

Montana's Brucellosis Designated Surveillance Area (DSA) by the Numbers



Boundary:

The DSA has undergone boundary adjustments 5 times since its inception in 2010. All boundary changes have occurred due to the discovery of brucellosis exposed wildlife outside of the current boundary. The most recent boundary change, to include the Ruby Mountains, occurred in 2020. FWP captures 100 elk annually to test for exposure to brucellosis and fit them with GPS collars to monitor movement. MDOL helps pay for the live elk captures with federal brucellosis funding. The live elk captures are imperative to maintain confidence that all potentially exposed livestock are included in the State's brucellosis surveillance regulations (the DSA). The current DSA covers 5.29% of Montana's land mass.

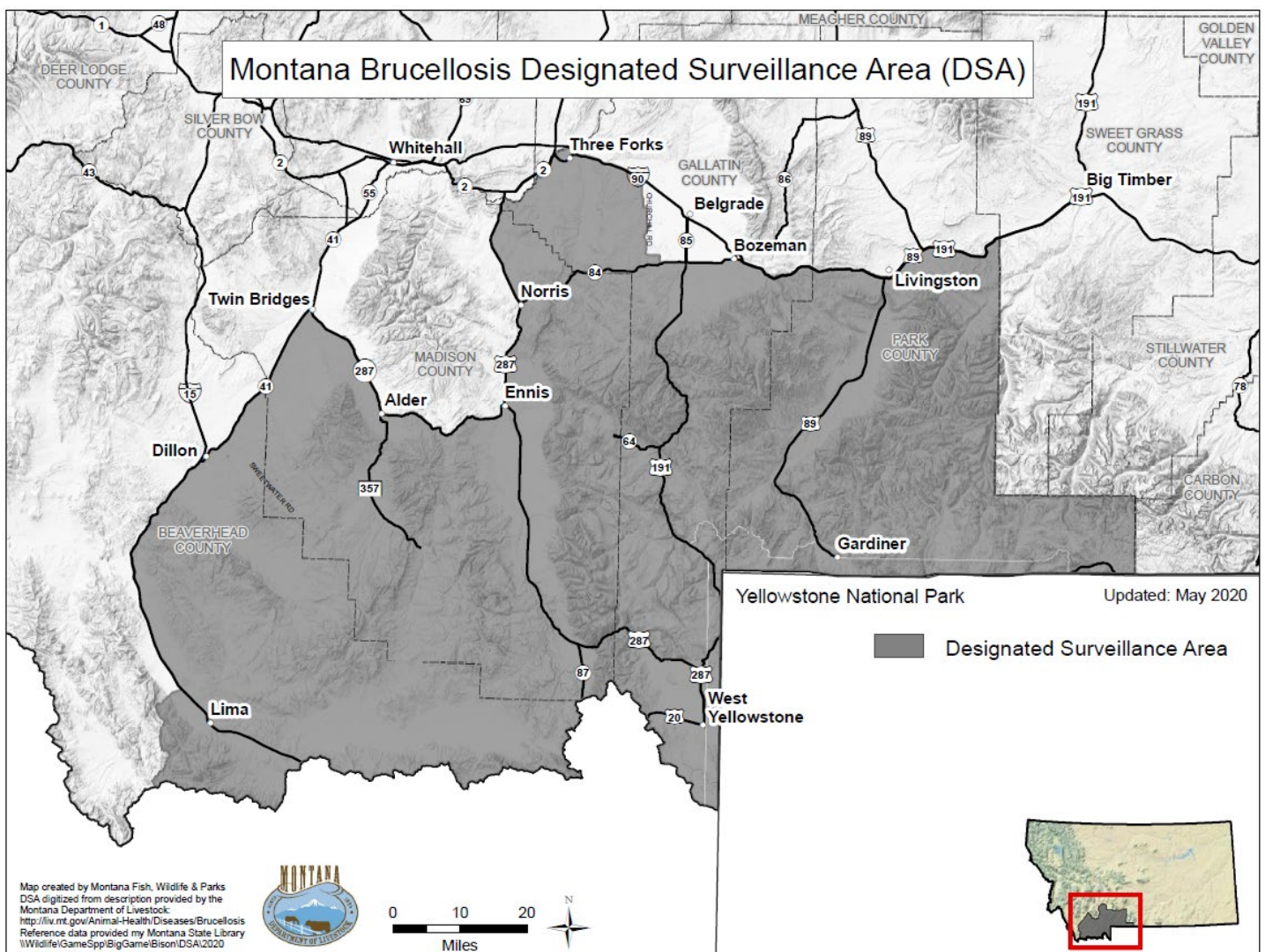


Figure 1. Montana's current DSA boundary 2019-present.

