



Animal &  
Plant Health  
Agency

## **Regional six-monthly report of descriptive bovine TB epidemiology for the Low Risk (4 yearly testing) Areas of England**

**Southern area - Norfolk and Suffolk (Zone 1); Cambridgeshire, Bedfordshire, Hertfordshire, Essex, Greater London North and Greater London South (Zone 2); Surrey, Kent and West Sussex (Zone 3); Isle of Wight (Zone 4).**

**2019 Mid-year (first six months)**

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## 1. Geographical distribution of bovine TB breakdowns in the region

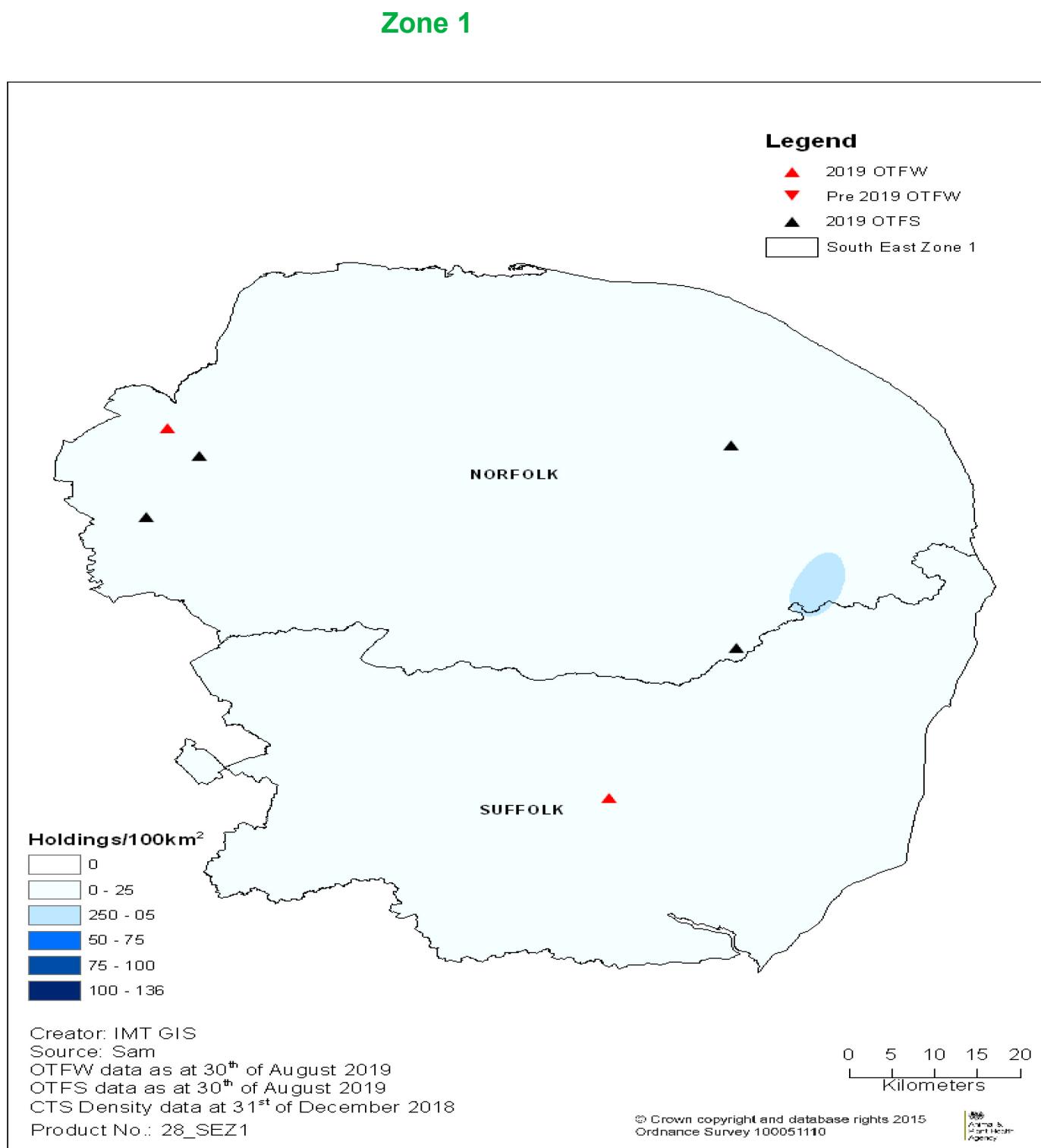


Figure 1: Geographical distribution of all new TB breakdowns (OTFW and OTFS) in 2019 and pre 2019 OTFW breakdowns still ongoing at the end of the report period overlaid on a cattle holding density map for Zone 1 of the Southern Area.

