

Livestock 101: Bison

Resources and References

SOUTH DAKOTA STATE UNIVERSITY EXTENSION RESOURCES

SDState Extension Resources (<https://extension.sdstate.edu/tags/bison>)

SDSU Extension - Bison by the Numbers StoryMap

Martin, J. M., and Wehus-Tow, B. (2021). Bison by the Numbers: ArcGIS StoryMap and Data. Cent. Excell. Bison Stud. South Dakota State Univ. Available at: <https://storymaps.arcgis.com/stories/6cc9ee1b777447128d811238babfe1ed>



<https://bit.ly/4brOj0t>

SDSU Extension - Climate Toolbox Walkthrough

Martin, J. (2024). Climate Toolbox How-To: Preparing Your Ranch for Future Climate Scenarios. SDSU Ext., 1–10. Available at: <https://extension.sdstate.edu/climate-toolbox-how-preparing-your-ranch-future-climate-scenarios>



<https://bit.ly/4bxCq9f>

SDSU Extension - Decoding Bison: Refining the Bison Body Condition Score & Bison BCS Guide

Martin, J. M., and Lemminger, A. (2025). Decoding Bison: Refining the Bison Body Condition Score. SDSU Ext. Available at: <https://extension.sdstate.edu/decoding-bison-refining-bison-body-condition-score>



bit.ly/Bison_BCS_guide

SDSU Extension - Decoding Bison Dietary Selection: More Than Just Grass

Martin, J. M. (2025). Decoding Bison Dietary Selection: More Than Just Grass. SDSU Ext. Available at: <https://extension.sdstate.edu/decoding-bison-dietary-selection-more-just-grass>



<https://bit.ly/3MgXOFw>

SOUTH DAKOTA NRCS RESOURCES

South Dakota NRCS Range Technical Note No. 14 – Bison Fencing

Rohrer, E. (2024). SD NRCS Range Technical Note No. 14 – Bison Fencing. *USDA-NRCS*, 1–19. Available at:

https://efotg.sc.egov.usda.gov/references/public/SD/Tech_Note_14_Final.pdf



bit.ly/NRCS_BisonFence

South Dakota NRCS Range Technical Note No. 7 – Fence

Rohrer, E. (2025). SD NRCS Range Technical Note No. 7 – Fence. *USDA-NRCS*, 1–38. Available at:

https://efotg.sc.egov.usda.gov/references/public/SD/Range_Tech_Note_7_Final_Update.pdf



bit.ly/SDNRCS_Fence

South Dakota NRCS E528Q Bison BCS Worksheet

Rohrer, E., and Martin, J. M. (2021). Bison Body Condition Scoring Worksheets for Conservation Stewardship Program Enhancement – E528Q, *USDA-NRCS*, 1–4. Available at:

https://www.nrcs.usda.gov/sites/default/files/2022-11/Bison_Worksheet.pdf



<https://bit.ly/42JHKky>

NATURAL RESOURCES CONSERVATION SERVICE RESOURCES

NRCS Technical Note No 190-BIO-95 Conservation Planning with Bison Producers

Simpson, B., Hilken, T., Martin, J. M., Whitman, L., Boll, T., Green, S., et al. (2024). Conservation planning with bison producers. *USDA-NRCS*, 190-BIO-94, 1–41. Available at:

https://directives.nrcs.usda.gov/sites/default/files2/1732536012/TN-190-BIO-94_Conservation_Planning_with_Bison_Producers.pdf



