


A photograph of a person standing in a vast, golden-brown grassland field at sunset. The person is wearing a light-colored shirt, a dark vest, and a cap, and is looking towards the horizon. The sun is low on the horizon, creating a warm, golden glow across the entire scene. The grass is tall and dense, and the background shows rolling hills under a soft sky.

2026 South Dakota Grasslands Planner

Thank you for your passion for healthy grasslands.

A photograph of a herd of bison in a grassy field. The bison are brown with dark horns, and some have green ear tags. They are standing in a field of tall, dry grass. The background is a hazy, overcast sky.

“Today only 55% of native grasslands remain in the Great Plains. On tribal lands, over 80% are still intact, protected by generations of stewardship. Ranchers and native leaders are keeping these grasslands alive. They’re inspired by the resilience of the land, its beauty, and the health it offers their herds and communities. Grasslands are more than what we lost.

They’re what we can still protect. They’re home to deer, waterfowl and over 90 bird species that nest in grasslands. They clean our water, support thousands of pollinators, and help store carbon in the soil. They feed cattle and they feed the spirit to South Dakota. Prairie inspires healing and sustains life. We lost so much, but there’s still so much worth saving.

South Dakota’s grasslands are living history. Let’s keep them alive.”

- Jim Faulstich

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



A photograph of an elderly man, Neil Bien, sitting on a wooden slatted chair outdoors. He is wearing a blue and white checkered button-down shirt under a dark navy blue vest. His hands are clasped in his lap. The background is a blurred outdoor setting with greenery and a wooden building. The text is overlaid on the left side of the image.

Our children are messages that we send forward to a time that we will not see ourselves. And that's why I think we have to develop a philosophy. We all want them to be good citizens and good workers and kind people and everything, but we also have to have them develop a philosophy about the prairie and about the grasslands and the value of those. If you don't value it, you don't miss it when it's gone.

- Neil Bien, Bien Ranch, Veblen, South Dakota

JANUARY

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
December 2025 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	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	 		1 Find activities related to this month's topic for your K-12 student or child at: https://www.wherethingsgrow.org/resources/#education New Year's Day	2	3
4	5	6	7	8	9	10
		New Year means new conservation plan! Get started with NRCS.				
11	12	13	14	15	16	17
	If your operation needs improvements on your grazing lands, consider applying for EQIP or CSP. Sign-up is continuous.					
18	19	20	21	22	23	24
	Martin Luther King Jr. Day					
25	26	27	28	29	30	31
	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.					



The native landscape and the diversity that's out there under well-managed grazing, is so beneficial for the water cycle, especially valuable for wildlife. Of course, that wildlife has to function year-round, through droughts, floods, bad winters.

The more diversity you have with heights, the grasses, diversity and forbs on the landscape, the more valuable that is to the wildlife as well.

- Jim Faulstich

FEBRUARY

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday																																																																																				
1 Groundhog Day	2 World Wetlands Day	3	4	5	6	7																																																																																				
8	9	10	11	12 Lincoln's Birthday	13	14 Valentine's Day																																																																																				
15	16 Presidents' Day Washington's Birthday	17 Mardi Gras	18	19	20	21 Great Horned Owl begins nesting																																																																																				
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As we started down this regenerative path, we started to understand how important the soil was. We covered the bare soil, and started managing in sync with nature and just observing what nature does, The profit went up because we didn't have all the inputs. The health of our family was the biggest factor. It's changed our lives and changed the trajectory today.

- Shawn Freeland



MARCH

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday																																																																																				
<div>1</div> <div>Male Sage Grouse begin attending leks to perform courtship and strutting displays.</div>	<div>2</div>	<div>3</div> <div>Find activities related to this month's topic for your K-12 student or child at: https://www.wheregoodthingsgrow.org/resources/#education</div>	<div>4</div>	<div>5</div>	<div>6</div> <div></div>	<div>7</div>																																																																																				
<div>8</div> <div>Daylight Savings Begins</div>	<div>9</div>	<div>10</div>	<div>11</div>	<div>12</div>	<div>13</div>	<div>14</div> <div>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</div>																																																																																				
<div>15</div>	<div>16</div>	<div>17</div> <div>St. Patrick's Day</div>	<div>18</div> <div>Western Meadowlarks migrate through the state. Nesting in medium height grassland habitat begins mid-May.</div>	<div>19</div>	<div>20</div> <div>First Day of Spring</div>	<div>21</div>																																																																																				
<div>22</div>	<div>23</div>	<div>24</div>	<div>25</div>	<div>26</div> <div>Chorus frogs emerge and begin calling from small wetlands</div>	<div>27</div>	<div>28</div>																																																																																				
<div>29</div> <div>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.</div>	<div>30</div>	<div>31</div>	<div>February</div> <table><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>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td></tr><tr><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td></tr><tr><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td></tr><tr><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td></tr><tr><td>25</td><td>26</td><td>27</td><td>28</td><td></td><td></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	25	26	27	28				<div>April</div> <table><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></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			<div> </div>
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When their ground isn't frozen, that's when we want to make sure that we capture as much moisture as possible, because the plants depend on it. And some plants require more water than others. But the bottom line is all plants require water to grow. And so if we can keep them healthy by keeping the water in place, where it falls, the whole ecosystem benefits.

