OSPRI

ANNUAL REPORT
2014/2015

Highlights

Number of animals registered in NAIT

9 MILLION

Number of TB infected herds as at 30 June 2015

41 HERDS

Farmers registered with NAIT

75,000

Hectares of movement control areas reduced

928,745

Hectares covered by pest control activities

3.4 MILLION

Hectares declared free of TB since 2011 (2.5M target by 2026)

1.2 MILLION

PROGRESS TO DATE

OSPRI, with its industry and government partners, has made excellent progress. Highlights include:

1. 1.2 million hectares already eradicated of TB (almost 50% of the target land), well ahead of schedule.
2. No recent wildlife-related infections in TB-free areas.
3. Infected herds at an all-time low of 41 (at end of June 2015) and the period prevalence well below the 0.4 target at 0.16.
4. Proof that eradication is feasible. We have proven that we can eradicate TB based on work in the Hokonui Hills proof of concept area (final surveillance is currently underway), and we're well advanced towards proving the feasibility of TB eradication from the Hauhungaroa and Rangitoto Ranges proof of concept area.

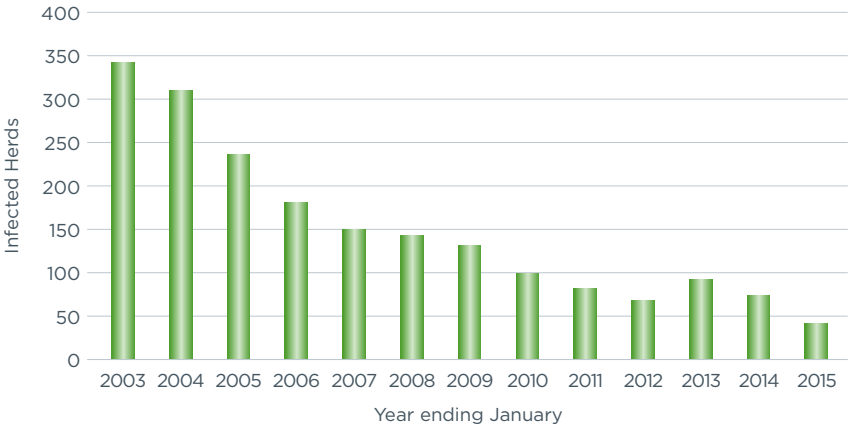
DELIVERING ON OUR STRATEGY

To make the best possible progress towards our goals we delineate areas of land across the country into three specific zones:

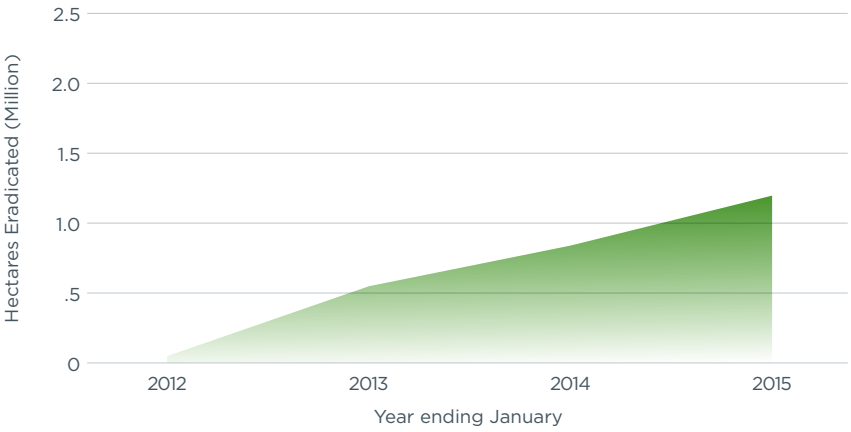
1. Areas where TB will be eradicated.
2. Areas that act as buffer zones to protect land that's TB free.
3. Areas where TB still exists and we need to limit the number of infected herds.

We use a combination of pest management, disease control and movement restrictions to control and eradicate TB. These control tools provide an integrated package that has contributed to the significant reduction in TB infection in New Zealand since the mid-1990s.