## Zone 2

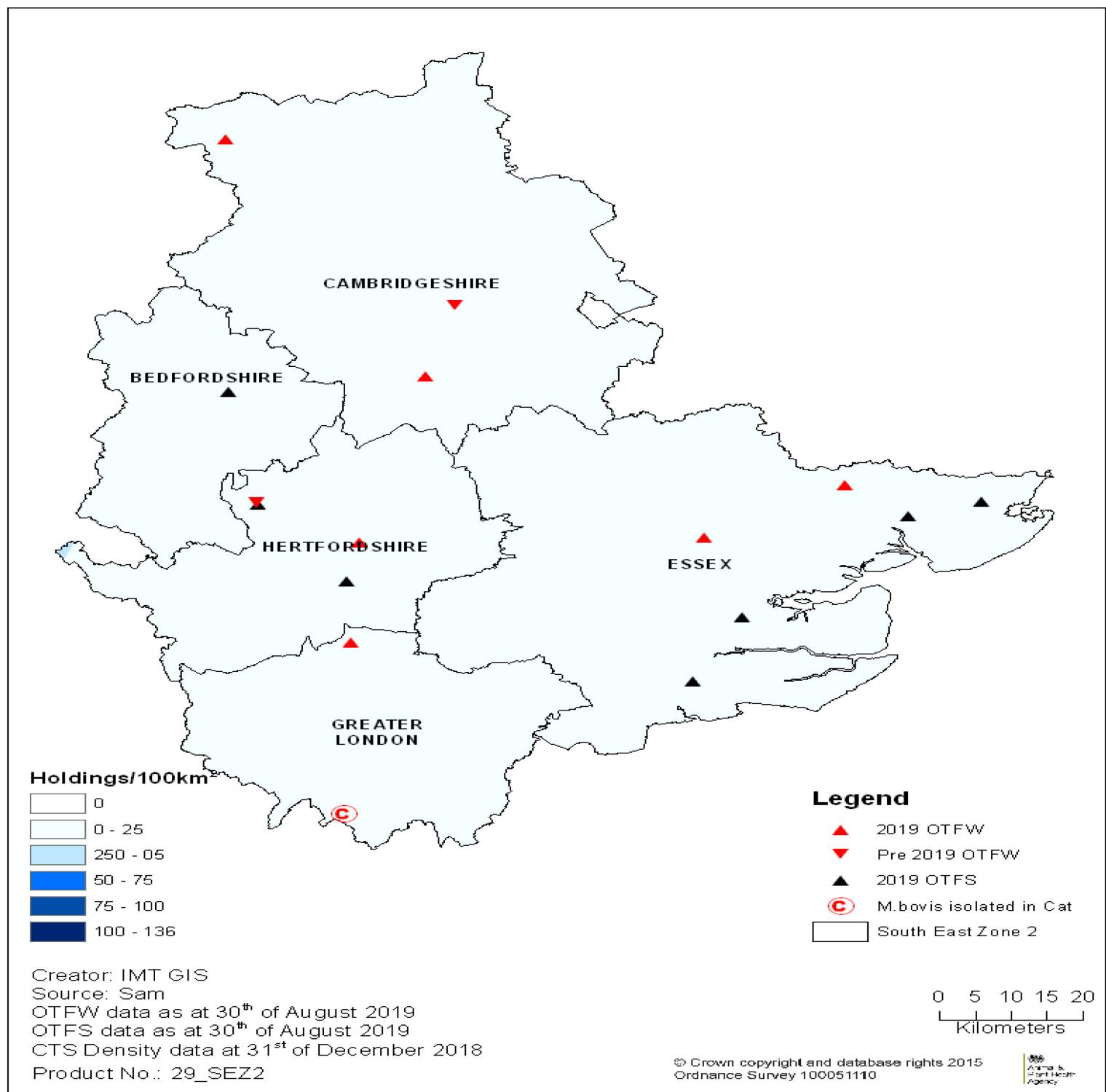


Figure 2: Geographical distribution of all new TB breakdowns (OTFW and OTFS) in 2019 and pre 2019 OTFW breakdowns still ongoing at the end of the report period overlaid on a cattle holding density map for Zone 2 of the Southern Area.

