
to Improve Soil Health

Do you have pasture, native grass, crop residue or cover crops available to be grazed?

Do you need extra grazing land or forage for your livestock?

The South Dakota Grazing Exchange website, created by the South Dakota Soil Health Coalition, is a free, publicly accessible map that offers a platform for producers to connect throughout the state and region, with information categorized based on forage and livestock grazing opportunities.

Integrating livestock onto cropland and proper management of grasslands are a key part of increasing overall soil health, so we created an online portal to help livestock producers find the right land for their herd, or landowners and operators find the right herd to graze their land.



South Dakota

Soil Health Coalition



When the landowner and tenant are on the same page, soil health advances come more quickly and are longer lasting.



“

My sons weren't interested in farming so when the opportunity came to rent out I picked Mike. I could see the job he was doing and how beneficial it was to the ground.

”

Learn how non-operator landowner (NOLO) Barry Ploog and tenant Mike Beer's pathway to soil health is working out. Their story, and stories of 6 more NOLO/tenant partnerships, are being told in their own words through video and short stories online. Check them out, as well as thoughts on soil health from women landowners, at www.nolosd.org.

South Dakota Grasslands valuable in so many ways

Food, Water, Wildlife to Way of Life



Privately owned range and pasture lands makes up over 27% (528 million acres) of the total acreage of the contiguous 48 states, and these lands constitute the largest private lands use category, exceeding both forest land (21%) and crop land (18%). South Dakota's working rangelands help provide food and fiber for the entire country, and also have recreation opportunities like hunting, bird viewing, hiking, riding, and exploring historical landmarks. The grasses and forbs are also home to a wide variety of wildlife species.

"It's the plants that feed the livestock and offer food and nesting for wildlife, and the soil that supports and feeds those plants, that are the foundation for profitable agriculture and a sustainable environment," says NRCS State Conservationist Tony Sunseri. "If you think about it, everything from storing water and carbon in the ground to supporting everything above ground depends on the health of our soil and grasslands. Really, making a decent living, sustaining surroundings with a diversity of both plants and animals, clean water, the very way of life comes back to healthy grasslands. And that starts with healthy soil."



Agriculture is the life blood of South Dakota. Part of the reason: the state's grasslands support nearly 4 million head of cattle and calves and hundreds of producers.



About 40 species of birds are considered grassland specialists, and more than 300 species either live permanently in grasslands or migrate through them.



A broad diversity of wildlife inhabits the Great Plains region! You'll find badger, prairie chicken, burrowing owl, pronghorn, scaled quail, dung beetle, ornate box turtle, and scissor-tailed flycatcher in this grasslands region.



Rangelands store 12% of global terrestrial carbon stocks. Healthy native plants in rangelands send their roots deep into the soil to help store carbon. There is growing evidence that soils on agricultural lands, especially grasslands like those in South Dakota, can store a considerable amount of carbon dioxide.