- Lyle Perman

APRIL

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
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	May S M T W T F S 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	3	4
5 Easter	6	7	8	9	10 Good Friday	11
12	13 Mallard and Pintail ducks begin nesting.	14 Warblers migrate through the state, passing through or staying to rest. The Yellow Warbler is a common nesting warbler nearly statewide.	15 Tax Day	16	17	18 Average nest initiation for prairie grouse in central SD.
19	20	21	22 Earth Day	23	24	25
26	27	28 Grass is greening up. Do you need to adjust your mineral program?	29 Find activities related to this month's topic for your K-12 student or child at: https://www.wheregoodthingsgrow.org/resources/#education	30		

I came to believe, and still believe, that we're really only talking about one thing. It's all the same thing, you know, birds, grass, trees. All the wildlife that goes with it. That's one thing. And you really can't pry them apart. And so when I realized that if you really are going to try to help the situation, the only way you can do it is has some sort of a proprietary relationship with a piece of ground.

- Dan O'Brien



MAY




Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
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	June 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	 	Find activities related to this month's topic for your K-12 student or child at: https://www.wheregoodthingsgrow.org/resources/#education		1	2 Peak nest initiation for pheasants in Eastern SD.
3	4 Watch for Monarch butterflies.	5 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. The male does low display flights, singing while fluttering his wings.	6	7	8	9
10 Mother's Day	11	12	13	14	15	16
17	18	19	20	21	22	23 Peak of White-tailed deer fawn births in Eastern SD.
24 31	25 Memorial Day	26	27	28	29	30
		Remember to enter information in your Record of Livestock Grazing.				



Earthworms serve a big purpose. Of course, the soil is their home, but they're transitioning their home with a lot of their activities, working on old organic matter and decaying plant materials and cycling those nutrients. For other plant growth and also improving the soil physical properties. Those worms are vitally important, for helping this soil form and become more resilient.

- Anthony Bly

JUNE

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	<div>1</div> <div>Find activities related to this month's topic for your K-12 student or child at: https://www.wheregoodthingsgrow.org/resources/#education</div>	<div>2</div>	<div>3</div>	<div>4</div>	<div>5</div> <div>World Environment Day</div>	<div>6</div> <div>Begin to seed summer annual forages.</div>																																																																																																		
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		Practice sustainable harvesting when gathering timpsila (prairie turnip) on the prairie.																																																																																																						
<div>14</div> <div>Flag Day</div>	<div>15</div>	<div>16</div>	<div>17</div>	<div>18</div>	<div>19</div> <div>Juneteenth</div>	<div>20</div>																																																																																																		
<div>21</div> <div>First Day of Summer Father's Day</div>	<div>22</div>	<div>23</div> <div>Peak of pheasant and duck hatch.</div>	<div>24</div> <div>Move animals based on plant height NOT calendar dates.</div>	<div>25</div>	<div>26</div>	<div>27</div> <div>Watch grazing heights and rest periods carefully.</div>																																																																																																		
<div>28</div>	<div>29</div> <div><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>	<div>30</div>	<div>May</div> <table><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>1</td><td>2</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><tr><td>31</td><td></td><td></td><td></td><td></td><td></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							<div>July</div> <table><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>1</td><td>2</td></tr><tr><td></td><td></td><td></td><td></td><td></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		 
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As I watched the spider on that native grass, I am always astounded that we were so busy that we really didn't have time to even not only appreciate, but recognize and respect those natural systems. And the more that we learned about the science behind the natural ecosystem and the interconnectedness of each part of that system, the more the natural provision and abundance just exploded to allow us the time to be able to spend, appreciating and recognizing and not only preserving, but regenerating those ecosystems in a whole new way.

- Candice and Dean Lockner



JULY




Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
June 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	August 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 Find activities related to this month's topic for your K-12 student or child at: https://www.wheregoodthingsgrow.org/resources/#education	2	3	4 Independence Day
5	6	7	8	9	10	11 World Population Day
12	13 Thistles are best controlled at boot stage.	14	15	16	17	18 Check water sources frequently for condition, i.e., sediment or algae can reduce an animal's water intake.
19	20	21	22	23	24	25 National Day of the Cowboy
26	27	28	29	30	31	 



Rotate. Rest. Recover.
It's the mantra of ranchers who work with the land, not against it.
Rotational grazing builds healthier pastures and stronger herds.