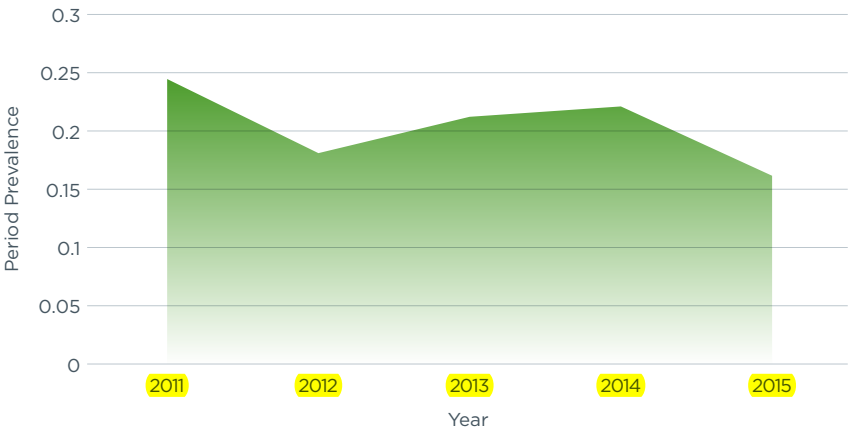
RECORD LOW NUMBERS OF INFECTED HERDS



AHEAD OF TARGET



PERIOD PREVALENCE[1]



[1] What is period prevalence? The annual period prevalence is a technical method of evaluating and reporting on the level of freedom from a disease in herds in a country or region for a chronic disease such as TB. Under this definition, the period prevalence relates to the number of TB-infected herds at the beginning of the year plus the number of new infected herds that occur during the next 12 months, divided by the average number of herds at risk of infection during that time.

The definition of international freedom from TB under the World Organisation for Animal Health guidelines is that the annual infected herd period prevalence remains under 0.2 for at least three years. New Zealand is currently at 0.16 after two years above 0.2 (see graph).

infected dairy herds. As a result of the levels of infection diagnosed in these interlinked herds, the percentage of reactors diagnosed with bovine TB, either with visible TB lesions or through laboratory diagnoses, increased to 38% compared with the low level of 14% found in 2013/2014.

It was interesting to note that while the West Coast–Tasman area had 48% of New Zealand's infected herds, only 26% of the total TB cattle came from the area in 2014/2015.

This indicates that the targeted wild animal control being undertaken in the area and the annual testing requirements appear to be limiting within-herd levels of infection, underscoring the complementary and integrated nature of different parts of the programme.

The number of infected deer herds decreased from three to two, with two infected herds clearing infection and one herd becoming infected in 2014/2015. The number of deer tested in 2014/2015 was very similar to that in 2013/2014, suggesting that the major reduction in the total number of deer and herds may be bottoming out. Four deer were found infected in 2014/2015 (three lesioned reactors and one found during routine slaughter), relative to zero TB deer in 2013/2014 (a normal level of variability expected at this time of the programme).

Table 1 summarises nationally important cattle and deer TB information.

Table 1: Infected herds; period infected herds; TB reactors and tuberculous animals for 2014/2015 (showing differences relative to 2013/2014 categorised by cattle and deer as well as cattle and deer combined)

	Cattle	Deer	Cattle and deer
TB-infected herds as at 30 June 2015 (herds infected as % of total herds)	39 (0.06%)	2 (0.08%)	**41 (0.06%)**
Difference from 30 June 2014 (%)	-30 (-43%)	-1 (-33%)	**-31 (-43%)**
TB-infected herds during 2014/2015[1] (period prevalence %)	93 (0.14%)	4 (0.16%)	**97 (0.14%)**
Difference from 2013/2014 (%)	-52 (-36%)	-1 (-20%)	**-53 (-35%)**
Number of TB reactors in 2014/2015	370	234	**604**
Difference from 2013/2014 (%)	-405 (-52%)	+3 (+1.3%)	**-402 (-40%)**
Number of tuberculous animals in 2014/2015[2]	167	4	**171**
Difference from 2013/2014 (%)	+1 (+0.6%)	+4	**+5 (+3.6%)**

[1] Number of infected herds for 2014/2015 includes herds classified as infected at 1 July 2014, together with new herds found infected during the 2014/2015 financial year.

