



To bait or not to bait and where

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History

Tuberculosis (TB) is a bacterial infection that affects the respiratory system. Bovine TB is considered the most infectious strain and has the ability to infect most mammals, but is usually associated with livestock. The involvement of wild free-ranging deer is what makes Michigan's situation so unique, since they are essentially free to roam from one area to another throughout the state. It is highly unlikely that a human will contract bovine TB, regardless of contact from field dressing or eating the meat of an infected deer. Over the past few years many new regulations have been put into effect by the US Department of Agriculture (USDA), Michigan Department of Natural Resources (MDNR), National Resource Commission (NRC), and other federal, state, and local organizations. The goals of the regulations are to eradicate the disease from Michigan by 2010 and prevent any future outbreaks. One of the most prominent problems is a conflict regarding baiting statewide, in Deer Management Unit (DMU) 452, and other counties. The DNR defines baiting as "putting out food materials for deer to attract, lure, or entice them as an aid in hunting." These regulations have had both support and criticism from many clubs and organizations, as well as concerned citizens and business owners. These positions have turned neighbors against each other, not to mention the farming and hunting communities.

Bovine TB is caused from the bacterium *M. Bovis* and like other strains of TB, it is spread through the air. This usually occurs when an animal comes into contact with an infected animal that is coughing or sneezing. As the infection progresses, visible lesions and nodules may appear on the lungs and/or chest cavity, although most hosts do not show these visible signs. In deer for example, bovine TB is a chronic illness but these visible signs may take many years to develop. Of the TB positive deer found between the years 1995-1999, only 42% had lesions that were visible ("2000 Bovine Tuberculosis", 2000, [http](#)). The rest were identified by microscopic lesions in the lymph nodes located in the head near the base of the neck. This important factor is what makes tracking infected deer so difficult. Add to this the lack of an effective vaccination for wildlife, and it is understandable why eradicating bovine TB from Michigan is not a simple problem.

This is not a new problem to Michigan. Around fifty years ago, Michigan led the nation in TB-positive cattle. An eradication program was initiated in 1917 but Michigan was not accredited as bovine TB-free for cattle until 1979 by the USDA ("Deer", 2001, [http](#)). The disease recently resurfaced in 1994 when a hunter brought in a deer from Alpena County with visible lesions. Since then 341 deer have tested positive along with eighteen cattle herds ("USDA testing team", 2001, [http](#)). Other wildlife that have tested positive for bovine TB include four black bears, four bobcats, thirteen coyotes, two opossums, two raccoons, and two red fox ("Summary of Michigan TB", 2001, [http](#)), along with one domestic outdoor cat ("Pets", 2001, [http](#)). These latter groups most likely contracted the disease by eating infected deer. It is assumed that with the eradication of the disease in deer, it will die out from these non-cervid species populations.

Certain methods of baiting have been alleged to increase the chance of bovine TB transmission by bringing deer in close contact with one another. Close contact can spread the disease by two methods: nose to nose contact with one another, and an infected deer eating off of a bait pile, possibly leaving behind bacteria and increasing the risk of another deer inhaling it at a later time. In response to this, the NRC modified baiting regulations throughout the state to try and reduce the occurrence of contact. Baiting has been banned in

Alcona, Alpena, Crawford, Emmet, Iosco, Mecosta, Montmorency, Osceola, Oscoda, Otsego, and Presque Isle counties. Alcona, Alpena, Montmorency and Presque Isle counties have all been designated as "High Risk" areas.

DMU 452 has been designated as the core area, with an overwhelming majority of bovine TB positive animals within it. DMU 452 currently contains parts of Montmorency, Oscoda, Alcona, and Alpena counties. Since it is the core area, the deer population needs to be reduced to help stop the spread and eradicate the disease. This year, limited baiting will be allowed in DMU 452 from October 1 to November 30 due to the reduced amount of hunting the area has experienced since the start of the ban. By allowing limited baiting, it is hoped hunters will be attracted back to the area for a larger deer harvest.

