

**STATUS REPORT – FISCAL YEAR 2008  
COOPERATIVE STATE-FEDERAL BRUCELLOSIS ERADICATION PROGRAM**

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For the first time in the 74-year history of the Brucellosis program, all 50 States, Puerto Rico, and the U.S. Virgin Islands were simultaneously designated brucellosis Class Free for a brief period of time in fiscal year (FY) 2008. This accomplishment was made possible thanks to the diligent and cooperative efforts of Federal, State, and industry partners. This milestone occurred when Texas was declared brucellosis free on February 1, 2008. However, in May 2008, the State of Montana disclosed a second brucellosis affected cattle herd within a twenty-four month period of time, resulting in reclassification to brucellosis Class A State status on September 3, 2008.

Brucellosis program eradication efforts have been successful in eliminating the disease from our national cattle herds. Depicted below is the most recent ten-year history of the numbers of brucellosis-affected cattle herds disclosed and their location by State status. The number of brucellosis affected cattle herds ranges from a high of twenty-seven in 1999 to a low of one in 2007. Continuing surveillance activities after achieving Class Free State status is essential, as evidenced by the disclosure of brucellosis-affected herds in Class Free States in recent years.

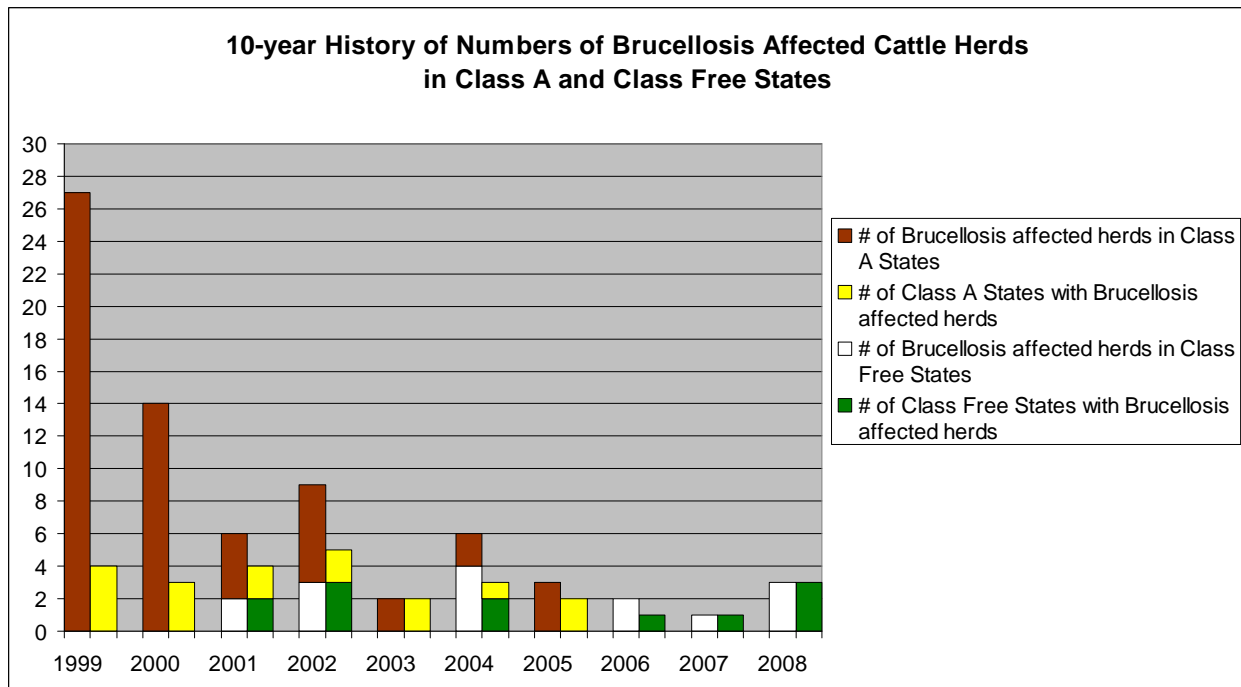


Chart by John D. Thompson, VPA, USDA APHIS VS RHP

### ***Brucellosis affected herds disclosed in FY 2008***

In January 2008, an epidemiologic investigation involving a research herd at Louisiana State University (LSU) was completed. The index herd was determined to have been exposed to a research strain of *Brucella*. The single infected animal, which was test negative on prior annual herd certification testing, was removed. The rest of the herd tested negative, remains under quarantine, and is under an intensive herd plan that includes a comprehensive testing regimen and strict movement controls for the next 2 years. All adjacent herds, source herds, and contact herds were identified and tested; no additional brucellosis affected herds were disclosed.

On June 9, 2008, APHIS confirmed *Brucella abortus* in a cow originating from a cattle herd in the Paradise Valley area of Montana. This herd was tested as part of Montana's efforts to test and develop brucellosis risk mitigation herd plans for herds near the Greater Yellowstone Area. The brucellosis affected herd was depopulated with indemnity and a thorough epidemiologic investigation conducted. No additional brucellosis affected cattle herds have been disclosed to date. Infected free-ranging elk are thought to be the most likely source of infection. A year earlier, in May 2007, a single brucellosis affected was also disclosed in Montana. With the finding of two brucellosis affected herds within twenty-four months, Montana no longer met the conditions for Class Free status and was subsequently reclassified to Class A State status via the publication of an interim rule on