## Zone 3

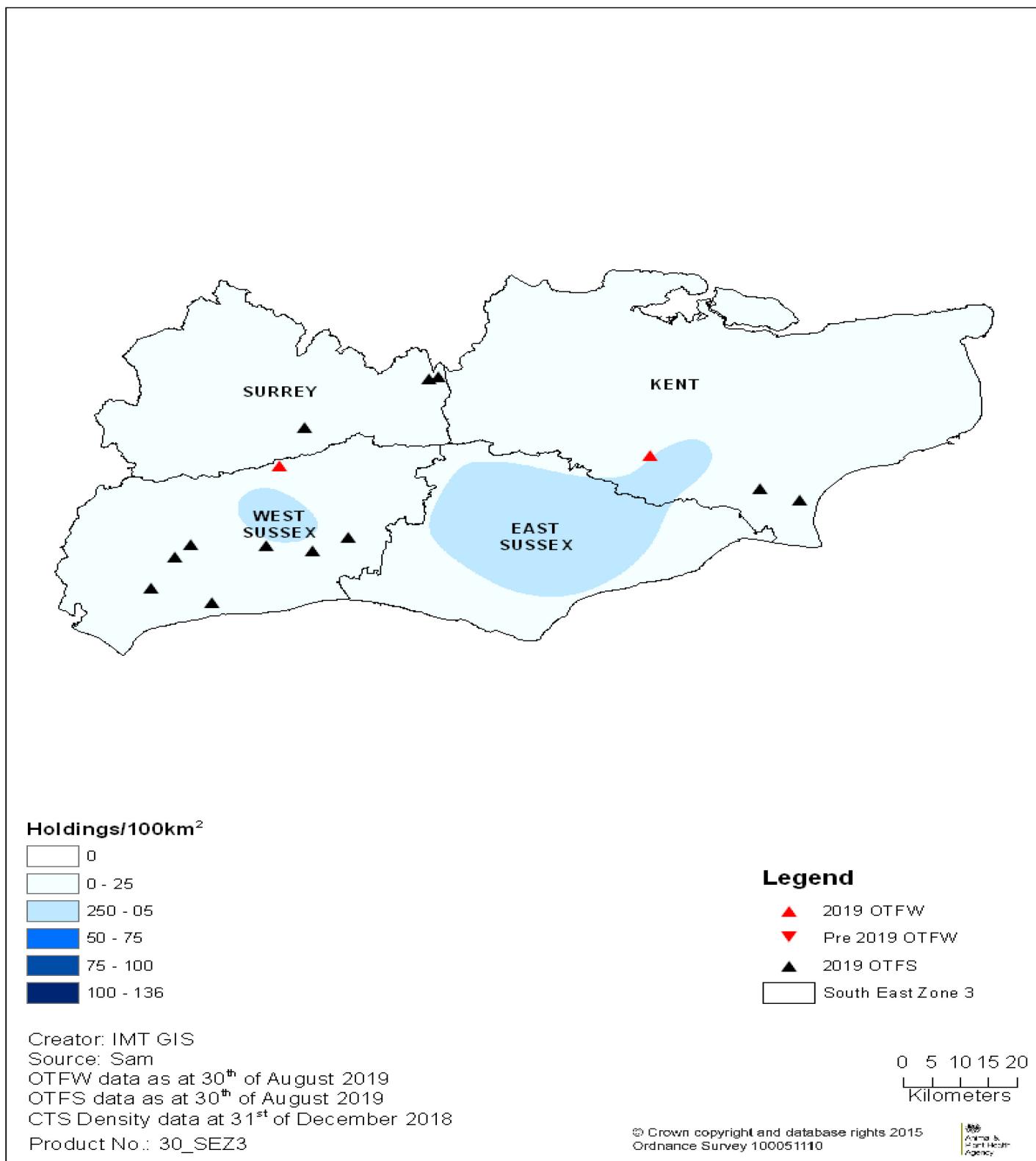


Figure 3: Geographical distribution of all new TB breakdowns (OTFW and OTFS) in 2019 and pre 2019 OTFW breakdowns still ongoing at the end of the report period overlaid on a cattle holding density map for Zone 3 of the Southern Area respectively.