Bovine TB has had its impact on the cattle industry as well. Michigan's TB-free status was lifted in the summer of 2000 and was changed to non-modified accredited which required the state to test all cattle for bovine TB. Dairy farmers were then required by the Pasteurized Milk Ordinance to perform an annual whole-herd TB test in order to ship grade A milk (Vincent, http). The northeastern portion of Lower Michigan, bounded by I-75 and M-55 was put under quarantine preventing cattle from leaving the area and required annual TB tests for all herds. Due to some progress in the control of the disease, the quarantine was lifted in early 2001 (Jackson, 2001, http). The only areas that are under current testing and moving restrictions are the "High Risk" areas. However, other states have established their own restrictions against Michigan cattle and other animals that are potential carriers of the disease, still preventing their free movement. Michigan just recently finished statewide testing on cattle herds and found no herds to be positive outside of the "High Risk" areas.

The industry is currently trying to gain split-state status back from the USDA which would require only farmers in specific areas to annually test herds. The damage, however, may have been done. There has been a significant drop in the price of Michigan cattle. Some buyers simply stay away from Michigan beef altogether. It is hoped that split-state status will ease intrastate livestock movement and help to revive the industry back to its previous state before the outbreak of bovine TB.

Key interest groups and issues

--*Hunters*÷ Hunters are split into various groups. There are those who want to help the NRC, MDNR, and Michigan Department of Agriculture (MDA) stop the spread and eradicate the disease and also support a state-wide ban. Other hunters feel no restrictions should be implemented. Still others feel certain restrictions are necessary, but feel banning baiting only in certain areas disadvantages them to other hunters in the state.

--*Cattle farmers*÷ The cattle industry is a billion dollar industry in Michigan. Farmers are taking large economic losses due to this disease. Testing a herd can be expensive. If needed, the additional costs of destructing an infected herd, disinfecting the farm, removing topsoil, and waiting for a USDA official to declare the farm safe can be extensive. Due to this lengthy process, up to one full year of production may be lost. Also, healthy stock is being sold under market value due to the stigma that is now associated with Michigan cattle and their products. Some aid, including money and discounted testing prices, is offered federally and from the state to help. As a result of these and other problems and risks associated with bovine TB, many cattle farmers and the Michigan Farm Bureau (MFB) support a statewide ban on baiting.

--*Federal government*÷ This interest group includes the USDA. Their main goal is to prevent an outbreak nationally. They are responsible for the health and welfare of those affected by this disease and those that could be.

--*State government*÷ The various agencies of the state government want to resolve the problem to prevent a

large scale economic loss to hunters, businesses, farmers, and the tourism sector. This problem seems to be harming Michigan's reputation with other states on the issues previously discussed.

--*Local government*÷The local governments in these areas are in a tough situation. They do not know whether to support their local hunting or farming communities. A lot of these areas depend on the revenue generated from hunting and are taking large economic losses due to restrictions and bans on baiting.

--*Homeowners/Domesticated animal owners*÷This interest group wants to protect the welfare of their pets and believe that although the risk is low, it is still possible for a domesticated animal to contract the disease by eating off of infected deer carcasses.

--*Animal sport groups*÷Some states have enacted their own restrictions regarding the movement of animals that are potential carriers of bovine TB from Michigan, including horses and swine. These travel restrictions can limit competition for some sport groups.

--*Businesses*÷The decline of hunting in areas under baiting restrictions have resulted in revenue losses. A 1999 estimate released by the DNR stated that approximately 835,000 individuals would spend over \$500 million for food, lodging, transportation, and equipment related to hunting. That same year, business was down close to 60% in some areas during the first half of the bow season (Heinlein, 2001), most likely a result of restrictions on baiting. Businesses depend on the income hunters bring and struggle to sustain themselves when business is down that low.