[2] Tuberculous animals include reactors and non-reactors found at slaughter with gross lesions of TB, which, based on histology, culture or previous herd history of infection, are categorised as being caused by *Mycobacterium bovis*. They also include reactors that had no lesions at slaughter but cultured *M. bovis* from pooled lymph node samples.

that would need to be slaughtered. As the number of actual infected animals reduces within the New Zealand herd, the percentage of false positives will slowly increase. However, the need to find the remaining truly infected, test-positive animals becomes more important as leaving undetected infection within herds will result in the potential spread of the disease.

In addition, ancillary parallel gamma interferon (Bovigam©) tests were performed on 32,940 cattle that tested negative to the primary skin test for TB, but were part of an infected herd. Of these, 87 (0.3%) tested positive and were slaughtered as TB reactors. On slaughter, 24% of these TB reactors were found to have gross TB lesions at slaughter, or *M. bovis* was cultured from tissues. Parallel blood tests were used in acutely, or chronically, infected herds to reduce the time to eradicate infection. Further, the majority of cattle in infected herds are required to pass a parallel Bovigam© test following their second clear skin test before they can be cleared of TB. Parallel testing is also used for pre-movement testing of cattle moving from infected herds.

A crude caudal-fold test specificity of 99.9% can be derived from this data (cattle positive to the primary test as a percentage of cattle tested, assuming all test positives were not infected).

Figure 2 shows the trend in cattle reactors from 2002/2003 to 2014/2015. It clearly shows the increase in the number of cattle reactors slaughtered in 2012/2013 and then, as predicted, returning to the expected low number of reactors observed in recent years.

Tuberculous cattle

The number of tuberculous cattle includes the total number of cattle (including reactors and cattle found during routine slaughter) with gross TB-like lesions – or otherwise identified as infected following culture of *M. bovis* or use of the PCR on tissues. During 2014/2015, 141 (38%) of the 370 reactors slaughtered showed visible TB lesions or had lesions sampled that were confirmed as being infected with *M. bovis*. Bovine TB was also identified in a further 26 cattle during routine slaughter (1.1 per 100,000 cattle slaughtered). Figure 3 illustrates the long-term trend for TB found in cattle from 2002/2003 to 2014/2015 and shows the fall in the number of TB cattle following the spike that occurred in 2012/2013.

The spike in infected herd numbers during 2012/2013 was caused by several large movement related TB breakdowns occurring in dairy herds in Northland, Taranaki, Waikato and Canterbury. DNA TB strain-typing confirmed that the separate breakdowns were unrelated so the clustering of these was considered coincidental. At 30 June 2015 all of these large herd breakdowns have been cleared.

Table 4: Cattle TB test results for 2013/2014 and 2014/2015

Cattle testing	2013/2014	2014/2015
Primary tuberculin tests on cattle	4,213,896	4,410,953
Cattle positive to primary skin test	8424	9640
Primary test-positive cattle slaughtered	231	104
Primary test-positive cattle ancillary serial tested	8193	9536
Ancillary serial test-positive cattle	377	179
Ancillary parallel test-positive cattle	167	87
Total cattle reactors slaughtered	**775 (20/100,000 tested)**	**370 (8/100,000 tested)**