## Zone 4

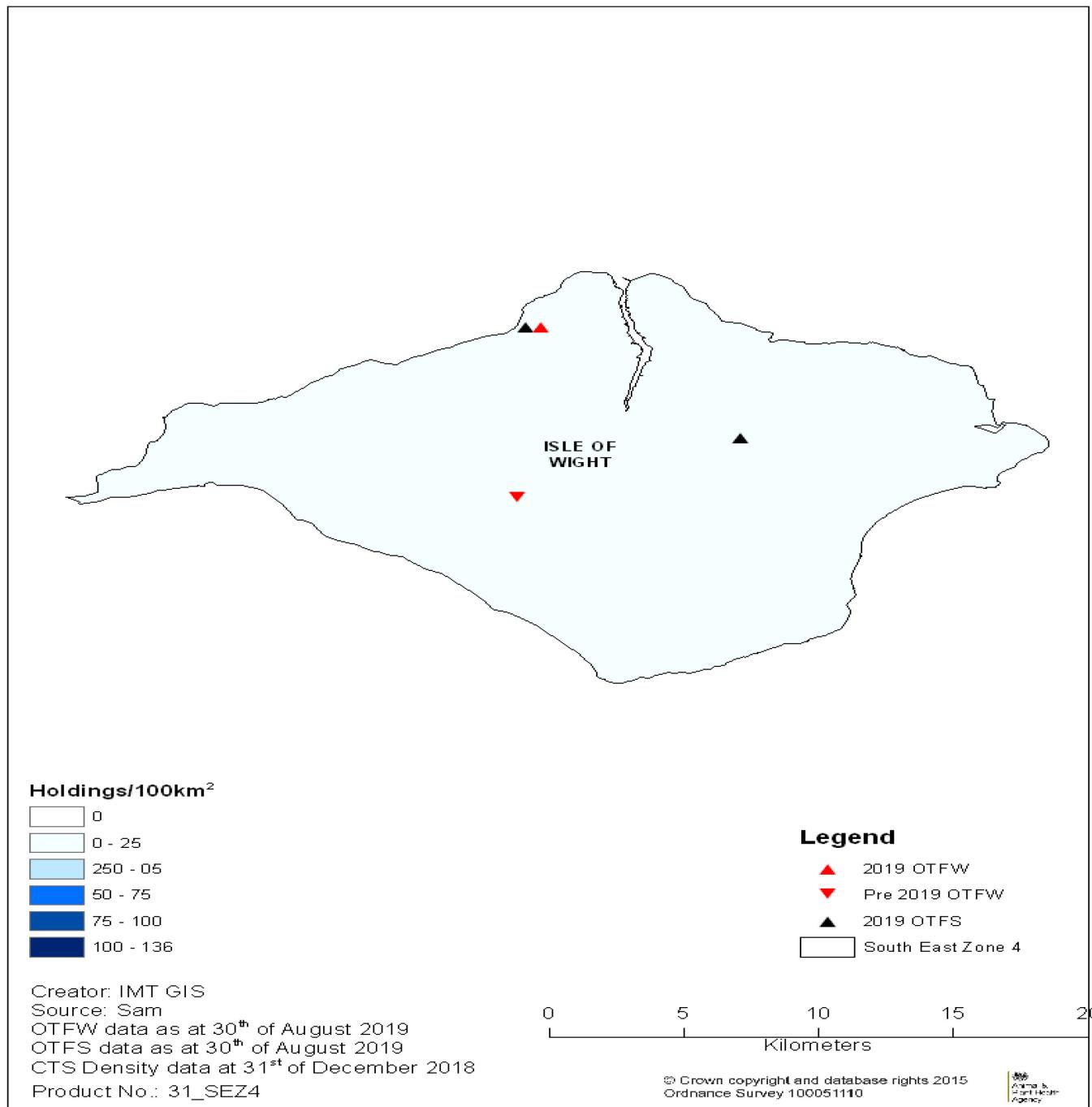


Figure 4: Geographical distribution of all new TB breakdowns (OTFW and OTFS) in 2019 and pre 2019 OTFW breakdowns still ongoing at the end of the report period overlaid on a cattle holding density map for Zone 4 of the Southern Area.