- Larry Stomprud

AUGUST

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
July 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	September 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	3	4	5	6	7	8
		Remember to enter details in your Record of Livestock Grazing.			Contact the SD Grassland Coalition about the South Dakota Grazing School	
9	10	11	12	13	14	15
	Start planing for native seed harvest.			Continue to implement Drought Contingency Plan action items as needed.		
16	17	18	19	20	21	22
Consider cover crops as alternative forage; plant into small grain stubble.					Plan winter feed supply.	
23	24	25	26	27	28	29
30	31		Find activities related to this month's topic for your K-12 student or child at: https://www.wherethingsgrow.org/resources/#education			



Most root activity happens in the top foot of soil, where microbial life is thriving, breaking down nutrients, and building healthy, living soil. But those deep roots? They're like nature's backup plan, reaching water far below and keeping prairies resilient, no matter what the weather brings.

This underground system is key to prairie survival, especially in landscapes where rainfall is unpredictable and seasons are extreme. Prairie plants aren't just survivors. They're architects of soil, water, and life itself.

- Pete Bauman

SEPTEMBER

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	Find activities related to this month's topic for your K-12 student or child at: https://www.wheregoodthingsgrow.org/resources/#education	1	2	3	4	5																																																																																																																
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6	7 Labor Day	8	9	10	11	12																																																																																																																
			Continue to implement Drought Contingency Plan action items as needed.																																																																																																																			
13	14 Watch for migrating Monarch butterflies	15	16	17	18	19																																																																																																																
				Target pastures dominated by cool-season species if green-up occurs in order to reduce pressure on native grasses.																																																																																																																		
20	21	22 First Day of Autumn 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.	23	24	25 National Native American Day	26																																																																																																																
27	28	29	30	<table><tr><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></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td>1</td></tr><tr><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td></tr><tr><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td></tr><tr><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td></tr><tr><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td></tr><tr><td>30</td><td>31</td><td></td><td></td><td></td><td></td><td></td></tr></table>	August							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						<table><tr><th colspan="7">October</th></tr><tr><th>S</th><th>M</th><th>T</th><th>W</th><th>T</th><th>F</th><th>S</th></tr><tr><td></td><td></td><td></td><td></td><td></td><td>1</td><td>2</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><tr><td>31</td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>	October							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							 
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For sustainable farming, it's critical to balance tillage practices with long term soil and water conservation, protecting soil health insurers resilient ecosystems, and productive farmland for the future.

– Jeff Zimprich

OCTOBER

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
September 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	November 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	 	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.	1	2	3
4	5	6		8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Conduct annual soil tests on fertilized pasture.

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
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.

Continue to implement Drought Contingency Plan action items as needed.

Find activities related to this month's topic for your K-12 student or child at:
<https://www.wheregoodthingsgrow.org/resources/#education>

Halloween



The grasslands that we have that are native, cattle have been grazing them for decades here. And that's not going to change. It's a whole system that we've adopted and we firmly believe in that. It's best for the future of our operation and best for the soil and the ecosystem here on our farm. We can't try and grow crops on every single acre in the world.

- Brian Johnson

NOVEMBER

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday																																																																																				
1 Daylight Savings Ends	2	3 Election Day	4 Allow livestock to graze alternative forage sources, such as cover crops or cornstalks, to allow a rest period for pastures.	5	6	7 Try strip grazing corn stalks to reduce trampling.																																																																																				
8	9 Prepare water systems and equipment for freezing temperatures.	10 Watch for Snowy Owls as they move south into South Dakota during years when food may be scarce farther north.	11 Veterans Day	12	13 Evaluate end of year pasture use.	14																																																																																				
15	16	17	18	19 Prepare your financial statements for your lender and yourself.	20	21																																																																																				
22 Test forages and hay before feeding; results can improve winter feeding efficiency. Separate animals by nutritional needs; lactating or gestating stock needs your best forages.	23	24	25	26 Thanksgiving	27	28																																																																																				
29 Find activities related to this month's topic for your K-12 student or child at: https://www.wherethingsgrow.org/resources/#education	30 Start the tax planning process.			October <table> <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	December <table> <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		 
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Grasslands are vast, vital ecosystems supporting biodiversity, agriculture, and climate stability. Understanding and protecting these landscapes is essential for a sustainable future.

