PROPOSED FRAMEWORK FOR THE FUTURE MANAGEMENT OF BOVINE JOHNE'S DISEASE (BJD) IN AUSTRALIA

2012 TO 2020

Prepared by the Bovine Johne's Disease Technical Advisory Group of Animal Health Committee

October 2011

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BACKGROUND

The National Johne's Disease Control Program (NJDCP) was initiated in 1995 by the jurisdictions and the cattle and goat industries under the auspices of the National Farmers Federation and has been managed as a special program by Animal Health Australia since 1997. The National Bovine Johne's Disease (BJD) Strategic Plan (NBJDSP) commenced in 2003. The current plan ceases at 31 December 2011.

The three goals and associated major objectives of the National Bovine Johne's Disease Program are:

1. Minimise contamination of farms and farm products by *M. paratuberculosis (M. ptb)*
    - Minimise contamination of animal products with *M. ptb.*
    - Minimise exposure of humans to *M. ptb* from infected animals.
    - Minimise contamination of the farm environment.
2. Protect non-infected herds whilst minimising disruption to trade
    - Reduce the spread of BJD between regions and production sectors while minimising disruption to trade.
3. Minimise the social, economic and trade impact of BJD at herd, regional and national levels
    - Provide assistance to affected producers.
    - Reduce prevalence of BJD in both the dairy and beef cattle sectors and the goat and alpaca industries.
    - Remove the stigma associated with BJD infection and reduce emotional stress.

The appropriate future management of BJD was considered at a workshop held in March 2009. In September 2010 the chairperson of the National BJD Steering Committee wrote to Animal Health Committee (AHC) confirming the objectives of the current Strategic Plan and to request technical advice on future management of BJD incorporating a zoning and sectoral approach. Animal Health Committee tasked the BJD Technical Advisory Group (BJDTAG) comprising State BJD Coordinators and representatives of the beef cattle, dairy cattle, goat and alpaca industries to consider the issues and report to AHC for consideration. AHC will provide advice to the BJD Steering Committee.

STRATEGIC FRAMEWORK

The strategic framework approved by the BJD Steering Committee and Animal Health Committee in February 2011 recognises that BJD is endemic in the dairy sector in south eastern Australia but the prevalence of BJD in the co-existing beef sector remains relatively low. To appropriately apply the differing geographical and sectoral risks, costs and benefits of BJD management, the strategic framework provides:

1. The three goals and associated major objectives of the National Bovine Johne's Disease Program continue to be supported.
2. A Free Zone for Western Australia.
3. A Protected Zone for Queensland, Northern Territory, Flinders Island of Tasmania and the pastoral zone of South Australia.
4. A risk-based trading approach for dairy cattle within Victoria, Tasmania, New South Wales and South Australia.
5. A Central Beef Protected Area in New South Wales and the southern part of South Australia, where the beef sector is protected by regulation and a risk-based trading approach operates for dairy cattle.
6. A South East Management Area within Victoria and Tasmania where the beef sector and alpaca are protected by encouraging voluntary biosecurity and a risk based trading approach operates.
7. Financial and non-financial assistance provided by the beef industry to affected beef producers in each zone or area.
8. Free Zone, Protected Zone and Central Beef Protected Area are established based on cumulative surveillance with ongoing surveillance and monitoring to maintain the zone or area.
9. Appropriate risk-based assurance for beef cattle movements into the Central Beef Protected Area, Protected Zone and Free Zone.
10. The necessary activities and sources of funding for the new program will need to be resolved by jurisdictions, beef cattle industry, dairy cattle industry, goat industry and alpaca industry and incorporated within the NJDCP with rules and guidelines developed for implementation from 1 January 2012.

This document is the proposed detailed framework for a BJD management program from 2012 to 2020 with a suggested review in 2015. Consideration and feedback by the beef cattle, dairy cattle, goat and alpaca industries will be requested during May and June 2011 and by the jurisdictions at Animal Health Committee in August 2011.

AHC will report to the BJD Steering Committee in September 2011. If the proposed framework is endorsed, the strategic plan and rules and guidelines will be developed from September to December 2011.