Figure 1: Number of infected cattle herds

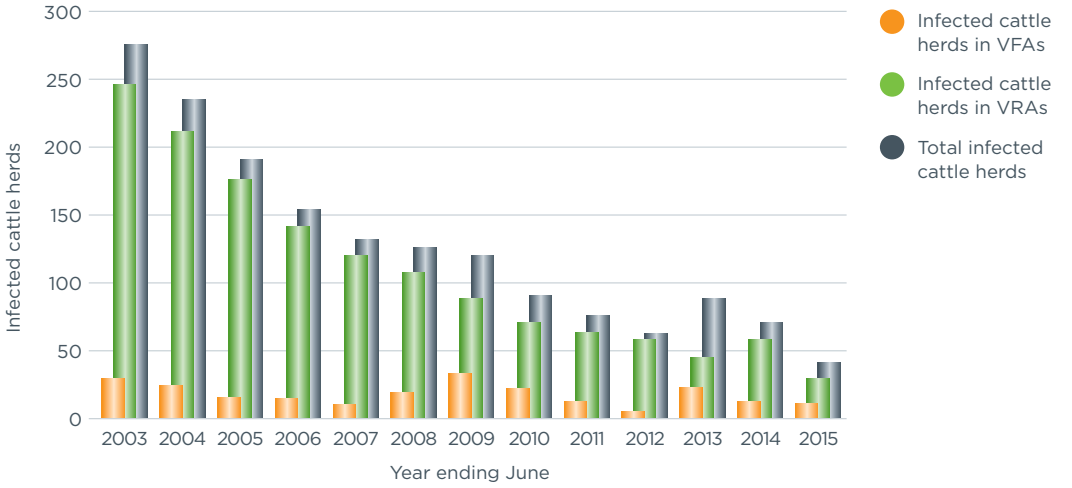


Figure 2: Number of cattle TB reactors

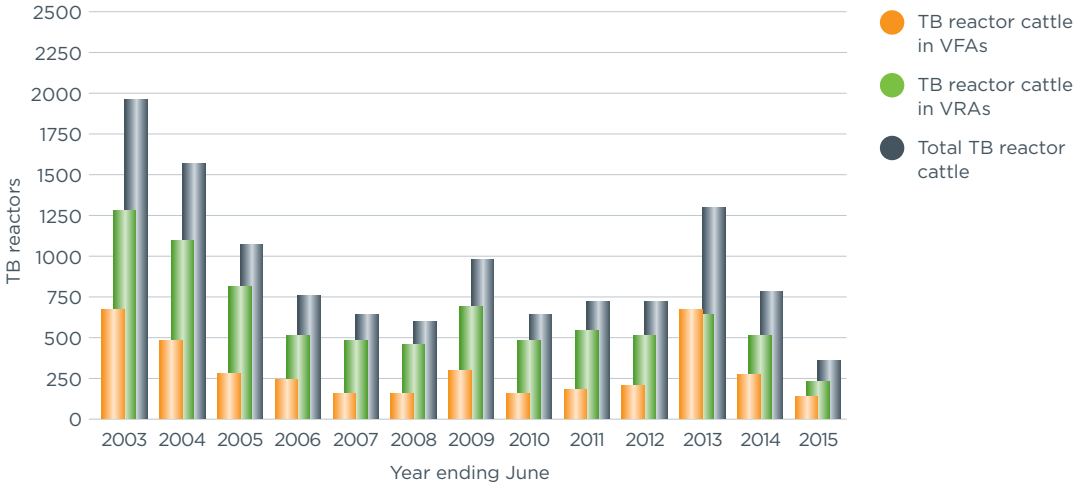
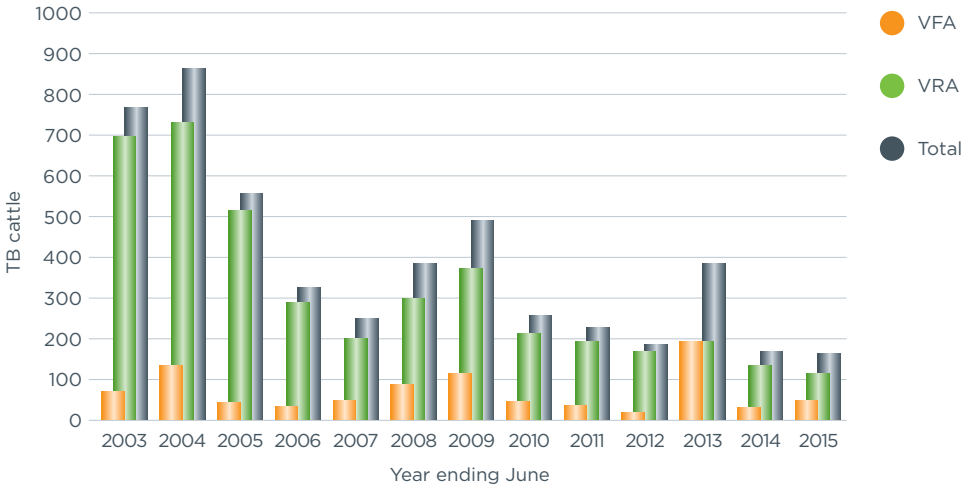