Dynamics of the conflict

--*Hunters vs. farmers*÷Both are trying to protect their interests. However, farmers feel that baiting is partly to blame for the transmission of bovine TB, and feel a statewide ban is in order to protect their farms and cattle. While on the other hand, some hunters feel there is not sufficient evidence to support that baiting increases disease transmission, and feel all restrictions should be lifted, or at least the ban.

--*Hunters vs. government*÷Some federal, state, and local government agencies were responsible for creating restrictions in effect for certain areas. Some hunters do not agree with these policies and may harbor negative feelings as a result. Hunters in the area of DMU 452 may feel skeptical about the intentions of these policies since they have continuously changed. This may cause a lack of trust from hunters along with opinions that their interests have not been taken into consideration by the government.

--*Businesses vs. government*÷Due to the restrictions implemented by federal, state, and local government agencies, some businesses are losing a substantial amount of revenue. Some may find it hard to maintain their businesses under current conditions. Business owners would like to see the ban lifted to enable them to maintain their businesses at a stable level, while the government agencies may feel eradication is the more important issue above business revenue.

--*Farmers vs. government*÷Some farmers feel federal, state, and local governments are not implementing restrictions that are appropriate enough to prevent the consequences that have already occurred and feel a statewide ban is needed to protect their farms. On the other hand, some government agencies do not agree and feel they are taking all necessary precautions. Similar to the hunters, farmers may feel it is hard to trust the government. Farming is their way to make a living and without it, many would struggle to maintain their quality of life.

--*Locals vs. hunters*÷Some local residents from areas affected by bovine TB do not agree with hunters and their views on baiting. Local interests lie with the protection of their homes, families, and pets. They want to

see bovine TB eradicated as soon as possible. If restrictions will help solve the problem, then they support them. Hunters feel they are doing what is necessary to prevent bovine TB from spreading by reducing deer herd populations. They feel baiting will help them achieve this most efficiently.

--*Hunters vs. hunters*÷The hunting community is large and diverse. It consists of many different opinions on many different hunting issues and baiting is no exception. Some feel it is best to adhere to the banning regulations in place because they will be effective in their goal of eradicating bovine TB. Others feel they are being put at an unfair disadvantage since all hunters pay the same amount for deer tags required by the MDNR, yet some are being limited by not being allowed to bait.

Some major concerns that are contained within the conflicts are:

--*Trust*÷Some hunters, farmers, business owners, etc. see their quality of life being threatened, while others see the means of supporting their families being threatened.

--*Uneven benefits*÷This issue affects different interest groups on different levels. No interest group wants to see another gain at their expense. For example, a hunter does not want to be restricted so a farmer can thrive, and vice versa. Some may feel they are being discriminated against as a result of these uneven benefits.

--*Importance of issues*÷ Members of each interest group may feel their issues are more important than other interest groups. It is hard at times to be empathetic to the other side, especially when one feels their quality of life is being threatened.

--*Different set of values*÷Some farmers and hunters are new to their industry while others have been involved for generations. As a result, they have a different set of values concerning techniques they use throughout their industry. For example, some hunters and farmers feel it is important to work together while others feel they are two separate industries, responsible for themselves. Values throughout Michigan may also deviate by location and since this is a statewide issue, there is the possibility of many different values being involved. Hunting values in northern lower Michigan may differ from southern Michigan.

Reflection on principles of conflict management

Procedural justice focuses on the fairness of how decisions are made. If this is addressed during the conflict, those involved will be more willing to accept the outcome. During the processes to create baiting regulations regarding bovine TB, government agencies have tried to achieve this. They have held public meetings, had discussion boards on websites, asked for feedback from the public, and tried for overall public involvement. Their public involvement included deer checkpoints where hunters are asked to leave deer heads for testing. Involvement in the process generated a sense of connection between interest groups. The goal of procedural justice, regarding bovine TB, is if each side is giving something to try and help the situation, they will adhere to the regulations to eliminate the problem as quickly as possible.