- Karlie Kammerer

DECEMBER

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
November 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 S M T W T F S 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 Check pastures and the SD Drought Tool for 2026 forage production forecast.	2 	3 	4 	5 World Soil Day
6 	7 Pearl Harbor Remembrance Day	8 	9 	10 	11 	12
13 	14 Monitor body condition score trends of your herd.	15 	16 	17 	18 	19
20 	21 First Day of Winter	22 Did you remember to take a vacation this year? Plan for next year.	23 	24 Christmas Eve	25 Christmas Day	26
27 	28 	29 Find activities related to this month's topic for your K-12 student or child at: https://www.wheregoodthingsgrow.org/resources/#education	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	<div>Community Dynamics</div> <div>Water Cycle</div> <div>Mineral Cycle</div> <div>Energy Flow</div>									
Conventional Decision Making	Objectives		Goals		Vision		Mission			
Tools	Human Creativity	Technology	Fire	Rest	Grazing	Animal Impact	Living Organisms	Money & Labor		
One or More Factors	Past Experience	Expert Opinion	Research Results	Expediency	Compromise	Cultural Norms	Cost, Etc.			
Testing Questions Objectives and Actions	Cause & Effect	Weak Link <ul style="list-style-type: none">• Social• Biological• Financial	Marginal Reaction	Gross Profit Analysis	Energy/Money Source Pattern Of Use	Sustainability	Gut Check			
Management Guidelines	Learning & Practice	Organization & Leadership	Marketing	Time	Stock Density & Herd Effect	Cropping	Burning	Population management		
Processes Unique to Holistic Management	Holistic Financial Planning		Holistic Planned Grazing		Holistic Land Planning		Holistic Ecological Monitoring			
Feedback Loop	<div>Replan</div> <div>Plan</div> <div>Monitor</div> <div>Control</div> <div>(Assume Wrong with Environment & Financials)</div>									

“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.

South Dakota Drought Tool

Drought will always be a challenging component of the livestock industry. While we cannot control drought, we can capitalize on our resources in good years, and plan to conserve in drought years. Drought has long term effects, and takes long term recovery. Since 1940, drought historically occurred an average of 21% of years in the northern Great Plains.

The South Dakota Drought Tool is a tool designed to monitor the current and near future drought status of grasslands specific to your operation and assist making management decisions in drought years. Having a drought plan will help sustain your livestock operation for years to come.

Month: 5, Day: 15, Year: 2020

Choose County: Aurora

Choose Station: White Lake

Local Precipitation

Please Verify Local Precipitation data. Changes can be entered in the Precipitation Adjustment Table.

Historic and short-term precipitation values for Aurora County

	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Sum
Hist. Avg	3.53	2.57	2.45	2.02	1.54	0.83	0.58	0.48	0.73	1.18	2.41	3.12	21.45
2018-2019	4.27	2.05	1.75	2.33	2.12	0.56	1.60	0.53	0.83	2.42	3.05	5.22	26.93
2019-2020	2.03	8.97	4.71	7.22	2.34	0.37	1.41	0.14	0.03	1.28	0.47	2.40	31.56

Drought Status

Precipitation is not likely to be limiting, maintain current management.

Select future conditions for the July 1 peak production prediction: Normal

Drought Status

Drought status as of: 5/15/2020

County Selection: Aurora

Weather Station: WHITE LAKE

This value represents a current status of estimated soil moisture conditions and potential production: 123.7%

This is the future prediction of the July 1 or peak production if future conditions are average: 128.6%

Hayland - this value represents the current status of the potential peak production of hayland: 152.2%

Current Drought Status

Phase 1: Normal, Phase 2: Risk, Phase 3: Drought

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.

FORAGE INVENTORY

Planning Steps: Client: Joe Rancher, Address: 1234 Main St, Block: 100, Conservationist: J Bart, Date: 5/15/2020

SUMMARY

Forage Type	Area (Acres)	Animal Units (AU)	Months on Feed	Feed Demand
Forage 1	100	100	12	1200
Forage 2	50	50	12	600
TOTALS	150	150	24	1800

ANIMAL INVENTORY

Joe Rancher

Animal Kind	Number	AU Equiv	Grazing Months	Grazing Demand	Months on Feed	Feed Demand
1400 lb. 2 yr +	80	1.30	3.0	312.0		
weanlings 1-2 yr	10	0.80	3.0	24.0		

PLANNED GRAZING SYSTEM SCHEDULE

Client: Joe Rancher, Conservationist: J Bart, Date Planned: 5/15/2020

Month	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
Forage 1																															
Forage 2																															

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 producers 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