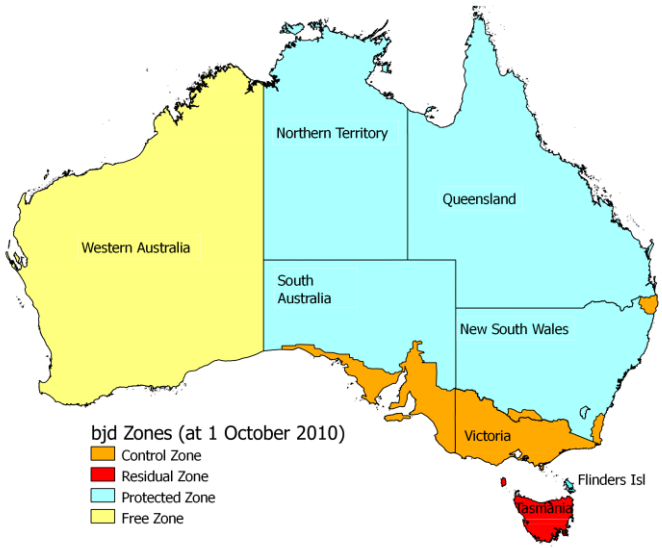
GLOSSARY

AHC	Animal Health Committee.
AlpacaMAP	Alpaca Market Assurance Program.
Beef Protected Area	Protected Herds (beef cattle and alpacas) are managed by a regulated approach to control and/or eradication. In Other Herds (dairy cattle and goats) infection is managed by the owner under a voluntary assurance score approach for movement between herds and voluntary control measures within the herd.
Beef compartment in the Beef Protected Area	Includes all cattle not born on a dairy farm and includes beef cattle breed herds and beef herds based on dairy/beef cross breeding.
Beef Only compartment in the Management Area	The Beef Only herds within the Management Area.
CattleMAP	Cattle Market Assurance Program.
CT	Check Test.
CVO	Chief Veterinary Officer in a State or Territory.
Dairy Assurance Score	A herd classification system to support risk based trading by assigning an assurance level for dairy cattle.
Dairy Compartment in the Beef Protected Area	Includes all cattle born or grazed on a dairy farm (a farm which produces milk for sale or manufacture of dairy products).
Non-Beef Only Compartment in the Management Area	All herds other than the Beef Only herds, including dairy and dairy cross herds.
Goat Assurance Score	A herd classification system to support risk based trading by assigning an assurance level for goats.

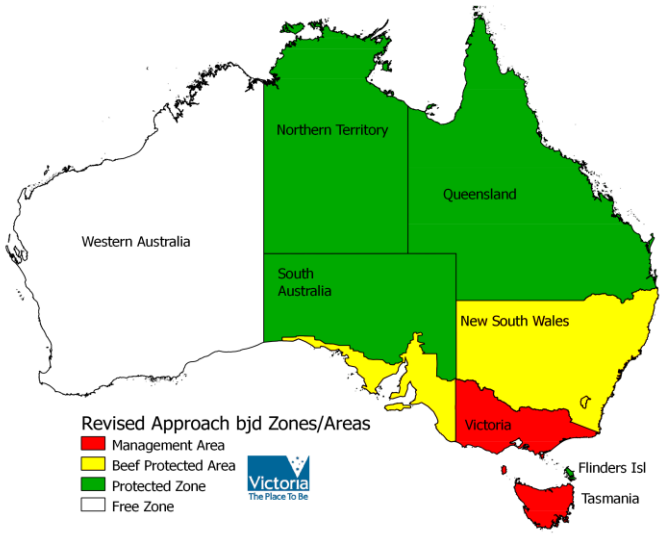
High risk animals	Animals in an IN herd may be considered as high-risk animals. The following animals may be considered high-risk animals: 1. dam, progeny and maternal siblings of clinical cases 2. dam and maternal siblings of infected animals 3. peers of clinical cases (i.e. cohorts reared with infected animals) 4. animals exposed at a susceptible age to clinical cases or to highly contaminated land 5. animals introduced from the same source as the infected animal(s) 6. animals, which when at a susceptible age, grazed contaminated land 7. groups or classes of animals in a herd which have been identified as high-risk through the results of herd testing.
IN	Infected.
Management Area	Beef sector and alpaca are protected by encouraging voluntary Biosecurity. A risk based trading approach operates for cattle, goats and alpacas.
MN (1,2 or 3)	Monitored Negative 1, 2 or 3 according to the CattleMAP.
NLIS	National Livestock Identification System.
TLP	Tested Low Prevalence.
TMS	Tested to MAP Standard.
T4YO	Tested Four Years Old and over.
SU	Suspect.
Zone	There is a regulated approach to control and eradication within the cattle, goat and alpaca industries. The beef cattle and dairy cattle sectors are managed similarly.

MAPS OF THE CURRENT ZONES AND THE PROPOSED ZONES AND AREAS

Current BJD zones (1 October 2010)



Proposed BJD Zones and Areas (incorporate compartments)



INDUSTRY APPROACH TO BJD MANAGEMENT

Dairy Cattle

The Australian dairy industry has embraced the challenge of reducing the economic, social and trade impact of bovine Johne's disease (BJD) by encouraging all dairy farmers to implement world-best practices to control and manage BJD. The environment regarding the control of BJD has changed dramatically in the last decade with the government and industry agreement in 2003 to implement a less regulated approach to BJD, with individual farmers taking more responsibility for its management.

A co-ordinated, industry-initiated national program for the control of BJD involves:

- Hygienic calf rearing programs to reduce the spread of BJD;
- National Market Assurance program to provide a source of low-risk cattle;
- A National Dairy BJD Assurance Score which is a herd classification scheme that provides further information to support risk-based trading by assigning an assurance level on the BJD status of cattle in the herd;
- Introduction of a herd-based BJD test to assess herd status;
- Test and control programs are widely applied in Victoria and South Australia to reduce the prevalence of BJD; and
- Although there is no substantiated causal link between *M. paratuberculosis* and Crohn's disease, pasteurisation provides additional protection to ensure any potential risk to consumers is minimised.

Beef Cattle

The rationale for a national approach to the management of bovine Johne's disease (BJD) in Australia is:

Australia is in a favourable situation in comparison to other developed producers of livestock and animal products, as endemic Johne's disease is restricted to south-eastern Australia, predominantly in dairy herds.

The beef cattle industry wishes to retain maximum domestic market access without compromising the free status of the majority of Australian herds and possibly jeopardising international market access for live cattle in particular.

Producers in Free and Protected Zones (PZ) wish to maintain their favourable situation in order to retain market access (without testing costs) and, in some cases, to avoid the regulatory disease control programs that would be required if BJD occurred in their zones. Lower status zones and areas have pathways to attain a higher status.

Producers with infected herds want pathways to ease the stigma of known infection and enable progression towards regaining market access for cattle and land without price penalties.

Producers in the Management Area who meet necessary biosecurity requirements want access to marketing pathways through *Beef Only* categorisation.