Figure 3: Number of tuberculous cattle



Gastos e Ingresos por capítulos y partes afectadas del Programa Nueva Zelanda 2013_14

TB FREE Financial Performance by Sector 2013/14	Total	Crown	TBfree	Otago	Other Reg	Beef	Dairy	Deer
INCOME								
Crown Revenue	30,000,000	30,000,000	-	-	-	-	-	-
Cattle TB Levy	27,270,406	-	-	-	-	17,180,356	10,090,050	-
Dairy NZ Funding	15,500,000	-	-	-	-	-	15,500,000	-
DINZ Grant	1,419,293	-	-	-	-	-	-	1,419,293
Regional Funding	5,976,387	-	-	1,001,295	4,975,092	-	-	-
Reactor Proceeds	174,315	-	-	-	-	45,757	128,558	-
Other Income	412,276	-	367,444	-	-	30,979	3,990	9,863
Interest Received	77,704	-	-	-	-	33,924	34,924	8,856
Trf (To) / From Funders' Reserves		-	-	-	-	-	-	-
Total Income	**80,830,381**	**30,000,000**	**367,444**	**1,001,295**	**4,975,092**	**17,291,016**	**25,757,522**	**1,438,012**
EXPENDITURE								
Reactors and Infection Mgmt	1,337,659	-	-	-	-	110,778	1,203,620	23,261
Disease Management	3,780,085	86,462	-	2,514	17,292	2,153,349	1,302,836	217,632
Contact Centre Costs	1,040,247	-	-	-	-	405,696	478,514	156,037
Disease Investigation	1,723,717	-	-	-	-	784,556	904,914	34,247
Total Testing	10,777,682	-	-	-	-	4,386,986	6,376,772	13,924
Total Deer	190,599	-	-	-	-	-	-	190,599
Total Compliance	80,863	-	-	-	-	31,537	37,197	12,130
Total Programme Design	**18,930,854**	**86,462**	**-**	**2,514**	**17,292**	**7,872,901**	**10,303,853**	**647,831**
Total Pest Operations	47,505,649	23,752,825	-	804,857	3,911,359	6,624,740	11,526,667	885,202
Total Pest Ops Mgmt	6,775,363	3,346,210	-	114,472	637,713	931,585	1,620,904	124,479
Total Pest Management	**54,281,013**	**27,099,035**	**-**	**919,329**	**4,549,072**	**7,556,325**	**13,147,571**	**1,009,681**
Total Research	2,565,062	1,081,174	-	25,394	190,841	441,191	767,467	58,996
Business Service Support	3,627,794	1,683,586	-	28,152	228,553	762,171	1,228,317	(302,985)
Management Services	828,461	298,246	-	7,009	52,640	163,757	284,928	21,881
Total Non Operational	**7,021,318**	**3,063,006**	**-**	**60,555**	**472,034**	**1,367,118**	**2,280,711**	**(222,107)**
Total Expenditure	**80,233,184**	**30,248,503**	**-**	**982,398**	**5,038,398**	**16,796,345**	**25,732,136**	**1,435,405**
Surplus / Deficit	**597,197**	**(248,503)**	**367,444**	**18,897**	**(63,306)**	**494,671**	**25,387**	**2,607**

70 % COSTE EN ERRADICACIÓN VECTORES TRANSMITEN LA ENFERMEDAD.