bit.ly/ConsPlan_Bison

REFERENCES USED IN PRESENTATION

- Aune, K., Jorgensen, D., and Gates, C. (2017). *Bison bison*, American bison. IUCN Red List Threat. Species, e.T2815A45156541. Available at: <http://www.iucnredlist.org/details/2815/0>
- Craine, J. M. (2021). Seasonal patterns of bison diet across climate gradients in North America. *Sci. Rep.* 11, 6829. doi: 10.1038/s41598-021-86260-9
- Eastman, B., Wolfe, H., Hildreth, M., Perkins, L., and Martin, J. M. (2026). Effects of bison wallows on soils and plants in the northern mixed-grass prairie. *Nat. Areas J.* 46, 13–20.
- Ehlert, K. A., Urso, P. M., and Martin, J. M. (2025). Where the bison managers learn: Extension and outreach as a tool for manager success. *Front. Ecol. Evol.* 13, 1–7. doi: 10.3389/fevo.2025.1700046
- Geremia, C., Merkle, J. A., Eacker, D. R., Wallen, R. L., White, P. J., Hebblewhite, M., et al. (2019). Migrating bison engineer the green wave. *Proc. Natl. Acad. Sci.* 116, 25707–25713. doi: 10.1073/pnas.1913783116
- Hecker, L. J., Coogan, S. C. P., Nielsen, S. E., and Edwards, M. A. (2021). Latitudinal and seasonal plasticity in American bison *Bison bison* diets. *Mamm. Rev.* 51, 193–206. doi: 10.1111/mam.12229
- Knapp, A. K., Blair, J. M., Briggs, J. M., Collins, S. L., Hartnett, D. C., Johnson, L. C., et al. (1999). The keystone role of bison in North American tallgrass prairie. *Bioscience* 49, 39–50. doi: 10.2307/1313492
- Kohl, M. T., Krausman, P. R., Kunkel, K., and Williams, D. M. (2013). Bison versus cattle: Are they ecologically synonymous? *Rangel. Ecol. Manag.* 66, 721–731. doi: 10.2111/REM-D-12-00113.1
- Martin, J. M. (2020). Drivers of morphological change in bison (*Bison bison*): consequences of rising temperature, increasing drought, and reducing vulnerabilities for managing a keystone species. Texas A&M University. doi: 10.13140/RG.2.2.17026.40646
- Martin, J. M., and Barboza, P. S. (2020). Thermal biology and growth of bison (*Bison bison*) along the Great Plains: examining four theories of endotherm body size. *Ecosphere* 11, e03176. doi: 10.1002/ecs2.3176
- Martin, J. M., and Wehus-Tow, B. (2021). Bison by the Numbers: ArcGIS StoryMap and Data. Cent. Excell. Bison Stud. South Dakota State Univ. Available at: <https://bit.ly/4brOj0t>
- Martin, J. M., Zarestky, J., Briske, D. D., and Barboza, P. S. (2021). Vulnerability assessment of the multi-sector North American bison *Bison bison* management system to climate change. *People Nat.* 3, 711–722. doi: 10.1002/pan3.10209
- Martin. 2025a. Decoding Bison Dietary Selection: More Than Just Grass. SDSU Extension: <https://bit.ly/3MgXOFw>
- Olson, W., and Janelle, J. (2022). *The Ecological Buffalo: On the Trail of a Keystone Species*. Regina, Saskatchewan, Canada: University of Regina Press.
- Peters, H., and Slen, S. (1964). Hair coat characteristics of bison, domestic × bison hybrids, cattalo, and certain domestic breeds of beef cattle. *Can. J. Anim. Sci.* 44, 48–57. Available at: <http://pubs.aic.ca/doi/abs/10.4141/cjas64-009>

- Ratajczak, Z., Collins, S. L., Blair, J. M., Koerner, S. E., Louthan, A. M., Smith, M. D., et al. (2022). Reintroducing bison results in long-running and resilient increases in grassland diversity. *Proc. Natl. Acad. Sci.* 119, 725–757. doi: 10.1073/pnas.2210433119
- Sanderson, E. W., Redford, K. H., Weber, B., Aune, K., Baldes, D., Berger, J., et al. (2008). The ecological future of the North American bison: Conceiving long-term, large-scale conservation of wildlife. *Conserv. Biol.* 22, 252–266. doi: 10.1111/j.1523-1739.2008.00899.x
- Shamon, H., Cosby, O. G., Andersen, C. L., Augare, H., BearCub Stiffarm, J., Bresnan, C. E., et al. (2022). The Potential of Bison Restoration as an Ecological Approach to Future Tribal Food Sovereignty on the Northern Great Plains. *Front. Ecol. Evol.* 10, 105–121. doi: 10.3389/fevo.2022.826282
- Shupinski, A. B., Martin, J. M., Brock, B. L., Otárola-Castillo, E., Hill, M. E., Widga, C., et al. (2026). Significant northwest shift in suitable climate expected for North American bison by the year 2100. *Front. Ecol. Evol.* 13. doi: 10.3389/fevo.2025.1695457