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Joe and Charlie Dickie

Design

Joe Dickie

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

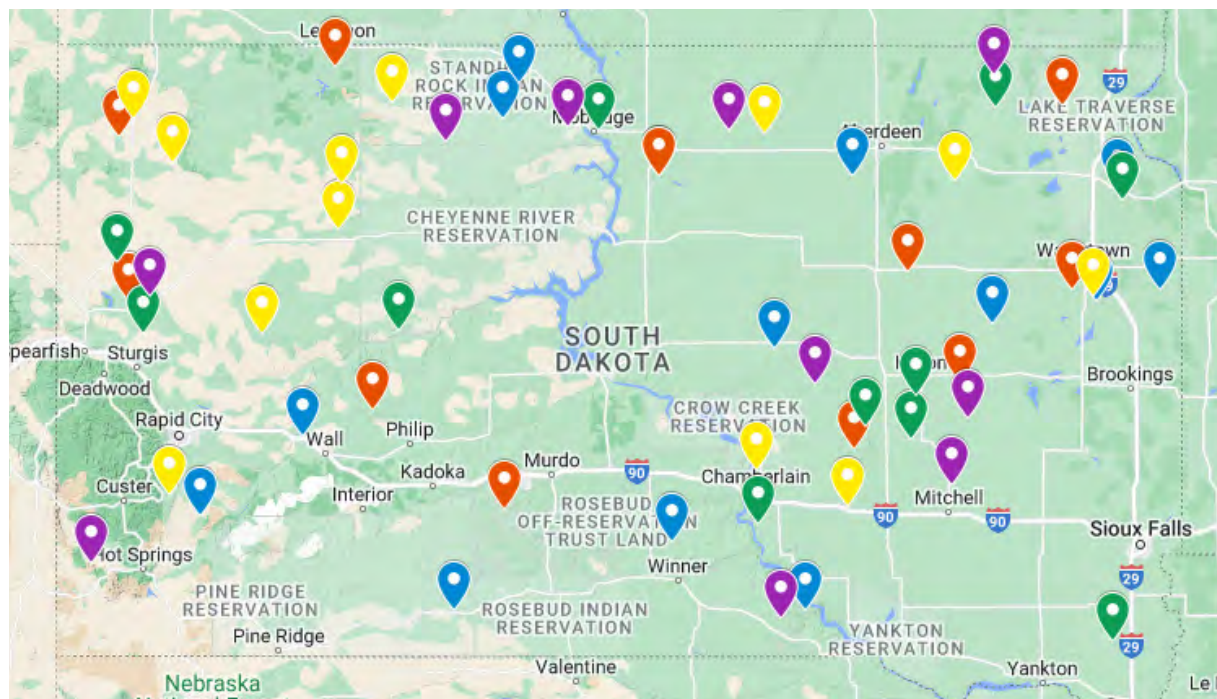
1. Go to www.indianag.org/21calendar and copy the iCal URL for the Outlook Calendar.
2. Go to your personal Outlook Calendar and right-click *Shared Calendars > Add Calendar > From Internet*
3. Paste the iCal URL.
4. Choose Yes when asked to subscribe to updates.
5. The SD Grasslands eCalendar will now 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, at 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 2018-2025 South Dakota Grassland Planners can be viewed on the USDA NRCS South Dakota YouTube channel at www.youtube.com/NRCSouthDakota.

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



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
Slovak 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
Magneess 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
Blaalid Family, Mitchell
Anderson

2024

Barry Dunn, SDSU
Liz Larson, SD State Senator
Jeff Zimprich, Brandon
Johnathon Neuharth
Karlie Kammerer
Kate Rasmussen
Barry & Eli Little,
Castlewood
Jim Faulstich, Highmore
Jeffrey Hemenway,
Piedmont
Joe & Charlie Dickie
Mitch Kezar
Joshua Lefers, Audubon
Society
Joe Blastick, The Nature
Conservancy
Bruce Toay, Ducks Unlimited
Matt Gottlob, Spearfish
Pete Bauman, SDSU
Extension

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



IT TAKES TWO



FEATURING:
Barry Ploog
&
Mike Beer

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.

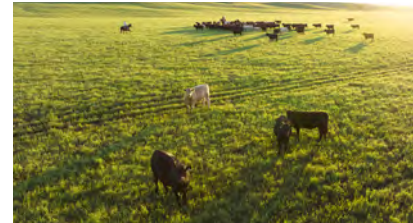
South Dakota Grasslands valuable in so many ways

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.