A national approach benefits all stakeholders by reducing:

- Losses resulting from restrictions of market access and movement controls.
- The effects on asset values.
- Economic consequences from mortality and production losses.
- The effect on farm management options.
- The potential for consumer and health concerns into the future.

Goats

The Goat Industry Council of Australia (GICA) representing the goat industry of Australia has the following expectations on the revised management of BJD:

- Increased utilisation of the Goat Heath Statement under the new arrangements to implement a risk based trading approach.
- Increased ability for goat producers to trade PRODUCER TO PRODUCER. Again the increased use of the health statement is vital but also the increased awareness programs to advise producers that there are movement requirements for introducing goats.
- Increased support and funding for the Industry led advisory program to encourage hygienic kid rearing practices in the dairy goat industry.

Alpacas

The Australian Alpaca Association (AAA) recognises the special position of the national alpaca industry with regard to bovine Johne's disease and has worked actively towards developing a 'protected population'.

After an outbreak of the disease early in the industry's history, the AAA has worked to implement on farm biosecurity measures through the AlpacaMAP and Q Alpaca, to minimise the risk of Johne's disease within alpaca flocks.

Through surveillance for a range of animal health issues, the industry has been able to exclude Johne's disease as the cause of disease and there has only been one case diagnosed Australia wide in the last 15 years.

The national alpaca industry support any initiatives that assist it reduce the risk of inadvertently introducing Johne's disease from the other industry sectors.

PROPOSED CRITERIA FOR ZONES AND AREAS

Proposed criteria for the zones and areas have been developed while noting that specific detailed activities will be developed within each zone and area by industry and jurisdictions.

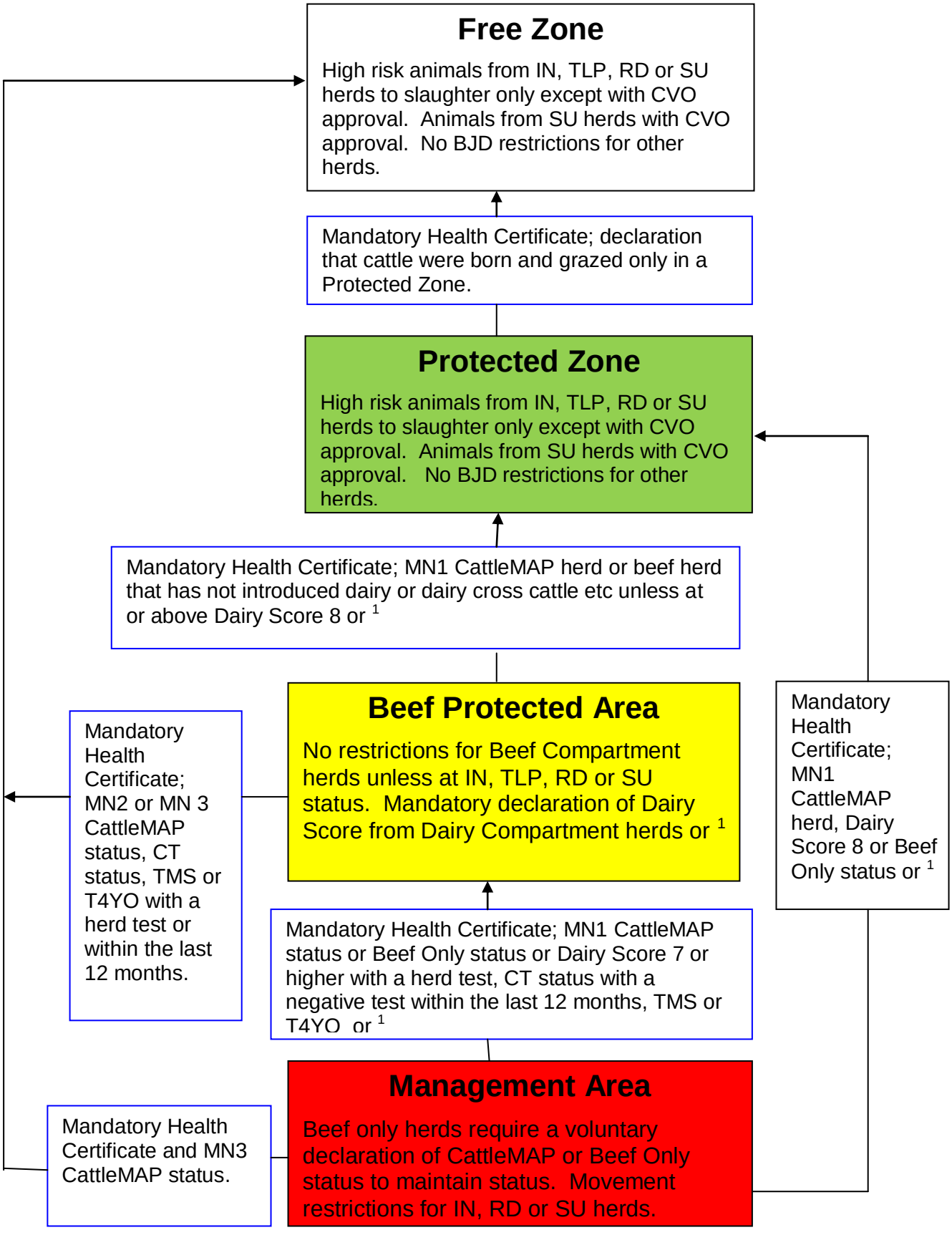
Criterion	Free Zone	Protected Zone	Beef Protected Area	Management Area
BJD is a notifiable disease	✓	✓	✓	✓
Awareness program is in place to advise producers about recognising and reporting the disease	Beef cattle, dairy cattle, goats and alpacas	Beef cattle, dairy cattle, goats and alpacas	Beef compartment, Dairy compartment, goats and alpacas	Beef cattle, dairy cattle, goats and alpacas
Competent investigation of suspected infection	Beef cattle, dairy cattle, goats and alpacas	Beef cattle, dairy cattle, goats and alpacas	Beef compartment, Dairy Compartment, goats and alpacas	Beef only, goats and alpacas
Thorough tracing of suspected infection utilising NLIS and/or other methods	Beef cattle, dairy cattle, goats and alpacas	Beef cattle, dairy cattle, goats and alpacas	Beef compartment, Dairy Compartment, goats and alpacas	Beef compartment (risk based), CattleMAP herds and alpacas
Industry awareness program regarding the national BJD program	✓	✓	✓	✓
Vaccination	There are no vaccinated herds and vaccination is not permitted	Vaccination is permitted with CVO approval	Vaccination is permitted with CVO approval	Vaccination is permitted with CVO approval (excl. goats)