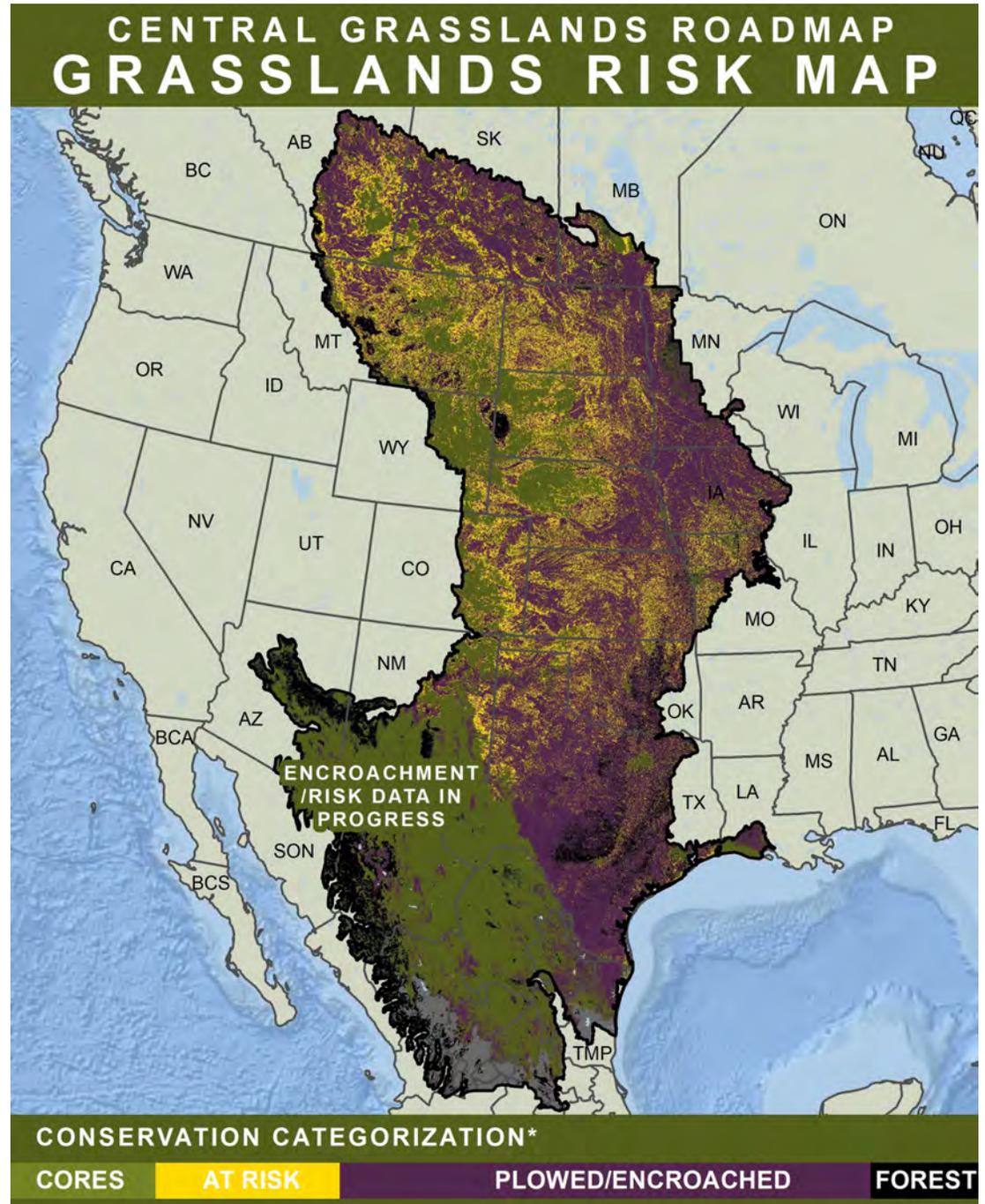
Healthy grasslands favorably impact both water quality and quantity. They build healthy soils to infiltrate rainfall, reduce susceptibility to drought and flooding, and fill underground reservoirs. It's been said that well-protected soil is the greatest storage of fresh water--more than all the lakes and rivers in the world.

From Canada to Mexico

Grasslands, habitat are being lost at an alarming rate

Fewer than 40 percent of the 550 million acres of historical grasslands that once stretched from Alberta to Mexico remain today. Most of these grassland acres were converted to cropland, others to energy development or other uses. As these tallgrass, mixed grass, shortgrass prairies, and desert grasslands are lost, so are the wildlife that depend on them.

Not surprisingly, grassland species are among the most imperiled group of birds in the United States: Total populations have declined more than 40 percent since 1966, and some species, like the Lesser Prairie-Chicken, hover at the brink of extinction. Bison, antelope, and monarch butterflies are only a few examples of the other wildlife that face a diminished future if we allow remaining grasslands to disappear or degrade. Human health and livelihoods are also entwined with the fate of grasslands. Pollinating insects thrived in fields of wildflowers and native grasses, while the deep roots of native plants trapped nutrients and water—and keep prairies resilient through natural cycles of drought, fire, grazing, and storms.



Central Grasslands Roadmap

Working Together Towards Resilient, Connected Grasslands and Communities

If you're concerned about South Dakota's grasslands, you're not alone. As a matter of fact, you're invited to join in a grassland and community improvement collaborative effort that involves dozens of organizations and agencies across 3 countries.