September 2, 2008. The reclassification requires the testing of certain classes of cattle for brucellosis prior to interstate movement. Until this time, Montana had been classified brucellosis Class Free status June 3, 1985. The loss of Montana's status demonstrates the importance of remaining vigilant. The presence of brucellosis in wildlife populations, such as the free-ranging bison and elk in Yellowstone National Park and Grand Teton National Park, remains a challenge, threatening the brucellosis status of surrounding States.

On June 30, 2008, APHIS confirmed *B. abortus* in two cows originating from a cattle herd in Sublette County, Wyoming. These animals were tested as part of Wyoming's first-point testing at livestock auction markets. Testing of the herd of origin revealed additional reactor classified animals on each of three successive herd tests. The brucellosis affected herd was subsequently depopulated with indemnity and a thorough epidemiologic investigation conducted. No additional brucellosis affected cattle herds have been disclosed. Infected free-ranging elk are thought to be the most likely source of infection. Brucellosis regulations provide for a State to maintain Class Free status provided the single affected herd is depopulated and a thorough epidemiological investigation is completed (including all associated herd tests) within 60 days, and no additional affected herds are disclosed. If another affected herd is found within 24 months, Wyoming would be subject to reclassification to Class A status. In February 2004, Wyoming lost its Class Free status in this manner after the disclosure of four brucellosis affected herds. Wyoming was successful in regaining Class Free State status in September 2006.

### ***Brucellosis Surveillance Planning***

An evaluation of the current brucellosis surveillance program identified redundancies in surveillance activities. Working to eliminate these redundancies and provide effective and efficient surveillance, a Brucellosis Surveillance Planning Workgroup developed a proposed plan

that consists of reducing slaughter surveillance, eliminating brucellosis milk surveillance testing, eliminating Federal funding for first-point testing in States where it is not required, and standardizing slaughter surveillance testing using the rapid automated presumptive test and the fluorescence polarization assay for initial slaughter surveillance sample screening.

To further the development of a National Brucellosis Surveillance Plan, the NSU is developing options for a national surveillance system that is, in part, based on criteria such as the length of time a State has been considered free of brucellosis as well as the movement of high risk cattle. Brucellosis surveillance planning will include consideration of specific needs associated with development of a National Brucellosis Elimination Zone plan for the Greater Yellowstone Area (GYA). Brucellosis-infected wildlife, primarily elk, in the GYA have been implicated in the transmission of brucellosis to cattle herds in the GYA in the past 4 years.