**Reactor and slaughterhouse (SLH) case density - All TB breakdowns (01/01/2019 - 30/06/2019)**

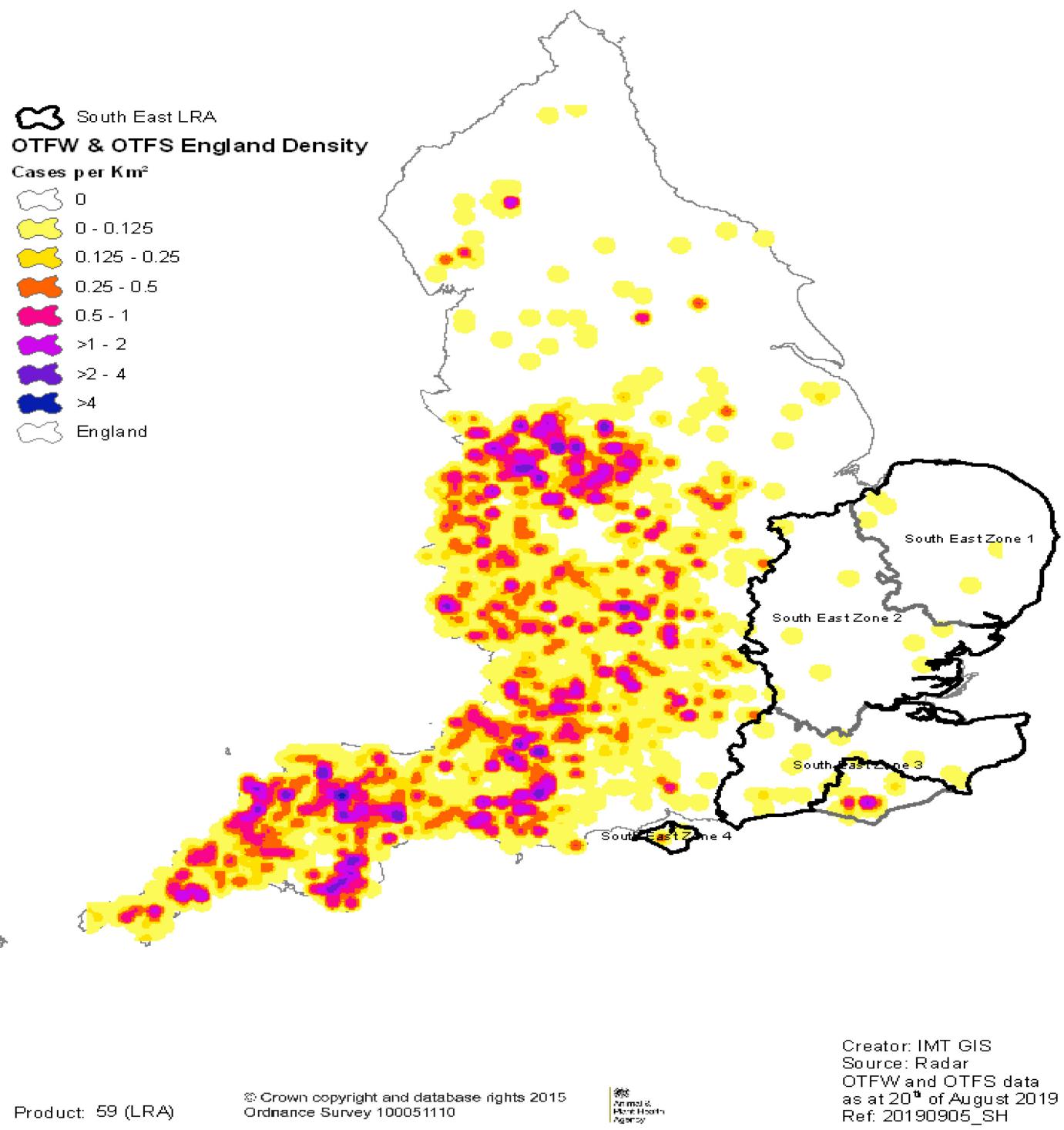


Figure 5: Display the density of skin test, IFN-gamma test reactors and slaughterhouse cases per km<sup>2</sup> in OTFW TB incidents in the first six-months of 2019