DSA Expansions:

Year	Location of Elk Surveillance	Area Added	Additional Area (sq. miles)	Estimated Additional Herds	Estimated Additional Cattle
2011 (establishment of DSA)			5352	217	34,500
2011	Blacktail	Dillon	617	17	11,800
2012	Sage Creek	I-15	676	15	18,222
2014	Tobacco Roots and Blacks Ford	Three Forks	365	60*	9,199
2018	Tendoy Mountains	Lima	327	81*	33,598
2020	Bangtails and Ruby	Ruby Mountains	400	65	16,204

*procedure for identifying and counting herds changed between 2014 and 2018 resulting in more accurate numbers post-2018

Inventory and Annual Testing:

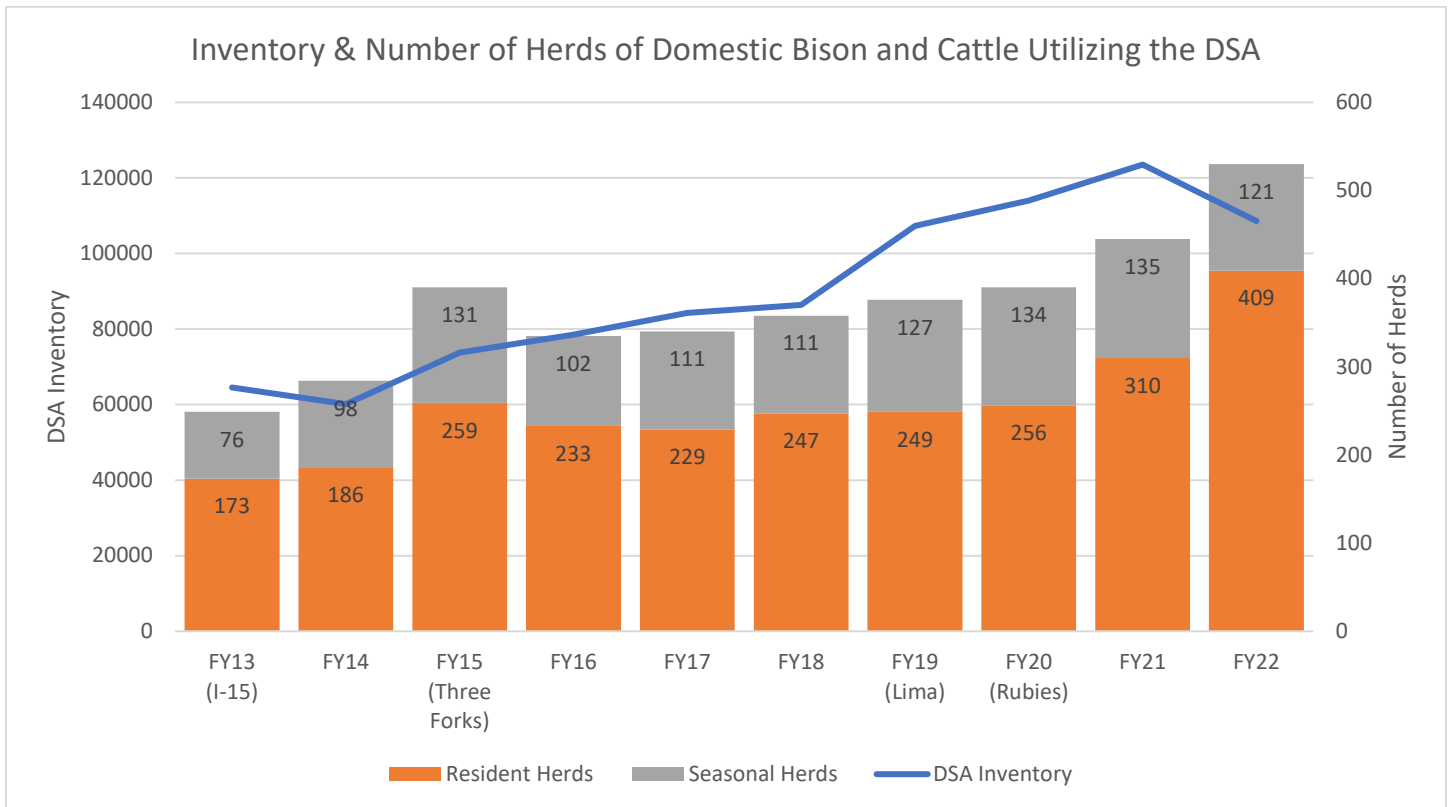


Figure 2. DSA boundary adjustments are indicated below the years in which they occurred.

The FY15 increase in number of herds that utilize the DSA was based upon the Department’s initial assessment of herds in the area. Some of these herds were determined not to utilize the DSA upon further investigation. The FY19 increase in inventory was due to a change in how the Department conducts compliance assessments that resulted in a more accurate count of animals utilizing the DSA. The FY20 boundary adjustment inventory was not included until FY21.

DSA Related Expenses:

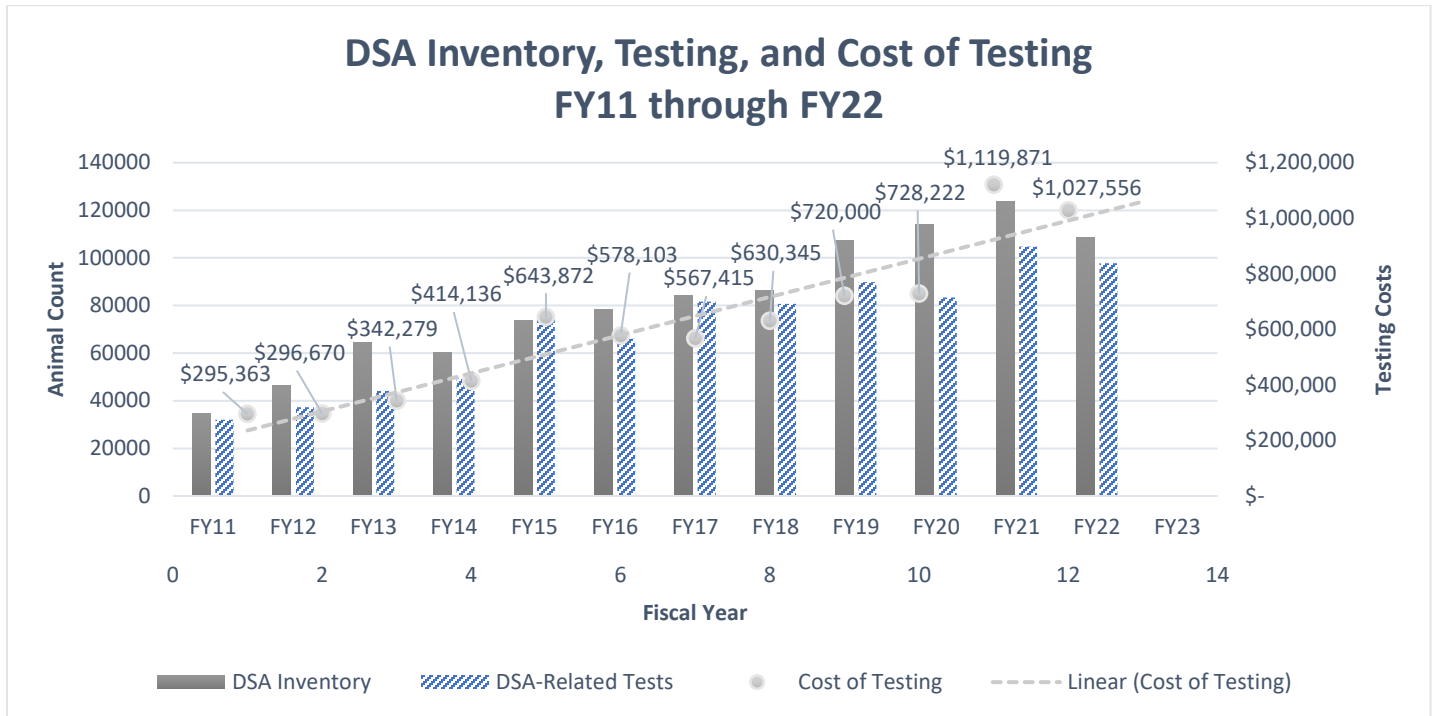


Figure 3. Rate of testing, laboratory and reimbursement costs, and livestock numbers included in DSA regulations

The brucellosis program saw a significant drop in testing in FY 20 (Figure 3.). This drop can be attributed to a change in the primary screening test.

The new screening test had more false positives than expected resulting in some delays in movement and sale of DSA animals. These delays caused many DSA producers to forego voluntary herd testing and opt only to complete the minimum required testing for change of ownership or movement out of the DSA.

	FY20	FY21	FY22
All MT brucellosis tests: *	90,684	112,458	105,582
DSA-related tests:	83,359	104,791	97,896
On Ranch testing:	63,361	93,459	85,705
Market testing:	8,642	11,332	12,191
**Annual cost of testing:	\$728,222	\$1,119,871	\$1,027,556
***DSA cost per test:	\$8.74	\$10.69	\$10.50

Table 1.
 * Includes required and voluntary DSA testing, in-state slaughter, bull stud, export, and other statewide testing.
 **Cost of testing includes laboratory fees and reimbursements to veterinarians and producers.
 *** DSA cost per test is equal to the total annual cost of testing divided by the number of DSA-related tests completed for that Fiscal Year.

Following a change in the USDA testing and interpretation protocol for the new screening test, we saw a significant drop in the number of false positive results. Fewer false positives meant fewer animals involved in movement and sale restrictions and a renewal in producer confidence resulting in a rebound in voluntary herd testing in FY21 (Table 1.). The cost of the new screening test, the rebound in voluntary testing, in combination with additional DSA animals following boundary adjustments have led to a significant increase in cost (Figure 3).

History of Recent Affected Herds:

DSA regulations and producer buy-in have been successful at finding infected herds early (with a low seroprevalence). All of Montana’s brucellosis affected herds since the DSA’s inception in 2010 have been found within the DSA boundaries and have been attributed to transmissions from wild elk. Montana currently has 4 brucellosis affected herds.

Brucellosis Affected Herd Epidemiological Investigations (FY11-present)				
Fiscal Year	Affected Herd Size	% Herd Prevalence	Adjacent Herd Animals	County
FY11	3,250	0.12%	7,000	Gallatin/Madison DSA
FY12	275	2.55%	3,000	Park DSA
FY12	1,550	0.06%	10,000	Madison DSA
FY13	1,100	0.27%	3,000	Madison DSA
FY14	700	0.14%	800	Park DSA
FY15	2340	0.04%	22,000	Madison DSA Seasonal
FY15	650	0.15%	1,500	Park DSA Seasonal
FY17	180	1.11%	4,000	Beaverhead DSA
FY18	1,100	0.09%	450	Madison DSA
FY19	1,450	0.07%	4,970	Madison DSA
FY22	582	0.17%	1300	Madison DSA
FY22	170	0.59%	1,750	Gallatin DSA

Table 2. Epidemiological investigations of brucellosis affected herds from calendar year 2010 to 2022. All were fall or early winter detections.

Compliance:

Department reimbursement for testing has helped to minimize DSA producer costs for program compliance while protecting the remainder of the State from unnecessary testing due to loss of brucellosis Class Status or trading partner confidence.

Compliance with DSA Regulations					
FY15	FY16	FY17	FY18	FY19	FY20
96%	91%	90%	98%	99.6%	98.1%

Table 3.
 FY 15-18 Compliance was determined on a herd basis (i.e., if the herd did not meet a predetermined minimum threshold for testing, they were considered out of compliance). Beginning in FY19-20 compliance has been based on a per animal movement or sale basis (i.e., each DSA movement or sale was matched up with a required testing)