The Central Grasslands span across more than 500 million acres of North America, from Mexico through Canada, where the health of grasslands continues to decline.

Roadmap Launch in 2020

The Central Grasslands Roadmap was launched in 2020 with a virtual summit. Its focus was to define a vision and set high level priorities to guide innovative conservation for the benefit of grassland birds, pollinators and mammals, and to ensure viable human communities across North America's grassland landscape. For two years, Roadmap working groups have been collaborating on policy, communications, and tools needed to help save and sustain our grassland landscapes and connected communities for generations to come. In May of 2022, a second summit was held in Ft. Collins. Representatives from South Dakota organizations and agencies with an interest in grasslands were among the more than 200 organizations from Mexico, Canada, the U.S., and Indigenous Nations, that came together for two days.

The Grassland Roadmap Vision

The vision over the next 10 years for the Central Grasslands Roadmap is to witness thriving Indigenous and rural communities and economies, with flourishing ecosystems of soil, plants, and wildlife on millions of acres of working lands that have healthy grazing populations, with resilient and connected habitat. That will come about in part through dynamic and multi-faceted approaches to sustainable grasslands management, supported by public policies and investments. The vision includes a sustainable agriculture, energy development, and rivers and wetlands that support habitat, aquifers, production and people.



Scorecard Goals

"The Central Grasslands Roadmap is all about bringing together all the stakeholders who have an interest in grasslands, to boost conservation of North America's Central Grasslands through more collaboration," says Tony Sunseri, state conservationist for the USDA Natural Resources Conservation Service in South Dakota. NRCS is one of the two dozen planning partners for the effort.

The Roadmap's participating organizations have agreed on 7 broad goals:

- 1. Community Support:** Each year, Indigenous/First Nation, ejido, and rancher communities across the biome will report on their ability to sustain their working operations and access sufficient financial and technical assistance resources to support their land stewardship decisions.
- 2. Landscape Conservation:** By 2032, hundreds of millions of acres of grass will be improved, restored, or kept intact across the biome.
- 3. Species:** By 2032, wildlife populations will remain stable if common, become stabilized if declining, and have population trends reversed and recovering if in steep decline, understood through a chosen suite of insects, birds, herpetofauna, and mammals.
- 4. Water:** By 2032, extractions from groundwater and surface water sources will be reduced as necessary to sustain dynamically stable groundwater levels, baseflows, and lake levels.
- 5. Soil:** By 2032, comprehensive soil health will be improved to increase drought resilience, availability of livestock forage and wildlife habitat, and net carbon sequestration.
- 6. Food Supply:** Food companies, agribusinesses, and supply chain actors, immediately work to increase the positive impacts of agricultural production and stop grassland conversion.
- 7. Low-Impact Production:** Transportation and energy industry companies immediately work to ensure intentional siting of energy, transportation, and other commercial or industry developments for all projects including wind, solar, oil, gas, coal, and transmission.

For much more detailed information on the Central Grasslands Roadmap activities, including how you can become involved, visit www.grasslandsroadmap.org/.

Central Grasslands Roadmap

Educational materials available

You can help inform and inspire people of all backgrounds about the many benefits that grasslands provide for human and wildlife communities.

Join the Roadmap's Grasslands and You Campaign. Visit the campaign resources page for downloadable images, posters and information that can be shared with friends, family and supporters.

Download materials, including the poster shown at right, at www.grasslandsroadmap.org/grasslandsandyou.

GRASSLANDS AND YOU

Grasslands contribute to the air you breathe, the water you drink, the food you enjoy, and the landscapes you explore. They offer natural beauty and rich cultural heritage. They help feed millions and support livelihoods and rural economies.

Outdoor Recreation
Grasslands are places to explore with birdwatching, hunting, fishing, hiking, and many other recreational activities.

Food Security
Grasslands and rural agrarian communities are the backbone of North America's food supply.

Good for the Herd—and Birds
Grasslands need grazers to thrive. Sustainable cattle ranching improves grassland health, provides jobs, food, and ensures habitat for wildlife.