Criterion	Free Zone	Protected Zone	Beef Protected Area	Management Area
Awareness program is in place to advise producers that there are movement requirements for introducing cattle, goats and alpacas into the zone or area	✓	✓	✓	✓
Obligation of owners of cattle, goats and alpacas to meet the conditions for importation with penalties for non-compliance and for false declarations	✓	✓	✓	✓
A risk based trading approach utilising vendor declaration of Dairy Assurance Score for the movement of Dairy Compartment cattle within and between the Beef Protected Area and the Management Area	Not applicable	Not applicable	Mandatory	Voluntary
Goat industry supports the use of the Goat Health Statement when moving goats	✓	✓	✓	✓
A formal risk assessment is used for amendment of movements between zones and areas	✓	✓	✓	✓

Criterion	Free Zone	Protected Zone	Beef Protected Area	Management Area
Industry led advisory program to encourage hygienic calf rearing practices in the dairy industry	✓	✓	✓	✓
Industry led advisory program to encourage hygienic kid rearing practices in the dairy goat industry	✓	✓	✓	✓
Official movement restrictions in IN, RD and SU herds	Beef cattle, dairy cattle, goats and alpacas	Beef cattle, dairy cattle, goats and alpacas	Beef Compartment herds, goats and alpacas	Beef Only herds and alpacas
Official control measures in IN and RD herds	✓ Enforced	✓ Enforced	✓ Encouraged in Beef Compartment, CattleMAP, goat and alpaca herds	✓ Encouraged in Beef Only, CattleMAP and alpaca herds
There is active investigation of SU herds to determine if infection is present	✓	✓	Beef Compartment herds, CattleMAP herds, goats and alpacas	Beef Compartment herds, CattleMAP herds and alpacas
Cattle industry provides assistance for affected cattle producers (IN, RD and SU herds)	✓	✓ Beef herds	Beef compartment herds	Beef Only herds

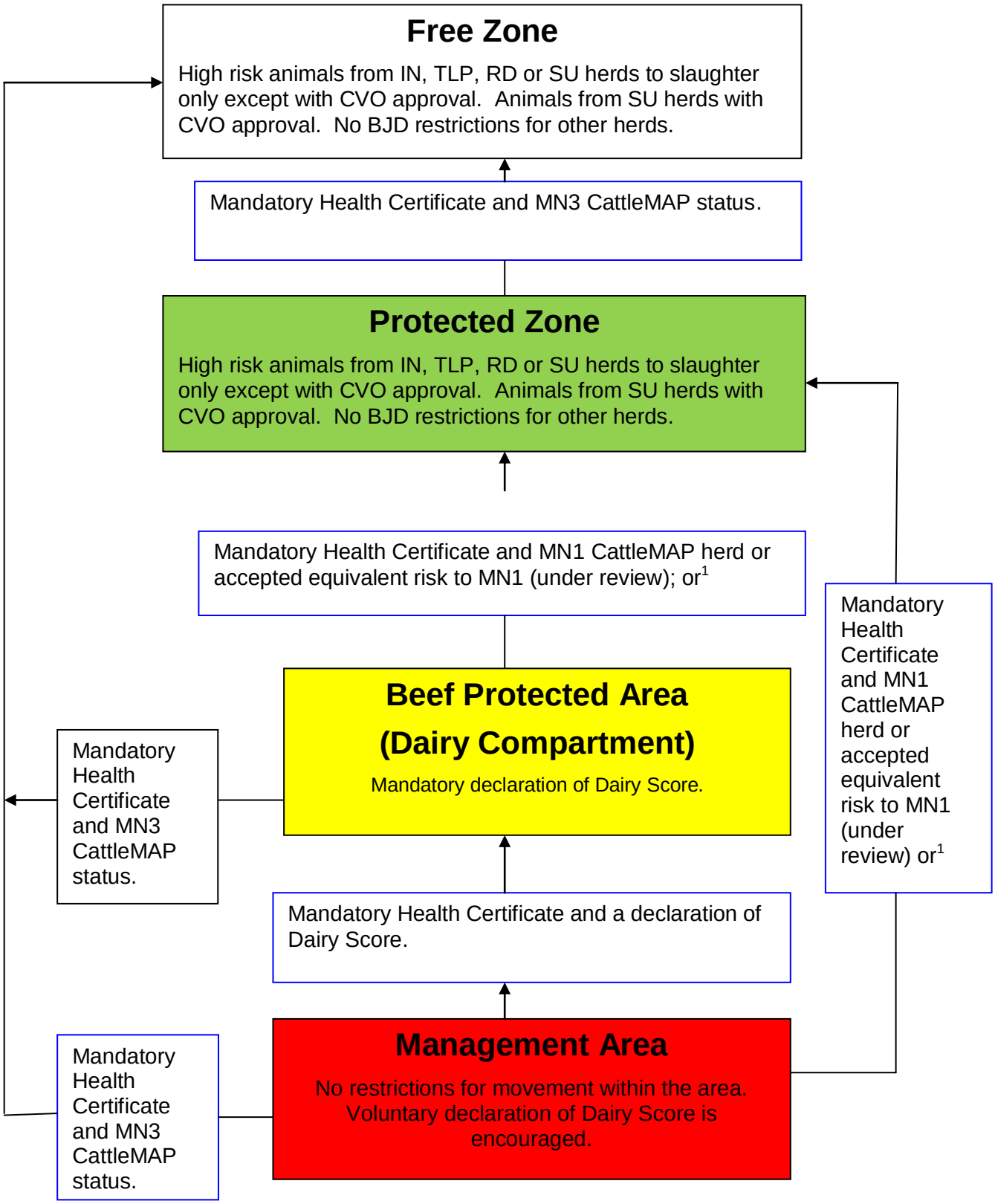
Criterion	Free Zone	Protected Zone	Beef Protected Area	Management Area
Surveillance and other activity is reported to AHC annually	✓	✓	✓	✓
NLIS monitoring from IN dairy herds on a regular basis with follow up action undertaken			✓	
IN and SU herds in the Dairy Compartment are not quarantined	Not applicable	Not applicable	✓	✓
Independent audits of vendor declarations that utilise assurance status or scores eg dairy score, goat health score and Beef Only	✓	✓	✓	✓
Effective information management system to effectively collate and report on surveillance, monitoring and compliance activity	✓	✓	✓	✓
Monitoring of compliance with importation conditions using NLIS or other methods	Beef cattle, dairy cattle, goats and alpacas	Beef cattle, dairy cattle, goats and alpacas	Beef compartment and alpacas	
Monitoring of movements from high risk herds/sectors within zone or management area	✓	✓	✓	✓