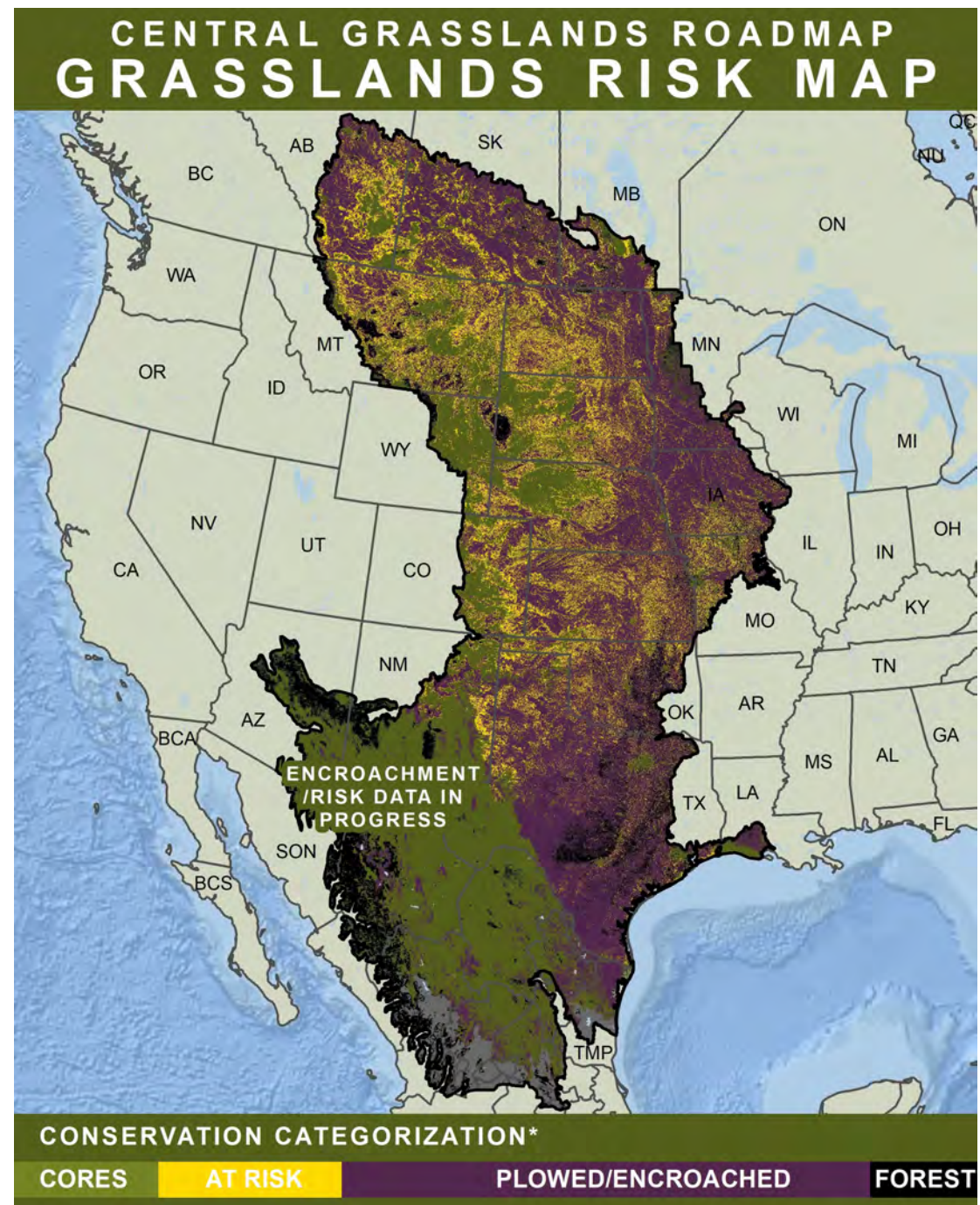
Healthy grasslands favorably impact both water quality and quantity. They build healthy soils to infiltrate rainfall, reduce susceptibility to drought and flooding, and fill underground reservoirs. It's been said that well-protected soil is the greatest storage of fresh water--more than all the lakes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

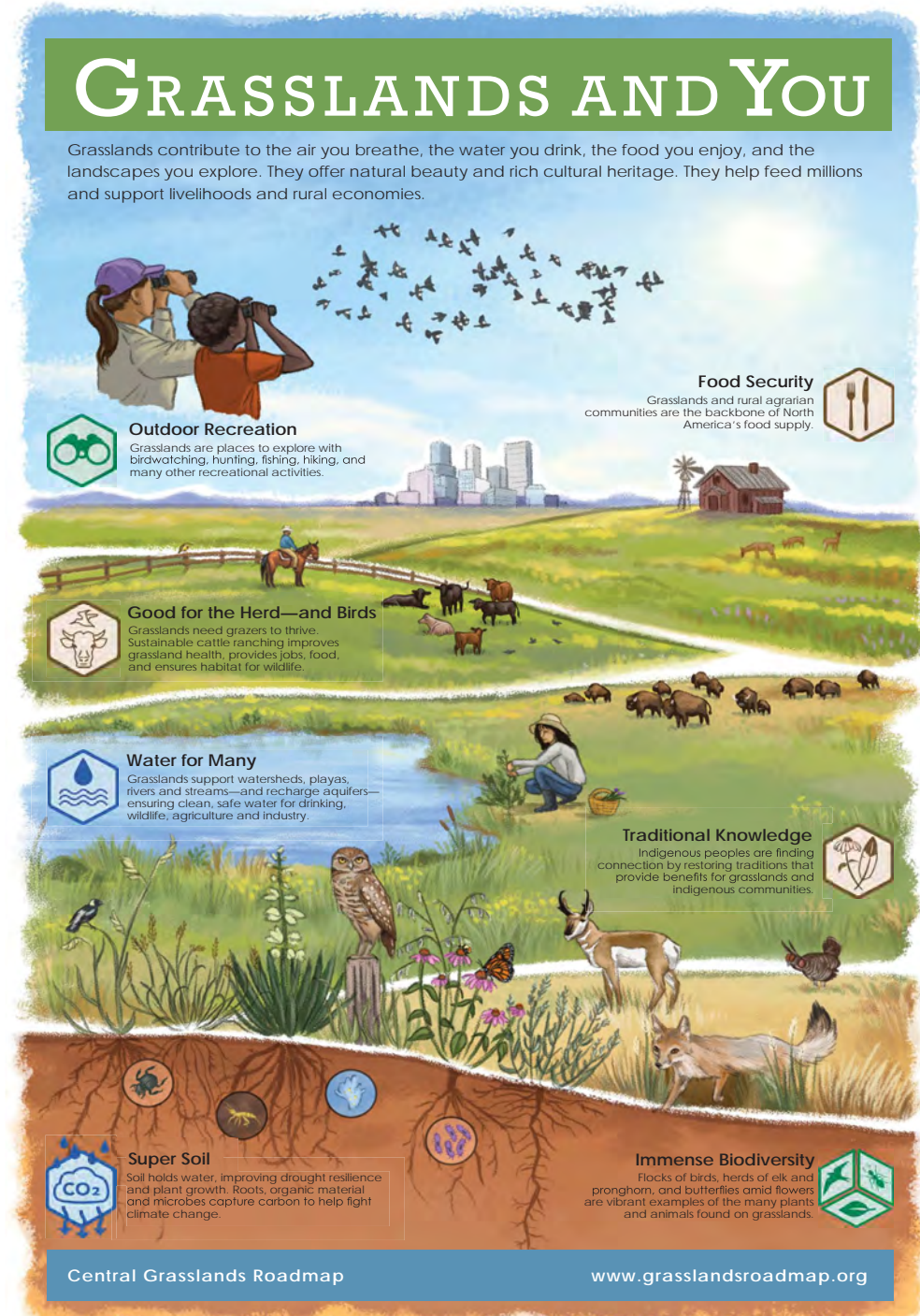
Download materials, including the poster shown at right, at www.grasslandsroadmap.org/grasslandsandyou.