Water for Many
Grasslands support watersheds, playas, rivers and streams—and recharge aquifers—ensuring clean, safe water for drinking, wildlife, agriculture and industry.

Traditional Knowledge
Indigenous peoples are finding connection by restoring traditions that provide benefits for grasslands and indigenous communities.

Super Soil
Soil holds water, improving drought resilience and plant growth. Roots, organic material and microbes capture carbon to help fight climate change.

Immense Biodiversity
Flocks of birds, herds of elk and pronghorn, and butterflies amid flowers are vibrant examples of the many plants and animals found on grasslands.

Central Grasslands Roadmap www.grasslandsroadmap.org

Woody encroachment: Major Threat to Grasslands

Best advice: Burn before they get big



South Dakota grasslands—vital to cattle, birds and ranch resiliency—are losing out to an eastern red cedar invasion from the South. In fact, ranchers are losing 30 to 75 percent of their rangeland in areas along the Missouri River. “Absolutely nothing will grow under those thick canopied cedar trees,” says Brule County rancher Doug Feltman. “We’ve lost over half of our cattle grazing.” Eastern red cedar encroachment is often overlooked because the pasture takeover is slow. But once established it can reduce forage for livestock and wildlife by 75 percent or more. Some ranchers, including Feltman, are turning to prescribed burning to reclaim pasture for their cattle and their economic livelihood.

“It will take less work, less equipment, and there’s less danger if you burn small trees,” Feltman says. “You have to respect fire, but you don’t have to be afraid of it. If you write a prescribed burn plan and then follow that plan, you’re going to reduce your risk.”

“If you have a pasture that is full of just little cedar trees that are just starting to come, then, fire will take care of that and it’d be much more cost-effective with a fire than versus trying to go out and clip all the little cedar trees that are one, two, three foot,” says Sean Kelly, SDSU Extension Range Management Field Specialist at Winner.



Doug Feltman



A burn of invasive red cedars in 2011 near Chamberlain (above) resulted in reclaiming some grassland for grazing (below). Thousands of Eastern red cedar trees continue to impair grazing on private grasslands along the Missouri River corridor in southern and central South Dakota.



Fire is an ecological process and recognized control method, but many ranchers are hesitant to use it because of the fear of a runaway fire.

Good planning with professional help can substantially reduce risks of runaway fires. A burn plan that carefully details what will be done, when, and under what conditions, is essential to a safe burn. NRCS and SDSU Extension can help.

From Mexico to Canada:

Grasslands are increasingly at risk

“The data is really clear on this. The two biggest threats to grasslands biome in the Great Plains are land use conversion and woody species invasion,” says Dr. Dirac Twidwell, Associate Professor at the University of Nebraska.

“They are now occurring at the same rate. We’re talking 130 million acres of grassland at risk from conversion with tractors or expansion of tree cover. We’re suffering from biodiversity loss from these—and we’re likely to really struggle with this. There’s no doubt about it, no group of rangeland professionals have had to deal with this scale of conversion and woody species pressure.”

Prevent Woody Encroachment

Twidwell says it’s very important to prevent woody encroachment rather than let it become a problem to address after spread. “Instead of really expensive treatments after we have a major concern, we need to get out in front of it, and anchor in intact grasslands, rather than constantly trying to manage re-invasion,” he says.

“We’re starting to better understand that the approach of trying to restore grasslands that have been overrun with woody species is doomed to fail,” Twidwell says. “The number one predictability factor for woody encroachment

is proximity to the seed source. If you clear even small Cedar trees from grasslands mechanically, there are seeds left all over that rangeland. So that’s going to grow new trees, which will have to be cut again. Instead of restoring areas that have been lost to woody encroachment, it’s been proven it’s better to reduce that risk in the first place. We have to manage to disrupt seeds, rather than waiting to remove trees.”

