Montana's Brucellosis Program and Designated Surveillance Area (DSA)

What is brucellosis?

Brucellosis is a contagious bacteria, *Brucella abortus*, that can cause reproductive infections, retained placentas, abortions and weak calves thereby making it of high economic importance in Montana. Brucellosis can infect multiple species with cattle, bison and elk being the most commonly affected species. *B. abortus* is transmitted through aborted fetuses, fetal membranes, and uterine and amniotic fluids so program animals are therefore sexually intact animals- heifers, cows, and bulls. While females pose the highest risk of disease transmission due to the ability to shed the bacteria in aborted tissues, bulls can also pose a low risk of disease transmission and can become infected leading to reproductive failure.

What is the DSA?

The DSA is an area in southwest Montana where brucellosis infected wildlife (Yellowstone National Park wild bison and infected elk) exist and pose a risk of infection for both cattle and domestic bison. As a result, cattle and domestic bison in the region are required to participate in Montana's brucellosis testing program.

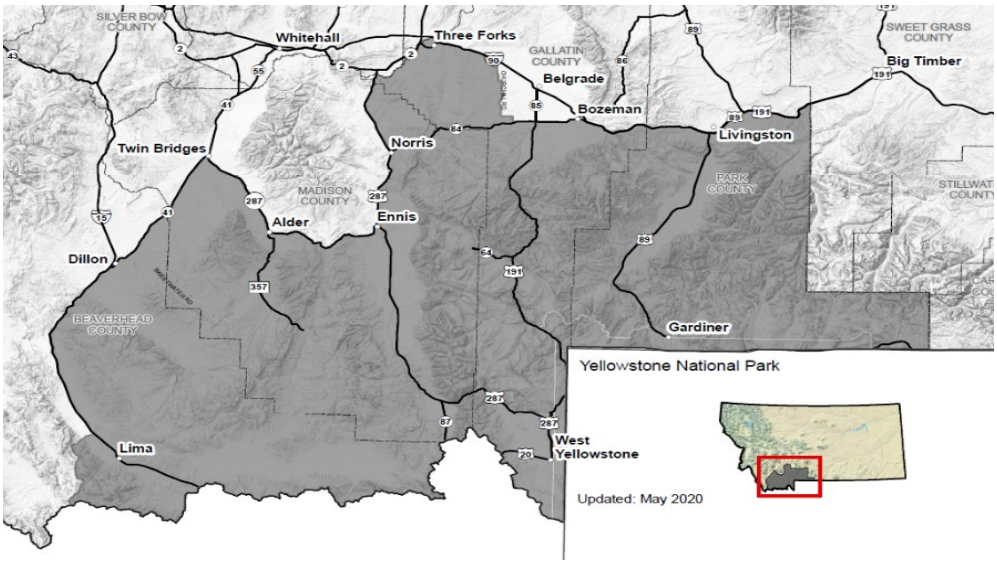
What is the goal of the DSA?

The goal of the DSA is to prevent the movement of brucellosis infected animals outside the DSA. The DSA and the Montana Brucellosis Program protects the ability of Montana livestock producers to move cattle and domestic bison without additional restrictions.

How is that goal accomplished?

<u>Targeted wildlife surveillance</u>

Wildlife surveillance is imperative to maintain confidence that all potentially exposed livestock are included in Montana's brucellosis surveillance program. In conjunction with Montana Fish Wildlife and Parks (FWP), around 100 wild elk are captured and tested for brucellosis on an annual basis. The DSA boundary is then based upon the known range of brucellosis infected wildlife. Since the establishment of the DSA in 2010, the boundary line has been adjusted five times. Each adjustment was the result of finding brucellosis exposed wildlife outside of the current boundary. The current DSA covers about 5.3% of Montana's land mass.



Regulation

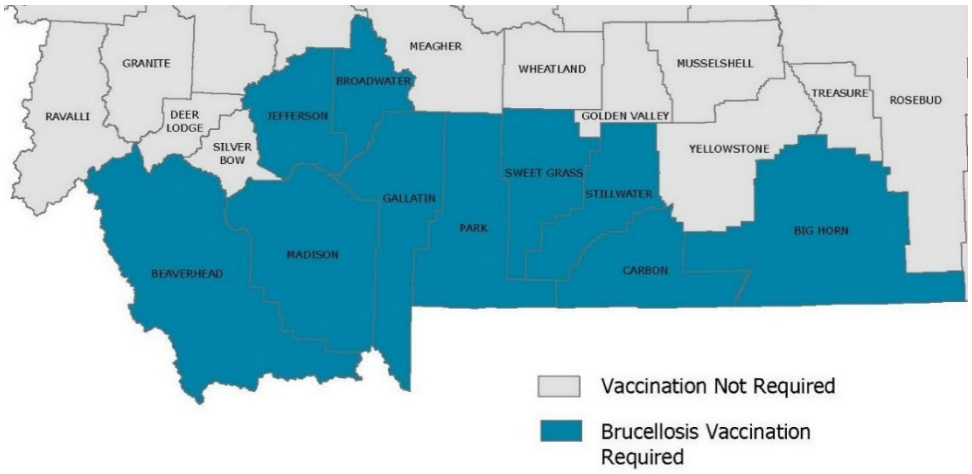
DSA regulations address three categories: identification, vaccination and testing. Since the goal of the DSA is to control a disease, regulations of animals that utilize the DSA are based on our current understanding of the disease process. Controlling the disease in wildlife is not currently an effective option so regulation of domestic cattle and bison is the best way to ensure that the disease is not spread out of the DSA. These regulations focus on traceability of DSA animals (identification), vaccination and testing.