**Reactor and slaughterhouse (SLH) case density - OTFW TB breakdowns (01/01/2019 - 30/06/2019)**

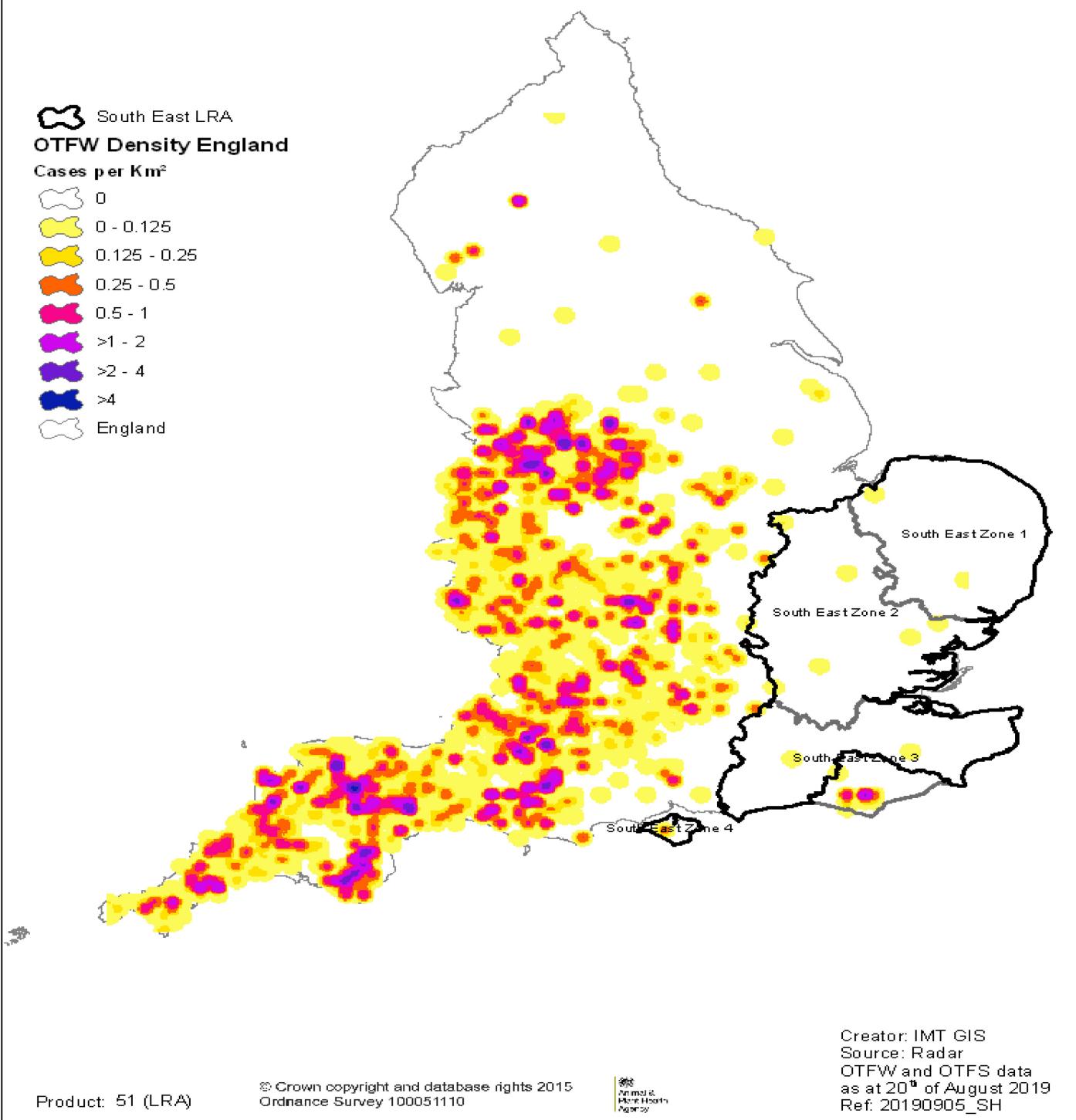


Figure 6: Display the density of skin test, IFN-gamma test reactors and slaughterhouse cases per km<sup>2</sup> in all TB incidents in the first six-months of 2019

## 2. Summary of the regional headline cattle TB statistics

There were eleven new OTFW breakdowns in the LRA of the South East region in the first six months of 2019. In addition to that, there were three OTFW breakdowns that began in 2018 and were still open at the end of the reporting period.

The Southeast Region counties of East Sussex, Hampshire, Berkshire, Buckinghamshire and Oxfordshire are not included in this report as they are part of the Edge Area.

<b>Herd-level statistics</b>	<b>Zone 1</b>	<b>Zone 2</b>	<b>Zone 3</b>	<b>Zone 4</b>	<b>Total SE Region</b>
(a) Total number of cattle herds live on Sam at the end of the reporting period	1533	1339	1544	141	4547
(b) Total number of cattle herds subject to annual TB testing at the end of the reporting period (any reason)	67	179	157	68	471
(c) Total number of herd tests carried out in the period	299	374	421	86	1180
(d) Total number of OTF cattle herds TB tested during the period for any reason	197	214	272	30	713
(e) Total number of OTF cattle herds at the end of the report period (i.e. herds not under any type of TB2 restrictions)	1517	1315	1512	139	4483
(f) Total number of cattle herds that were not under restrictions due to an ongoing TB breakdown at the end of the report period.	1528	1335	1543	141	4547
(g) Total number of new TB breakdowns detected in cattle herds during the report period:	6	13	14	3	36
• OTFS	4	7	12	2	25
• OTFW	2	6	2	1	11
(h) Of the new OTFW herd breakdowns, how many:					