### ***Brucellosis Laboratory Consolidation***

APHIS' National Surveillance Unit (NSU) is working with the Brucellosis Laboratory Consolidation and Testing Standardization (BLCTS) Working Group to assess laboratory capabilities for bovine brucellosis slaughter surveillance sample testing. The assessment will evaluate economies of size in the laboratories and the potential for consolidating brucellosis slaughter surveillance testing. The objectives of the brucellosis laboratory consolidation plan are to increase cost efficiency of slaughter surveillance testing, increase effectiveness by standardizing slaughter surveillance testing, and maintain testing accuracy and timely reporting of results. This assessment will ensure that APHIS creates an efficient and effective brucellosis slaughter surveillance system. This is both an economic issue and an issue of integrity for the U.S. brucellosis surveillance program as recognized in national and international trade.

### ***Brucellosis/NAIS Integration Feasibility Project***

The Brucellosis/NAIS Integration Feasibility Project was initiated in January 2008. The project is to develop, test and support a scalable solution for brucellosis electronic field data collection, using NAIS standards, to enhance national animal disease traceability and surveillance and brucellosis program management. The system design provides data capture events and reports as defined by the program. In addition, the project design would collect data that would be used for traceability reporting and cost/benefit analysis of the brucellosis Mobile Information Management (MIM) application.

The use of radio frequency identification (RFID) devices facilitates MIM use in the field. However, RFID eartags are not necessary to use the MIM application. Data can be manually entered. Initially all identification, breed, age, sex, vaccination status data is collected upon the initial use of the MIM application during a brucellosis event. During subsequent events, collection (either manually or electronically) and recording of the individual animal data is achieved upon entry of an official identification device in the MIM application. The brucellosis MIM application has been used in Montana and Wyoming and well accepted by State and Federal animal health regulatory field personnel and livestock producers.

The brucellosis MIM application is similar in design and function to the tuberculosis MIM application, thus facilitating usage of the data collection devices, transmission of data, and

development of program reports. This similarity also reduces the amount of training and time to become proficient in the use, by field personnel, of both applications.

### **Brucellosis – Greater Yellowstone Area (GYA)**

The GYA is one of the last known reservoirs of brucellosis in the country. Brucellosis-infected wildlife, primarily elk, have been implicated in the transmission of brucellosis to multiple cattle herds in the GYA in the past four years. All three GYA States have lost their Brucellosis Class Free State status at some point during the past four years. Wyoming and Idaho have successfully regained Class Free State status. Montana is currently working to regain Class Free State status.

To assist the three States in the GYA, USDA APHIS Veterinary Services (VS) is proposing to create a designated National Brucellosis Elimination Zone (NBEZ). The establishment of this zone would facilitate the elimination of brucellosis from livestock and provide clear, consistent control and surveillance guidance to livestock producers in the NBEZ, while simultaneously allowing the rest of the United States to be considered free of brucellosis. The World Health Organization for Animal Health (OIE) adopted the concept of regionalization (zones) to define distinct subpopulations (herds) for disease control and international trade purposes. The NBEZ proposal applies these concepts to improve upon ongoing disease control efforts.

The NBEZ concept creates a high-risk zone and reduces the impact of brucellosis state-wide in the affected GYA States. This proposal would offer several advantages, such as allowing the remainder of the State to maintain its brucellosis free status and allow flexibility in modifying the boundaries of the zone as the risks associated with brucellosis change. Introduction of the NBEZ concept consists of several steps. First, a rigorous, science-based risk assessment would be conducted to ensure the evaluation of all factors that may increase the risk of disease transmission to livestock within and outside the NBEZ. Knowledge of brucellosis epidemiology and ecology in the GYA would be used to establish NBEZ boundaries. The zone would be clearly defined and all pathways for potential disease spread would be identified. A risk-based approach to herd management within the NBEZ would be used to provide a means to define a herd's risk of acquiring brucellosis, identify needed mitigation to reduce risk, conduct surveillance to ensure early detection, and allow movement with confidence of a herd's freedom from brucellosis. Second, mitigation strategies to prevent the spread of brucellosis both inside and outside the NBEZ would be proposed. A tiered surveillance plan would focus efforts within the NBEZ, rather than requiring increased testing statewide. This would allow States to utilize resources for brucellosis detection and elimination by focusing efforts on their portions of the NBEZ. Electronic movement certificates and animal identification would be proposed for animals leaving the NBEZ to ensure compliance with testing requirements and to target surveillance activities appropriately.