-Identification: Program animals leaving the DSA must bear official USDA approved identification tags. This allows Montana to trace animals to farm of origin and associate vaccination and testing with program animals, even after they have left the DSA or left the state.



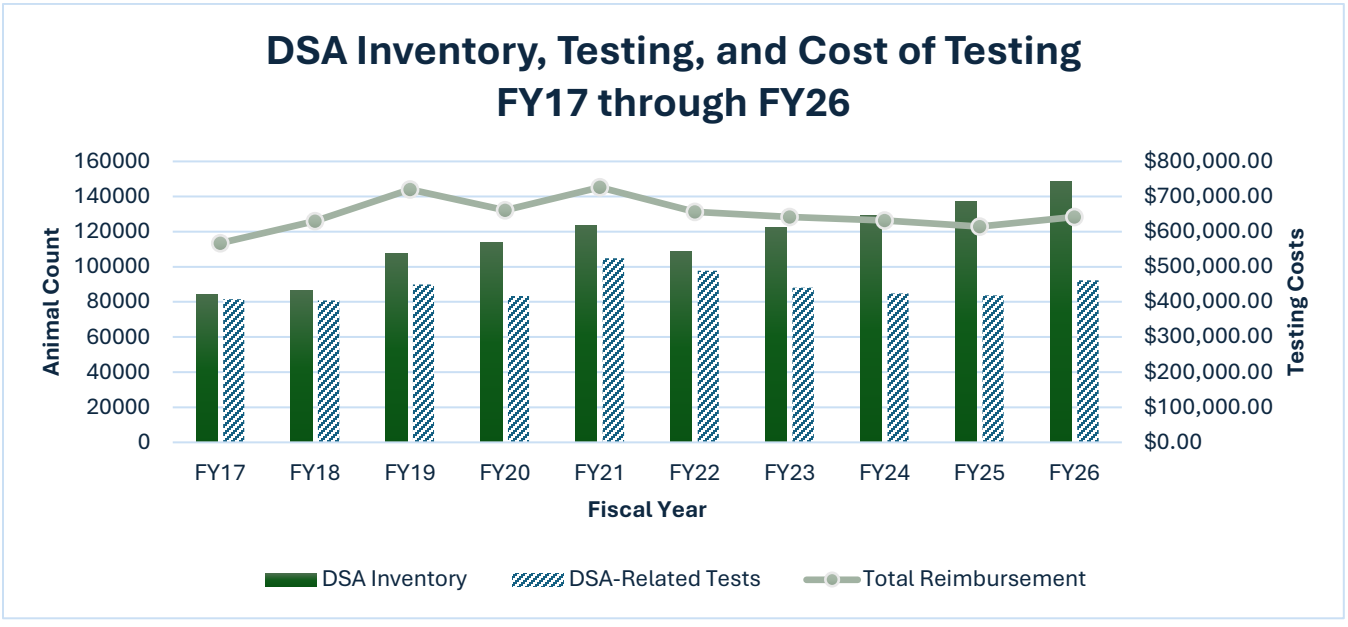
Source: USDA

-Vaccination: At this time, there is no vaccination that completely prevents *B. abortus*. There is a vaccine that is effective at prolonging pregnancy thus lowering the chance of abortions and the spread of *B. abortus* infected material. The vaccine is available for use in cattle and domestic bison but has a lower efficacy in bison when compared to cattle. Vaccination can be administered to calves and at-risk animals, like those that reside in the DSA, can be booster vaccinated as adults. Montana regulations stipulate that all female cattle over 12 months of age that reside, either permanently or seasonally, in the DSA or in the surrounding counties be vaccinated.



-Testing: Brucellosis testing is required for program animals to change ownership or leave the DSA. This ensures that brucellosis infected animals are not moved among herds within the DSA nor are they exported out of the DSA. Brucellosis testing has been vital in finding positive animals early. Producers can voluntarily whole herd test yearly which is strongly encouraged as it can drastically reduce the amount of time a herd is under quarantine if a positive animal is found.

Each year, about 70,000 cattle and domestic bison are tested for brucellosis on DSA ranches and another 12,000 are tested at livestock auctions around the DSA. Reimbursement for testing fees and labor is provided to veterinarians and producers to help minimize the costs for program compliance while protecting the remainder of Montana from unnecessary testing due to loss of Brucellosis Class status or trading partner confidence.



Compliance Review

Compliance with the above regulations is determined through reconciliation of market sale reports with brucellosis testing performed by market veterinarians and in-depth evaluation of brand inspections.

Sexually intact cattle over the age of 12 months that have been in the DSA are required to be tested at livestock markets to ensure that diseased animals are not moved around the state or exported out of Montana. To ensure the correct animals are tested, brands owned and utilized by DSA producers are "flagged" as DSA brands. This lets market staff know that these animals need to be brucellosis tested. Market sale reports are later reconciled with testing performed by the market veterinarians to ensure that DSA animals were tested prior to sale and movement.

Brand inspection compliance ensures that animals privately sold or moved across county lines are tested as necessary. Each brand inspection or grazing permit is analyzed to determine 1) if the animals originated in the DSA, 2) if a test was required, and 3) if required test was completed. Brand inspections and grazing permits are then matched to corresponding tests by comparing test dates, headcount, and sex. The DOL has historically found that a vast majority of brand inspections are compliant.

	FY24 Beaverhead County	FY25 Madison County	FY26 Gallatin County	FY26 Park County
Number of Brand Inspections Evaluated	438	643	723	97
Compliant Inspections (% Total Inspections)	426 (97%)	624 (97%)	709 (98%)	96 (99%)