South Dakota Grasslands Initiative

Where Good Things Grow

The South Dakota Grasslands Initiative's Grasslands Education workgroup has developed an activity to build off the topic highlighted in each month's Amazing Grasslands video. These activities are designed for K-12 use as a way to help your child/ student interact with a different aspect of the grassland ecosystems each month.

Visit <https://www.wheregoodthingsgrow.org/resources/#education> each month for the activity.



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 then 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

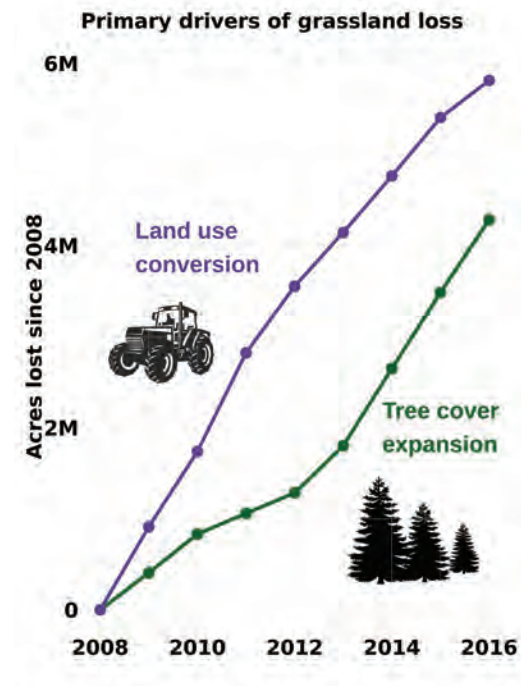
“The data is really clear on this. The two biggest threats to grasslands biome in the Great Plains are land use conversion and woody species invasion,” says Dr. Dirac Twidwell, Associate Professor at the University of Nebraska. “They are now occurring at the same rate. We’re talking 130 million acres 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.”