Distributive justice focuses on the fairness of who gets what. A good decision outcome means parties have their basic needs met. Even though interest groups in this situation may not be functioning at a level they once were, most are still able to function. The federal and state governments are trying to help those who are having trouble. For example, compensation is provided for some farmers who have had their herds destroyed as a form of aid.

A unique partnership between the MDA, MDNR, Michigan Department of Community Health (MDCH),

USDA, and MSU was established to monitor and address the overall situation, and make recommendations regarding bovine TB. The partnership was named the Michigan Bovine TB Eradication Project and they created a website to keep the public informed and updated on the bovine TB situation and address common concerns and questions of many interest groups. (The website can be found at www.bovinetb.com.)

Hunters and farmers are being encouraged to work together by government agencies through limited access land lease agreements in High Risk areas. Bob Bender, coordinator for the Michigan Bovine TB Eradication Project, stated that "farmers and hunters working together is one key to the success of the eradication effort. Hunter access to farmland will not only help reduce deer numbers, but will improve the dialogue between these groups which will lead to an appreciation for the others' contributions in the eradication effort" (USDA, 2001). This is significant since many farmers and hunters, in this situation, view each other as an enemy rather than an ally.

Changes have been made over the past few years as needed. These changes represent the constant monitoring that is in effect. Areas, where infected animals are found, are getting smaller every year and as new ideas are tried, those that do not work are being modified or stopped.

Strengths and weaknesses of the conflict resolution process

Strengths:

- Public meetings were held so views could be expressed and discussed, and involved many interest groups including local residents, farmers, and hunters.
- Websites were created to keep the public up to date. Discussion and question panels were also created on the MDNR website to help ease concerns.
- Brochures were distributed explaining the disease.
- Extra incentives were created in High Risk areas to reduce deer populations. These include unlimited antlerless deer tags and limited access land lease agreements.
- The Michigan Bovine TB Eradication Project was created to monitor the situation and keep the public informed.
- Interest groups were encouraged to work together, such as the limited access land lease agreements between farmers and hunters.

Weaknesses:

- Government agencies frequently changed the status of areas and the regulations that applied there. With frequent changes those involved became confused and frustrated leading to more problems. Regulations need to be set and followed to be most effective.
- The ban on baiting was lifted for part of the 2001 hunting season in DMU 452, while other areas were still expected to adhere to restrictions. The same problems that caused the ban to be lifted in DMU 452, such as decreased hunting, may occur in these other areas. There was no evidence found to support this was looked into.
- Economic support is given to farmers to help aid them in testing their herds and to help compensate those who lose them, however businesses were never compensated for the loss in revenues.

This process could have been improved by considering economic ramifications to areas where baiting was banned before making decisions. Although bovine TB is still a relatively new problem to Michigan and to the nation, a comparative analysis from similar situations should have been done to predict how different interest groups would be affected. These predictions could have then been individually addressed to try and prevent

their impact as much as possible. For the most part, considering the lack of past experience and limited information available, the process was handled appropriately. However, these and other new issues need to be addressed in a more timely manner.

Lessons to be learned

Conflict management is not an easy process because of the many factors included. Failure to address all of these factors could hurt progress instead of helping it. However, no matter how thoroughly they are addressed, there may still be some who think it is not handled properly.

All sides can be learning as they go along. In this situation there is limited information available so new regulations and methods are being continuously tried. Due to this inexperience, mistakes may be just as important as achievements because of the information that is collected.

Lastly, people want instantaneous results to conflict. When immediate progress is not delivered in the resolution process, people become impatient causing more problems.

Conclusion

This is a very complex conflict dealing with a problem that has a high impact on many lives. There is no right or wrong solution to bovine TB or to the conflicts that exist between federal, state, and local government agencies, hunters, farmers, and other interest groups. Time and patience are needed to resolve them.

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