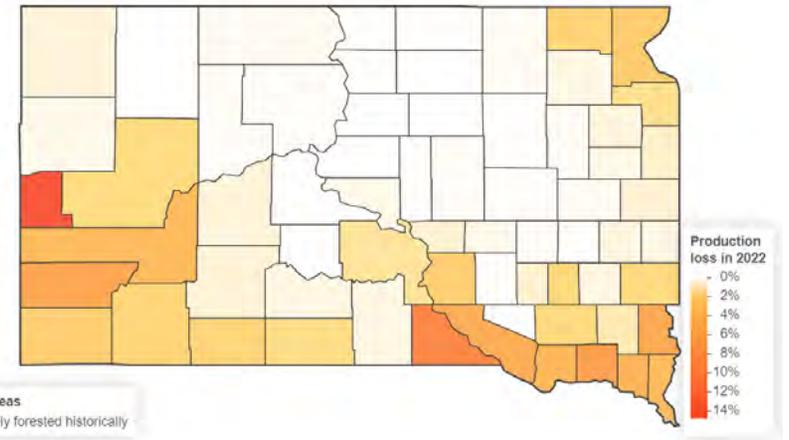


South Dakota

Rangeland Production Lost to Tree Encroachment

Rangeland Production Losses Map

Click any county on the map below to access its report.



The map above depicts percent production loss in 2022 relative to what would have been achievable had tree cover not changed since 1990.

Tree encroachment is a dominant change agent in western U.S. rangelands; tree cover has increased by 50% (77,323 km²) over 30 years, with more than 25% of U.S. rangelands experiencing sustained tree cover expansion. Since 1990, roughly 300 Tg of herbaceous biomass has been lost, totaling \$5 billion in foregone revenue to small agricultural producers.

Rangeland Production and Tree Cover Summary, South Dakota

Rangeland production in 2022	19,159,117 tons
Rangeland production losses in 2022	209,671 tons (1.08%)
Cumulative rangeland production losses since 1990	5,604,349 tons
Tree cover in 2022	736,354 acres
Tree cover change since 1990	+191,925 acres
Tree cover percent in 2022	2.90%

Report generated on 2023-12-21 from the Working Lands for Wildlife (WLFW) science team. The team maintains a woodland expansion database to track annual tree encroachment and resulting losses of herbaceous production in rangelands. Visit wlfw.org/yieldgap to learn more.

Land Use Conversion: Major Threat to Grasslands

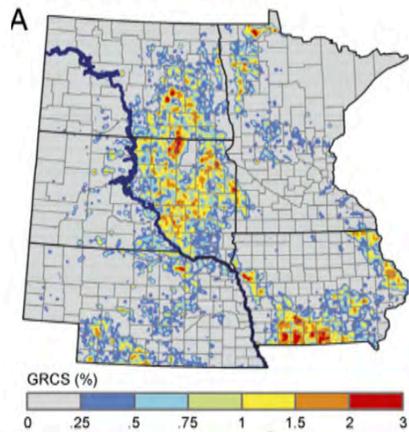
Grasslands are the most endangered ecosystem in the world

The loss of Amazon forestland has been widely publicized, and many people recognize that imposing loss of an important resource. Yet, the 20 percent of Amazon forests that have been lost pale in comparison to the loss of temperate grasslands worldwide. Roughly half the world's grasslands have been lost! Conversion to cropland or other uses is one of the primary reasons; in 2019 alone, 2.6 million acres of North American grasslands were plowed under, according to a World Wildlife Fund report. According to the World Wildlife Fund, only 53 percent of the Great Plains area's grassland remains intact – about 42 percent of the grasslands have been converted to crops or other uses.

That loss has been felt within South Dakota. A 2015 study based on manually-interpreted digital aerial photography found a net grassland loss of 4.6 million acres resulting from cropland expansion in the state of South Dakota over the six years from 2006 to 2012.