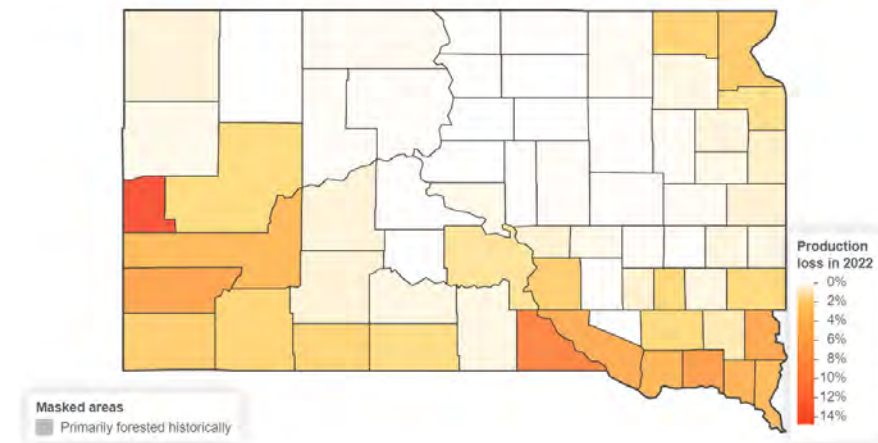


South Dakota

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%

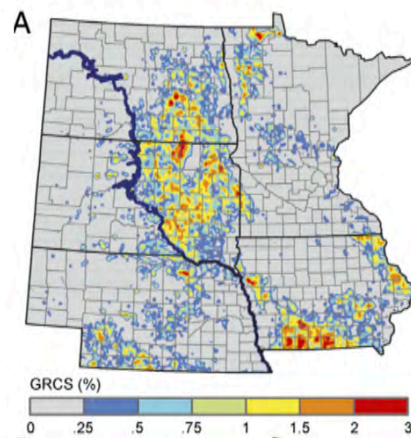
Report generated on 2023-12-21 from the Working Lands for Wildlife (WLFW) science team. The team maintains a woodland expansion database to track annual tree encroachment and resulting losses of herbaceous production in rangelands. Visit wlfw.org/yieldgap to learn more.

Land Use Conversion: Major Threat to Grasslands

Grasslands are the most endangered ecosystem in the world

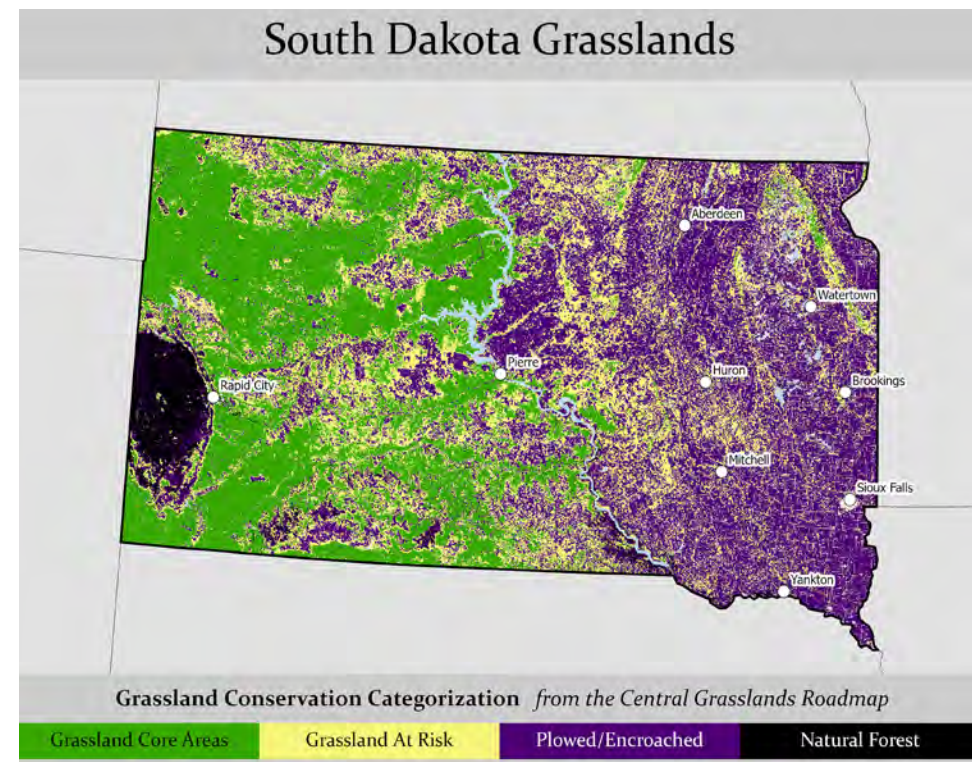
The loss of Amazon forestland has been widely publicized, and many people recognize that imposing loss of an important resource. Yet, the 20 percent of Amazon forests that have been lost pale in comparison to the loss of temperate grasslands worldwide. Roughly half the world's grasslands have been lost! 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.

RECORD FOR LIVESTOCK GRAZING

Name: _____

Year: _____ Farm No: _____ Tract No: _____

[illegible]

Note: Livestock weight estimated; Beginning Graze Ht. estimated (for accuracy measure at least 10 plant locations); Ending Graze Ht. estimated (For accuracy Measure at least 10 plant locations); Be sure to measure same species for grazed and un-grazed pastures.

These notes may be suitable as documentation for conservation programs including the Environmental Quality Incentives Program (EQIP) or the Conservation Stewardship Program (CSP).

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These notes may be suitable as documentation for conservation programs including the Environmental Quality Incentives Program (EQIP) or the Conservation Stewardship Program (CSP).



“The grassland is a big life, but it’s thinner than people’s eyelids. If you rupture its grassy surface, you blind it, and dust storms are more lethal than the white-hair blizzards. If the grassland dies, so will the cows and sheep and horses, as well as the wolves and the people, all the little lives.”

- Jiang Rong, Author of Wolf Totem