• occurred in a holding affected by another OTFW breakdown in the previous three years?	0	0	0	0	0
• could be considered secondary to a primary breakdown based on current evidence?	0	3	0	0	3
• were triggered by skin test reactors or 2x Inconclusive	1	3	1	0	5

Reactors (IRs) at routine herd tests?					
• were triggered by skin test reactors or 2xIRs at other TB test types (forward and back-tracings, contiguous, check tests, post-movement, etc.)?	0	3	0	1	4
• were first detected through routine slaughterhouse TB surveillance?	1	0	1	0	2
(i) Number of new breakdowns revealed by enhanced TB surveillance (radial testing) conducted around those OTFW herds:	0	0	0	1	1
• OTFS	0	0	0	0	0
• OTFW	0	0	0	1	1
(j) Number of OTFW herds still open at the end of the period (including any ongoing OTFW breakdowns that began in a previous reporting period)	0	1	0	1	2
(k) New confirmed (positive <i>Mycobacterium. bovis</i> ( <i>M. bovis</i> ) culture) incidents in non-bovine species detected during the report period (indicate host species involved)	0	1 (cat)	0	0	1

Animal-level statistics (cattle)	Zone 1	Zone 2	Zone 3	Zone 4	Total SE Region
(a) Total number of cattle tested in the period (animal tests)	14581	20238	34098	7310	76227
(b) Reactors detected:	6	82	35	31	154
• tuberculin skin test	6	24	35	3	68
• additional gamma interferon (IFNg) blood test reactors (skin-test negative or IR animals)	0	58	0	28	86
(c) Reactors per breakdown	1	6.3	2.5	10.3	4.2
(d) Reactors per 1000 animal tests	0.41	4.05	1.0	4.2	2.02
(e) Additional animals identified for slaughter for TB control reasons (Direct Contacts (DCs), including any first-time IRs)	0	0	0	0	0
(f) Slaughterhouse (SLH) cases (tuberculous carcasses) reported by Food Standards Agency (FSA)	1	1	9	0	11