› Elegir una enfermedad:

◉ Terrestres: Tuberculosis bovina (- -)

○ Acuáticos: --- Acuáticos ---

Lista de países según la situación sanitaria de la enfermedad

Enfermedad nunca señalada

País	Año de notificación	Vigilancia	Nota
Bahamas	Ene. - Jun., 2016	Vigilancia general y dirigida	
Brunei Darussalam	Ene. - Jun., 2016	Vigilancia general	
Cook (Islas de)	Jul. - Dic., 2016	Vigilancia general	
Emiratos Arabes Unidos	Jul. - Dic., 2016	Vigilancia general	
Groenlandia	Jul. - Dic., 2016	Ninguna medida de vigilancia indicada	
Guadalupe (Francia)	Jul. - Dic., 2016	Vigilancia general y dirigida	
Kiribati	Jul. - Dic., 2016	Vigilancia general	
Maldives	Jul. - Dic., 2016	Ninguna medida de vigilancia indicada	
Malvinas/Falklands (Islas)	Jul. - Dic., 2016	Vigilancia general	
Marshall (Islas)	Jul. - Dic., 2016	Vigilancia general	
Mayotte (France)	Jul. - Dic., 2016	Vigilancia general y dirigida	
Micronesia (Estados Federados)	Jul. - Dic., 2016	Vigilancia general	
Nueva Caledonia	Jul. - Dic., 2016	Vigilancia general	
Palau	Jul. - Dic., 2016	Ninguna medida de vigilancia indicada	
Papua Nueva Guinea	Jul. - Dic., 2016	Vigilancia general	
San Vicente y las Granadinas	Jul. - Dic., 2010	Ninguna medida de vigilancia indicada	
Sta. Helena	Jul. - Dic., 2016	Vigilancia general	
Timor-Leste	Jul. - Dic., 2016	Ninguna medida de vigilancia indicada	

Enfermedad no presente durante este periodo del informe

		Doméstica		Silvestres

	notificación			
Bangladesh	Jul. - Dic., 2015	✓	✗	

Enfermedad clínica demostrada

País	Año de notificación	Doméstica	Silvestres	Nota
Afganistán	Ene. - Jun., 2016	✓	✗	
Argelia	Jul. - Dic., 2016	✓	✗	
Bahrein	Jul. - Dic., 2016	✓	✗	
Bélgica	Jul. - Dic., 2016	✓	✗	
Belice	Ene. - Jun., 2016	✓	✗	
Benin	Jul. - Dic., 2016	✓	✗	
Bolivia	Jul. - Dic., 2016	✓	✗	
Brasil	Ene. - Jun., 2016	✓	✗	
Burkina Faso	Jul. - Dic., 2016	✓	✗	
Burundi	Jul. - Dic., 2016	✓	✗	
Camerún	Jul. - Dic., 2015	✓	✗	
Centroafricana (Rep.)	Jul. - Dic., 2016	✓	✗	
Chad	Jul. - Dic., 2016	✓	✗	
Chile	Jul. - Dic., 2016	✓	✗	
Colombia	Jul. - Dic., 2016	✓	✗	
Corea (Rep. de)	Jul. - Dic., 2015	✓	✗	
Costa Rica	Jul. - Dic., 2016	✓	✗	
Dominicana (Rep.)	Jul. - Dic., 2016	✓	✗	
Ecuador	Jul. - Dic., 2016	✓	✗	
Egipto	Ene. - Jun., 2016	✓	✗	
El Salvador	Jul. - Dic., 2016	✓	✗	
Ex-Rep. Yug. de Macedonia	Jul. - Dic., 2016	✓	✓	
Ghana	Jul. - Dic., 2016	✓	✗	
Grecia	Ene. - Jun., 2015	✓	✗	
Guatemala	Ene. - Jun., 2016	✓	✗	
Irán	Jul. - Dic., 2016	✓	✗	
Iraq	Jul. - Dic., 2016	✓	✗	
Jordania	Jul. - Dic., 2016	✓	✗	
Kuwait	Jul. - Dic., 2016	✓	✗	
Madagascar	Ene. - Jun., 2016	✓	✗	
Marruecos	Jul. - Dic., 2015	✓	✗	
Mauritania	Jul. - Dic., 2016	✓	✗	
Mozambique	Jul. - Dic., 2016	✓	✓	
Nicaragua	Jul. - Dic., 2016	✓	✗	
Nigeria	Jul. - Dic., 2016	✓	✓	
Nueva Zelanda	Jul. - Dic., 2016	✓	✓	
Reino Unido	Jul. - Dic., 2016	✓	✗	