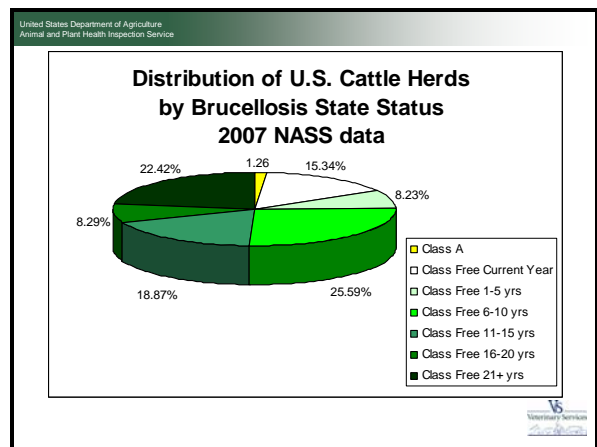
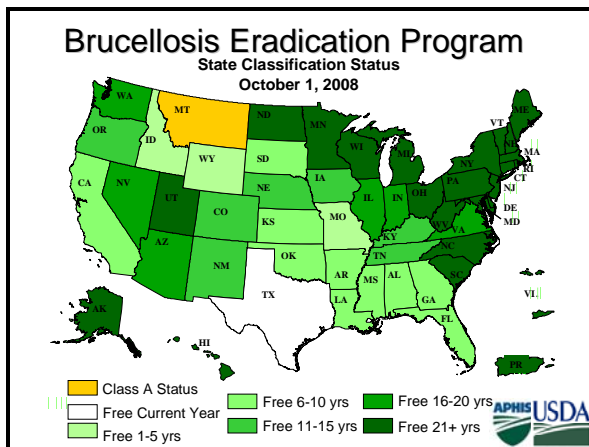
Further efforts are required to ensure successful implementation of any plan, including a risk assessment to determine the zone boundaries, development of appropriate surveillance and mitigation strategies, and a communication plan to maintain the valuable dialogue between partners, stakeholders, and the public. Implementation of the proposed NBEZ, if accepted and supported, will require regulatory changes, creation of oversight and monitoring responsibilities, and determination of appropriate levels of surveillance within the NBEZ to demonstrate

mitigation and movement control effectiveness. Implementation of the NBEZ requires a concurrent planning effort with the many wildlife agencies and entities in the GYA. Consideration of the GYA as an entire ecosystem should drive this planning process with development of potential strategies to eliminate brucellosis from bison and elk in the GYA.

***Brucellosis Program Surveillance Activities***

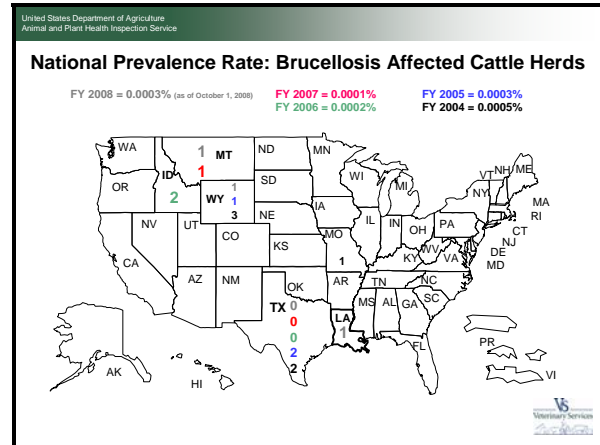
*[The following surveillance statistics for the cattle brucellosis eradication program is based on data available as of October 15, 2008. Normal data reporting time allowances for states to gather and submit monthly data preclude ascertainment of all data for FY 2008.]*

Fiscal Year (FY) 2008 began with 49 States and three Territories classified at Brucellosis Class Free state status and one state, the State of Texas, classified at Brucellosis Class A State status. FY 2008 ended with 49 States and three Territories classified at Brucellosis Class Free State status and one state, the State of Montana, classified at Brucellosis Class A State status. After successfully completing all program regulatory requirements, the State of Texas officially attained Class Free State status on February 1, 2008. The State of Montana was officially reclassified to Class A State status on September 3, 2008 pursuant to the finding of a second brucellosis-affected herd within twenty-four months.