MOVEMENT OF BEEF CATTLE



[1]No restrictions for any cattle consigned for immediate slaughter at an approved abattoir or moved to an approved feedlot or for steers and spayed heifers from non assessed or better herds to any property

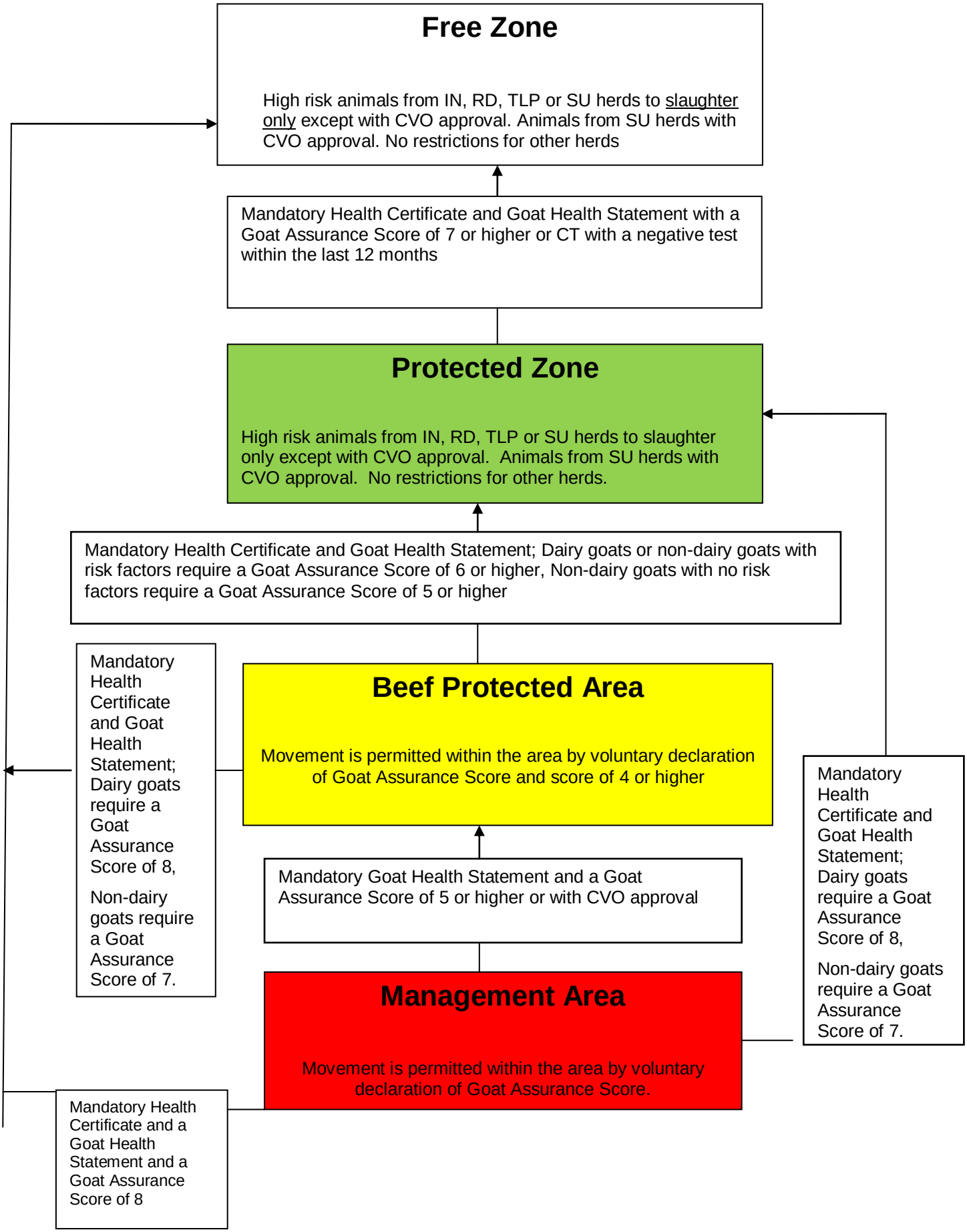
MOVEMENT OF DAIRY CATTLE



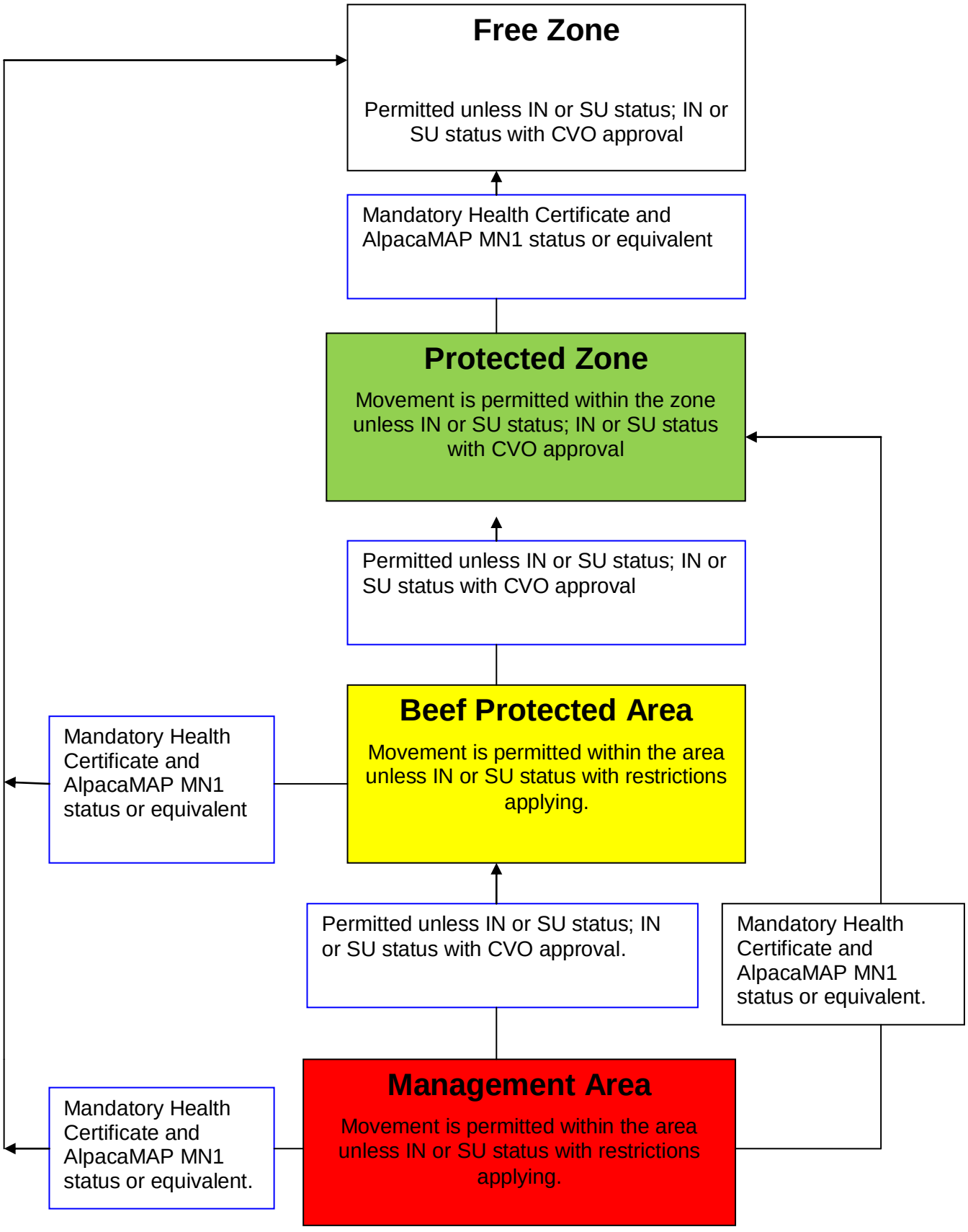
[1]No restrictions for any cattle consigned for immediate slaughter at an approved abattoir or moved to an approved feedlot or for steers and spayed heifers from non assessed or better herds to any property

MOVEMENT OF GOATS

No restrictions if consigned for immediate slaughter at an approved abattoir



MOVEMENT OF ALPACAS



BJD SURVEILLANCE SYSTEM

The general approach for the BJD monitoring and surveillance system is based on:

- Recognition of historical monitoring and surveillance activity to support equivalent status under proposed BJD Zone/Management Area Framework

- Effective early detection through passive surveillance and appropriate and timely response to new detections

- Active surveillance activity conducted to inform epidemiological analysis

- States and Territory's claiming recognition for BJD Free or Protected status under the new Framework plan to undertake epidemiological analysis 30 September 2011

- The cost associated with undertaking the analysis is currently unknown. Available historical data will impact on the costs as additional surveillance activity may be required to achieve a satisfactory level of confidence

- Epidemiological analysis will then be undertaken on a five yearly basis.

Activity	Free Zone	Protected Zone	Beef Protected Area	Management Area
Establish zone or area	Epidemiological analysis undertaken to determine the probability that the population is free from infection with a high level of confidence to the satisfaction of AHC	Epidemiological analysis undertaken to determine the probability that the population has a very low prevalence with a high level of confidence to the satisfaction of AHC	Surveillance and monitoring activity verifies that the beef compartment has a low prevalence to the satisfaction of AHC Surveillance and monitoring activity based on risk based trading in dairy compartment	Surveillance and monitoring activity based on risk based trading
Passive surveillance (scour syndrome exclusion of BJD)	✓	✓	✓	✓ (beef compartment and alpacas)
Targeted surveillance gap to maintain zone or area status	Beef cattle, dairy cattle, goats and alpacas	Beef cattle, dairy cattle, goats and alpacas	Beef compartment and alpacas	Nil

APPENDIX 1: BRIEF HISTORY AND CURRENT SITUATION IN EACH JURISDICTION

Queensland

Historically, Queensland has enjoyed a very low BJD prevalence in both dairy and beef industries. Retention of this favourable BJD status is a high priority, due to the large scale and value of beef production and export of cattle to BJD-sensitive markets.

Evidence for the low prevalence status includes:

- A long history of negative passive disease surveillance, including retention of three government veterinary laboratories to service livestock industries
- Large volume of live cattle export testing, with follow up of sero-positive results, all of which have been negative
- Regulated standards of assurance, consistent with the SD&Rs, for movement of livestock from interstate into Queensland
- Active surveillance in the form of surveys in 1997 of 12,353 dairy and beef cattle and in 2007/08 of 147 representative dairy herds, all with negative results for BJD, indicating a probability of 0.98 that Queensland is free of BJD.

Sporadic tracing of high-risk movements from interstate has occasionally identified infection or suspicion in introduced animals in Queensland. Most of these traces are of feedlot cattle. There are two dairy properties currently infected and another Suspect from introduction of infected cattle, each being under quarantine and undergoing disease eradication.

There is also one dairy goat herd currently infected, quarantined and undergoing disease eradication.

The hot and dry climatic conditions over extensive areas of grazing in Queensland, being not conducive to longevity of *Mycobacterium paratuberculosis* organisms in the soil, may be a factor in preventing establishment of BJD infection in this State.

New South Wales

The majority of NSW is a BJD Protected Zone for cattle but there are 3 small areas with a Control Zone status. These are on the Far North Coast, the Far South Coast and in the Riverina. Within the state movement conditions apply for cattle moving from the Control Zone to the Protected Zone apart from dairy cattle moving directly to a Protected Zone dairy holding. Movement conditions apply to cattle entering the state from interstate Control and Residual Zones.

In January 2011 there were 79 infected dairy herds, 27 infected beef herds, 4 infected goat herds and no infected Alpaca herds in NSW.

BJD was fully regulated in NSW until 31 March 2008 when a compartmental approach was implemented.

Since 31 March 2008 the NSW dairy industry has operated under a risk-based approach. Infected dairy herds are not quarantined but there is a mandatory requirement that all cattle moving from a dairy holding are accompanied by a Dairy BJD Assurance Score Declaration Form. In addition, movements from infected dairy herds are traced once a month using NLIS and appropriate follow-up action is taken in the herds receiving the traced cattle. There are no movement restrictions on cattle moving from one dairy holding to another dairy holding anywhere in the state.

BJD Infected and Suspect beef, goat and alpaca herds are quarantined and may only sell stock to slaughter or to an approved feedlot. The quarantined beef herds are offered support under the Financial and Non-Financial Assistance Package.

An on-going extension program promotes awareness of BJD and the importance of reducing the risk of introducing BJD. For the beef industry the program recommends reducing contact with dairy cattle. For the dairy industry the program promotes the 3-step calf plan and only introducing cattle from herds with Dairy Score 7 or above.

Approximately 75% of NSW dairy herds have undergone testing with 113 enrolled in CattleMAP and 241 achieving Dairy Score 7 through a negative Check Test. There are 167 beef herds enrolled in CattleMAP and testing to exclude BJD is undertaken on all laboratory submissions from cattle showing clinical signs suggestive of BJD.

Victoria

BJD is and has been endemic in the Victorian dairy industry for a long time, although the apparent prevalence in the beef industry reflects that of the national beef herd, ie very low level of infection. There are 970 known infected herds in Victoria from over 4,200 dairy herds, which collectively represent over 60% of all Australian dairy cattle and account for 65% of Australia's milk production. Victoria is currently a Control Area with some regulation of BJD through movement requirements placed in infected herds and an industry funded test and control program is in place for affected, mainly dairy, herds. Industry plays a lead role in management and control, which is encouraged in the dairy and non-beef sector through programs including the industry funded test and control program, a calf rearing accreditation program, use of the National Dairy assurance Score and associated 3 step calf plan, market assurance programs, vaccine trials and Cattle Council Australia's Financial and Non-Financial Assistance. Beef-only underpins trade of beef cattle interstate and is supported and audited by DPI.

Approximately 150 dairy herds have enrolled into a revised test and control program with some more expected over the autumn of 2011.

There are approximately 2,000 goat herds in Victoria, of which six have a current bid infected status. Of these six herds, two are commercial goat dairies (of which one is vaccinating with Gudair), one a hobby fibre herd, one a hobby meat breed herd and the remaining two are hobby dairy goat herds.

There are no alpaca herds with a BJD status.

Tasmania

Tasmania has been a BJD Residual zone. BJD is endemic within the dairy sector, the true prevalence likely to be higher than which is actually recorded. There are currently 26 IN dairy farms, out of a total of 430 registered dairy farms. Frequently, the decision on the fate of a dairy reactor is made based on clinical signs, positive serology and positive ZN stain. Definitive testing within the dairy sector, (faecal culture and histopathology) is sometimes pursued. The number of farms with a suspect status in the dairy sector is significant.

Fortunately infection within the beef compartment remains low, with 9 infected beef farms. FNF program operates successfully in assisting farmers to resolve status.

Currently there are 6 infected goat farms.

Flinders Island remains a protected zone with cattle, goat and alpaca import restrictions in place.

Management and control of Bovine Johne's disease is actively pursued by industry through Market Assurance Programs, Cattle Council Australia's Financial and Non-Financial Assistance Program, the use of the National Dairy assurance Score and associated 3 step calf plan, vaccine trials and Beef-only underpinning trade of beef cattle interstate.

South Australia

55 dairy and 2 beef herds known to be infected with BJD in 2010. Infected dairy herds have an annual or four year test / monitoring program Risk analysis for the spread of BJD in SA cattle industry was completed in 2007

A published paper by Durham PJK and Paine GD *Aust Vet J* 1997, 75 (2) 139-140. reported the serological survey for antibodies to infectious agents in beef cattle in northern South Australia

Active surveillance:

- Beef cattle survey in 1991/92 – 617 animals with nil reactors
- Beef cattle survey in 1996 (tested 4640 in 1998 including 565 samples from 27 properties in PZ) with nil reactors
- Abattoir monitoring of goats in 2001-2005 – 129,994 animals inspected at abattoirs from saleyards, Eyre Peninsular, Northern Pastoral, Central Region, South East and Kangaroo Island. A large proportion of the goats were from wild rangeland population from the Flinders ranges and Gawler ranges
- Movement monitoring.

Beef cattle producer survey in 2000 of cattle movements from 1990-1999 for each property in the pastoral area. 86% of cattle that were imported into the South Australian Protected Zone came from Protected or Free Zones or from

CattleMAP herds. No imports occurred from herds known to be infected with BJD. Movement restrictions were implemented to limit the introduction of infection.

Western Australia

Western Australia remains a BJD Free Zone.

1995: 7294 animals from 127 high risk herds 9those which had imported animals from the Eastern states) - all imported individuals plus up to 100 in contact animals over 3 years old. ELISA blood tests and faecal culture – all negative.

2001: 5497 animals from 92 high risk herds (same definition as above). ELISA and faecal culture - all negative.

2003 - 4: post isolation of a cattle strain of Johne's from a sheep flock: 4960 cattle from 39 herds in 2003, 613 cattle from 3 herds in 2004. All animals over 2 years old tested: faecal culture and ELISA. All negative.

All outbreaks of BJD in WA have been found using the clinical diagnostic system

Since 2005/6:

- Export blood testing: from thousands of tests we have had 127 ELISA reactors. 119 were culled and tissue culture was negative. 8 were assessed as likely false positives based on a risk assessment.
- Clinical surveillance system: From 2008 – 2010, 22 cases of diarrhoea and/or wasting in adult (> 3 years old) cattle have been investigated. All were ELISA negative, 19 had faecal cultures done which were all negative.
- In 2008 investigation of HEC test in 100 dairy herds which were all negative.

The likelihood of importing a BJD infected animal is considered to be much lower post 1998 than pre 1998 (pre MAP).

Northern Territory

There are no commercial dairy herds in the Northern Territory. No cattle, buffalo, goat, deer or alpaca herds are known to be infected with BJD in 2011. There is a long history of negative passive disease surveillance at a low level as persistent diarrhoea is a rare clinical syndrome in adult cattle in northern Australia. There has been export testing of 70,000 cattle exported as live cattle to export markets with follow up of reactors and no disease detected.

Clinical Bovine Johne’s disease was detected in two herds (imported animals from south eastern Australia). BJD was detected in two introduced beef bulls in 1976 – 7748 animals tested with 5 reactors and nil BJD confirmed. BJD was detected in an introduced dairy cow in 1994, - 3050 animals tested with 135 reactors and one case BJD confirmed in another introduced dairy cow from the same herd. In 2002 BJD was detected in two introduced dairy cows

from the same with the herd subsequently depopulated. In both cases there was no demonstrated spread of disease to locally bred cattle in the herd.

A beef cattle abattoir survey was done in 1996 as part of a specificity study with 293 animal's from11 herd's sampled (blood and tissue samples collected concurrently) with nil BJD confirmed. Active surveillance of cattle identified as higher risk following introduction of cattle from the Control Zone from 1990-1995 prior to more stringent conditions for importation being adopted did not detect disease (380 animals from 13 herds tested in 1995).

A conservative approach to the importation of cattle related to Bovine Johne's disease has been adopted since the mid 1990s due to the high consequence of the detection of a clinical case to market access of feeder, slaughter and breeder cattle to the live cattle export markets which is about half of the total Northern Territory cattle turnoff. The objective is to maintain a very low risk of introduction of disease to protect significant trade benefits while not creating an unreasonable impediment to the movement of cattle and additional costs to all stakeholders.