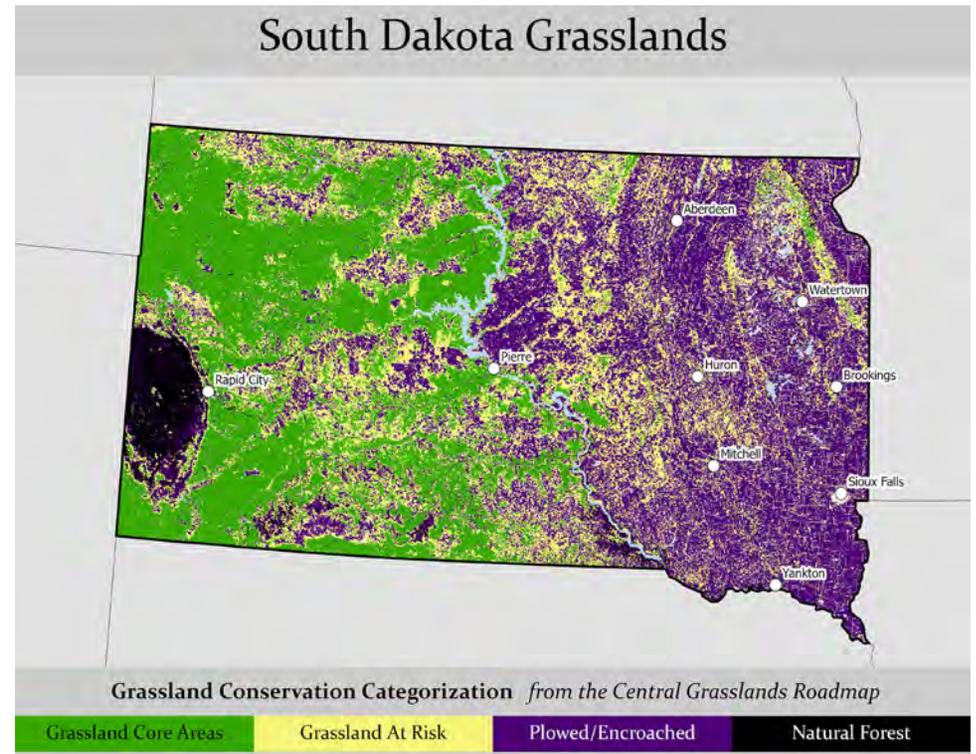
Tyler Lark, a scientist at the University of Wisconsin's Center for Sustainability and the Global Environment, estimates more than a million acres of grasslands in the United States are continuing to be converted to cropland each year.

Figure 2.2.1: Map Showing Absolute Change Rate from Grassland in 2006 to Corn or Soybean in 2011.



Source: (Wright & Wimberly, 2013).

Between 2008 and 2016, as corn prices spiked, U.S. farmers responded by converting more than 10 million acres to crops. Eastern South Dakota has been among the leading areas for rate of conversion from grassland to corn and soybeans, as shown by the rate of change from grassland to corn or soybeans from 2006 to 2011 (graphic on left).



Much of the grassland in eastern South Dakota has been converted to cropland or another use, or encroached upon with invasive woody species (purple). Most of the remaining grassland is at risk. In the west, much of the native grassland is still intact (green), but many acres are at risk (yellow).

The Opposite Approach to Converting Grass into Croplands:

Return Marginal Croplands to more suitable Grasslands land use

Highmore, South Dakota rancher Jim Faulstich believes all that conversion to crops is a big mistake. For more than 30 years, he's been taking the opposite approach, seeding more than 700 acres of what was marginal cropland on his Daybreak Ranch back to native grasses. It now grows lush grass for his cow herd as well as habitat for wildlife.

He says profitability on his ranch turned around when he began focusing on his land as a natural resource with the best use being growing grassland. "Converting the land back to grassland made our operation more drought resistant," Faulstich says.

His priority has been to manage the grassland resource so it can bounce back after a drought. He's liquidated cow herds to the point necessary to protect his grasslands. Faulstich uses grazing practices that include keeping good ground cover, and rotationally grazing or management intensive grazing versus season-long grazing, and timing and rest.

"All those things are so key to managing your grass to where you have a strong and diverse mix out there," Faulstich says. "One of the things we've emphasized is increasing our warm season grasses. They're a lot deeper rooted than cool



Jim Faulstich

season grasses, and they can really shine in a dry year. So, if you have a diverse mix out there, warm and cool seasons, and a lot of forbs and legumes, it just makes your operation a lot more resilient."



Returning cropland to grassland at Daybreak Ranch and managing to optimize the grassland resource has returned dividends to Jim Faulstich in the form of productive pastures for both cattle and hunting operations.

“Conservation is a state of harmony between men and land.”

-Aldo Leopold