(g) SLH cases confirmed by culture of <i>M. bovis</i>	1	0	1	0	2
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### 3. Suspected sources of *Mycobacterium bovis* infection for all the new officially tuberculosis free status withdrawn breakdowns identified in the report period

Most likely origin	Provisional	Final
Introduction (e.g. purchase) of infected animal(s)	4	6
Local - lateral spread from neighbouring holdings:		
• exposure to infected wildlife e.g. badgers	1	
• other farmed species		
• recrudescence of residual infection from a previous TB breakdown		
• infected human source		
Undetermined/obscure		
Other (explain)		

Categorisation of all new OTFW TB breakdowns identified in this region of the LRA, according to:

- (a) the probability of them being the result of introduced infection (inward cattle movements) and
- (b) the strength of evidence that we are dealing with an isolated incident without further propagation from the index farm to neighbouring herds (or vice versa)

Probability of isolated, sporadic ('one-off') breakdown, without secondary local spread from the index case			
Probability of <i>M. bovis</i> infection introduced through cattle movements	Likely (no secondary breakdowns detected)	Possible (no secondary breakdowns detected, but dataset incomplete)	Not likely (secondary spread from the index case, or exposure to a common wildlife source has occurred)
	Definite	5 *	2**
	Likely	3***	
	Possible		1
	Not likely (indigenous infection in the locality)		

## **4. Overview of the Bovine TB Eradication Programme in the Region**

- There have been no changes in routine skin testing surveillance policy. The mandatory post-movement testing policy introduced in April 2016 for cattle imported from higher risk areas of GB is now well embedded in the region.
- No known cases of human M. bovis infection in the Region attributable to recent contact with infected animals.
- There were no known non-specific or suspected fraudulent skin test reactors.
- No breakdowns involving producer-retailers of unpasteurised cows' milk or on open farms.
- Radial surveillance testing was waived for two of the new OTFW breakdowns herds in the reporting period, following a veterinary risk assessment.
- There have been no interferon-gamma testing exemptions granted during this reporting period.
- Of all new OTFW breakdowns occurring in the first six months of 2019, 45% were disclosed at routine herd test (RHT), 27% were disclosed at a trace test, followed by 18% through slaughterhouse surveillance and 10% at radial surveillance testing (Rad12).

## **5. Wildlife**

There have been no reports of M. bovis-infected wildlife from the South East Low Risk Area.

## **6. Other susceptible species**

There have been no reports of M. bovis-infected animals of other susceptible species in the South East Low Risk Area during the reporting period.

## Glossary

- bTB – (bovine) Tuberculosis (infection of cattle with *M. bovis*)
- Edge Area (EA) – the annual TB testing area of England situated between the High and Low Risk Areas
- Epidemiology – the science that studies the patterns, causes, and effects of health and disease conditions in defined populations
- Genotype – the genetic makeup of a cell, an organism, or an individual usually with reference to a specific characteristic under consideration
- High Risk Area (HRA) – the annual testing area of England comprising the South West, West Midlands and part of East Sussex, in which *M. bovis* infection is endemic in cattle herds and in badgers
- IFN- $\gamma$  – interferon-gamma test. A supplementary in vitro blood test for TB used by APHA in conjunction with the tuberculin skin test in some situations, usually to improve the overall diagnostic sensitivity in infected herds with OTF status withdrawn
- Low Risk Area (LRA) – the four-yearly TB testing area of the North and East of England in which *M. bovis* infection occurs only sporadically in cattle and is not considered endemic in wildlife. Although the default testing interval for routine TB surveillance is four years, some higher risk herds in the LRA are subjected to annual testing. There is also more intensive surveillance testing (radial testing) around any herds in the LRA (and parts of the Edge Area) that have their officially TB free status withdrawn due to a TB breakdown
- OTF – Officially Tuberculosis Free status. Herds that are not subjected to TB movement restrictions of any type are classified as OTF
- OTF-S – