

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.

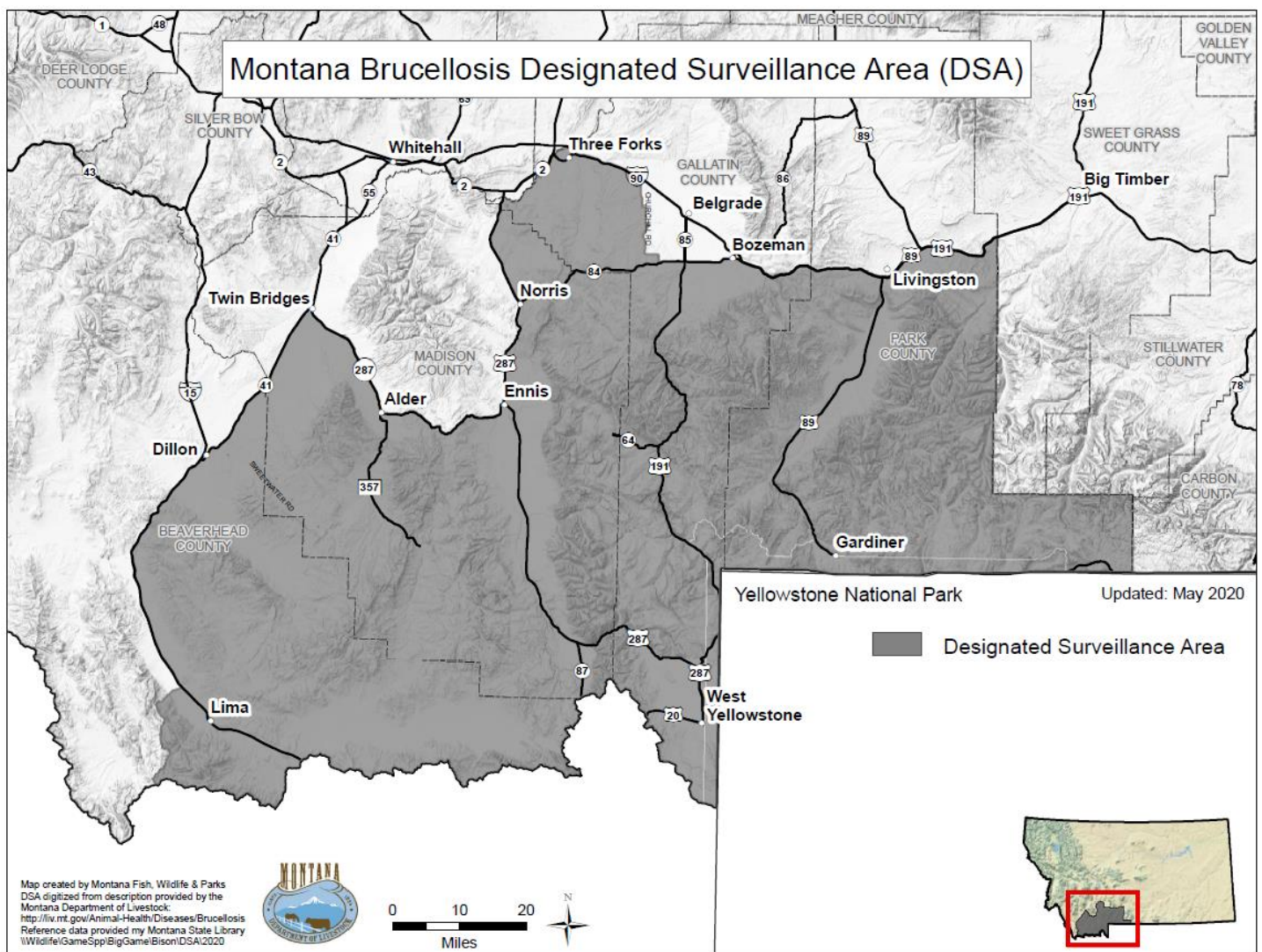


Figure 1. Montana's current DSA boundary.

Inventory and Annual Testing:

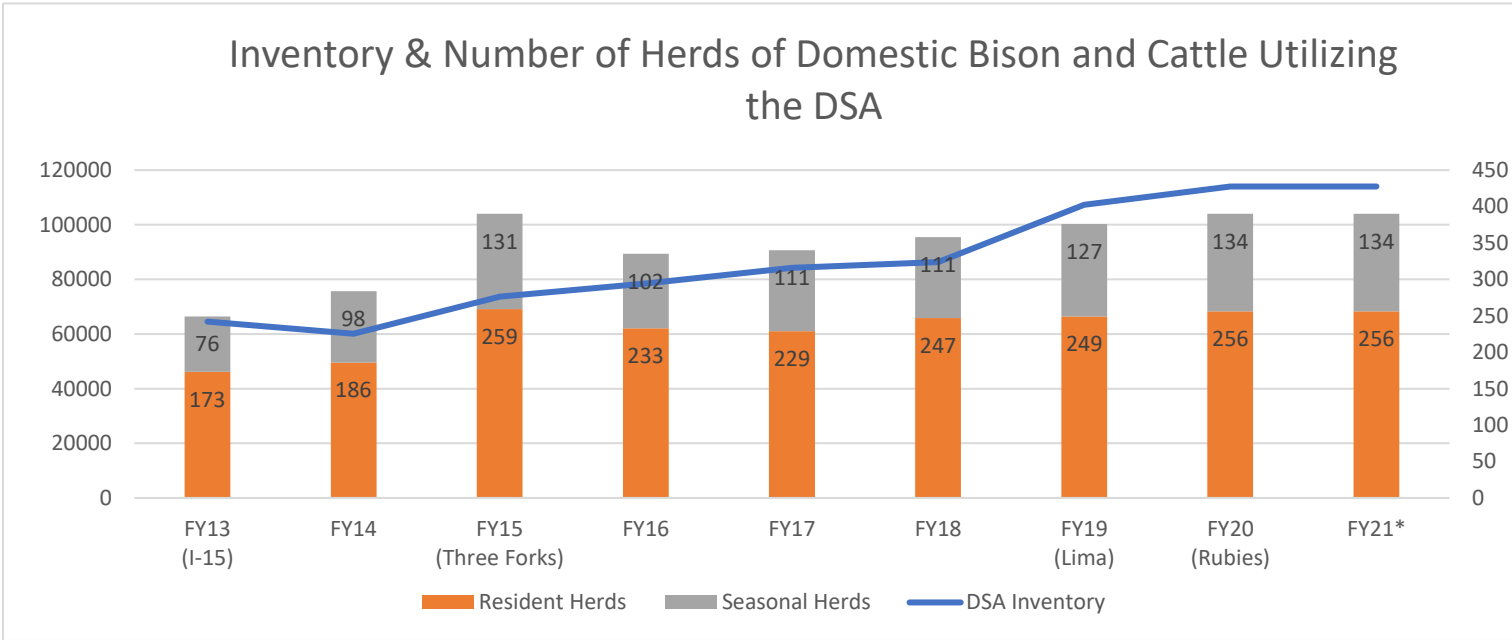


Figure 2. DSA boundary adjustments are indicated below the years in which they occurred.
 *FY21 numbers are estimated

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.

DSA Related Expenses:

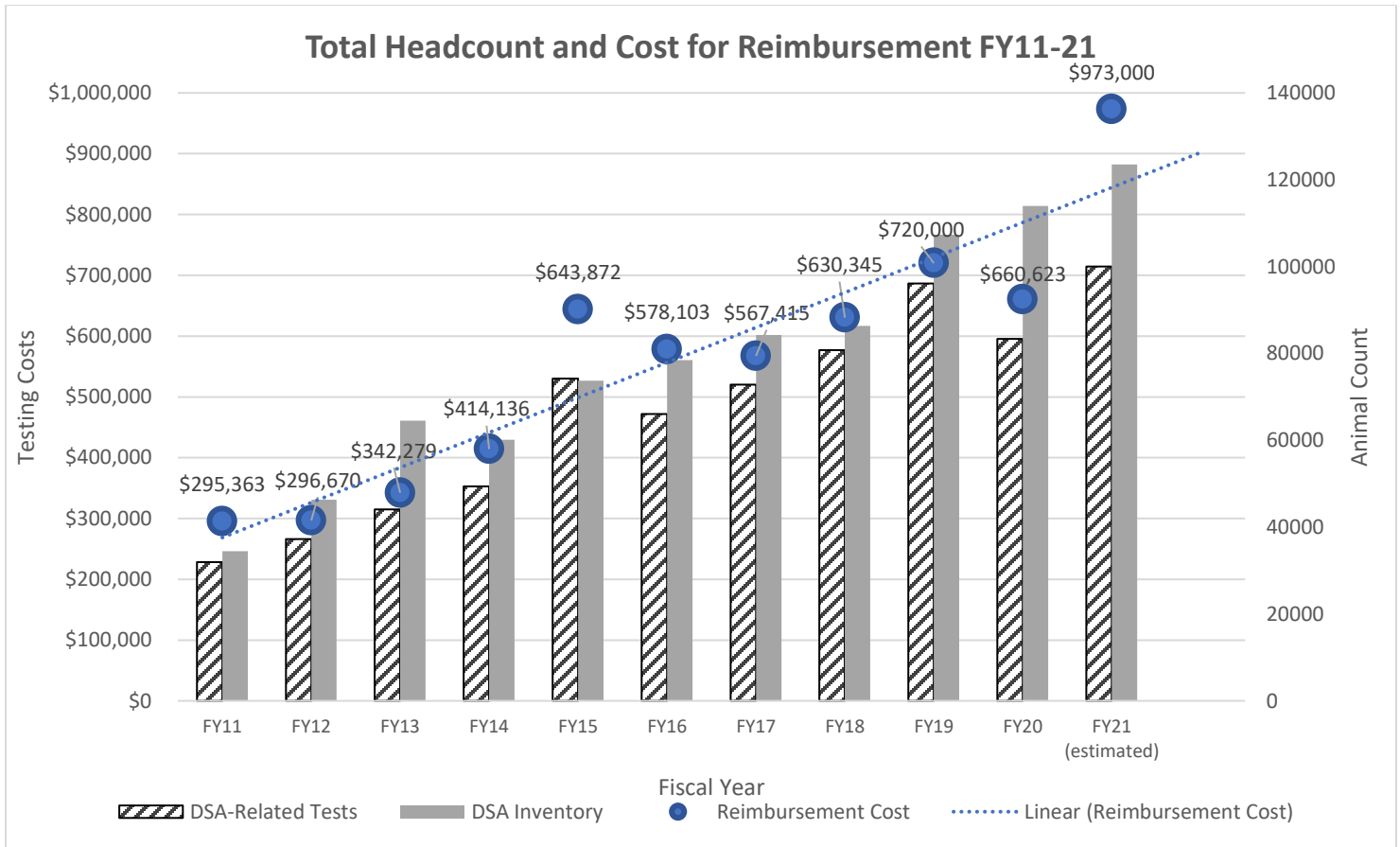


Figure 3. Rate of testing, laboratory and reimbursement costs, and livestock numbers included in DSA regulations

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.

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. 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).

	FY20	FY21 YTD*
All MT brucellosis tests: **	90,684	94,966
DSA-related tests:	83,359	90,964
On Ranch testing:	63,361	84,764
Market testing:	8,642	6,200
***Annual cost of testing:	\$660,623	\$949,685
****DSA cost per test:	\$7.92	\$10.44

Table 1.

*FY21 YTD data current as of 2/2/2021

** 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. Historically, 58% of eligible tests are requested for reimbursement by producers and 98% of eligible tests are requested for reimbursement by veterinarians. These rates were used to calculate FY21 YTD cost of testing due to the delay in processing reimbursement requests for testing. The estimated cost of testing for FY21 is \$973,000.

**** 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.

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.

Brucellosis Affected Herd Epidemiological Investigations (2010-present)										
	FY10	FY11	FY11	FY13	FY13	FY14	FY14	FY16	FY17	FY19
Affected Herd Size	3,250	275	1,550	1,100	700	2340	650	180	1,100	1,450
% Herd Prevalence	0.12	2.5	0.065	0.27	0.14	0.043	0.15	1.1	0.27	0.6
Adjacent Herd animals	7,000	3,000	10,000	3,000	800	22,000	1,500	4,000	450	4,970
County	Gal. DSA	Park DSA	Mad. DSA	Mad. DSA	Park DSA	Mad. DSA Seasonal	Park DSA Seasonal	Bvrhd. DSA	Mad. DSA	Mad. DSA

Table 2. Epidemiological investigations of brucellosis affected herds from 2010 to 2021.

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
96%	91%	90%	98%	99.6%
<p>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). In FY19 compliance is now based on a per animal movement or sale basis (i.e. each DSA movement or sale was matched up with a required testing)</p>				