Cattle herd inventories in the U.S. at the end of FY 2008 were distributed as follows: 1.26% of all cattle herds were located in the single Brucellosis Class A state; 23.57% of all cattle herds were located in states classified as Brucellosis Class Free for five years or less; 25.59% of all cattle herds were located in states classified as Brucellosis Class Free status for six to ten years; 18.87% of all cattle herds were located in states classified as Brucellosis Class Free status for eleven to fifteen years; 8.29% of all cattle herds were located in states classified as Brucellosis Class Free status for sixteen to twenty years; and 22.42% of all cattle herds were located in states classified as Brucellosis Class Free status for more than twenty years.

The FY 2008 national herd prevalence rate for bovine brucellosis was 0.0003%. Three brucellosis affected cattle herds were disclosed in FY 2008. Affected herds were identified via annual herd certification testing, herd testing as part of surveillance and high-risk herd management, and first-point testing at a livestock market. Per recommendations outlined in the Brucellosis Emergency Action Plan (BEAP), the two brucellosis affected herds located in the high-risk area of the Greater Yellowstone Area were depopulated with indemnity. The third herd, a research herd, is under quarantine and is subject to a comprehensive herd plan including quarterly herd testing.



Maintaining Brucellosis state status focuses on continual surveillance activities. Two primary surveillance activities are conducted for bovine brucellosis, Market Cattle Identification (MCI) testing and Brucellosis Milk Surveillance Testing (BMST). During FY 2008, approximately 7.349 million head of cattle were tested under the MCI surveillance program. Per the Brucellosis program standards, blood samples are collected from a minimum of 95% of all test-eligible slaughter cattle as part of the MCI surveillance activities. Preliminary tallies indicate blood samples were collected from approximately 94.3% of all test-eligible slaughter cattle in FY 2008. First-point testing at livestock markets is required in Brucellosis Class A states. Several Brucellosis Class Free states continue to conduct first-point testing at markets to facilitate interstate movement of cattle and enhance surveillance activities. Brucellosis program standards provide for a minimum of 90% successful traceback of all MCI reactor cattle and a minimum of a 95% successful case closure rate. In FY 2008, approximately 97.24% of all MCI reactors were successfully traced, all leading to successful case closures. Approximately 629,100 additional head of cattle were tested on farms or ranches during FY 2008, bringing the total cattle tested for brucellosis in FY 2008 to approximately 7.978 million head. BMST surveillance is conducted in all commercial dairies – a minimum of two times per year in Class Free states and a minimum of four times per year in Class A States. Suspicious BMSTs are followed up with an epidemiologic investigation. Dairy herd inventory data reported on state’s annual reports totaled approximately 61,250 dairy operations in the U.S in FY 2008. Approximately 138,000 BMSTs were conducted in FY 2008; approximately 110 BMSTs yielded suspicious results after repeat screening (repetitive BRT and/or HIRT). All suspicious BMSTs in FY 2008 were confirmed negative by subsequent epidemiologic investigations and additional herd testing. There were approximately 3.799 million calves vaccinated for brucellosis in FY 2008. The national calfhood vaccination policy recommends proper calfhood vaccination in high risk herds and areas and whole herd adult vaccination when appropriate in high risk herds and areas. Elimination of mandatory vaccination in all states is also recommended.

The reclassification of Montana to Class A State status in FY 2008 demonstrates the importance of remaining vigilant. The presence of brucellosis in free-ranging bison and elk in the GYA threatens the brucellosis status of the surrounding States and the health of their livestock herds. As a result, final eradication of brucellosis from the United States continues to be a challenge.

DAD/AAG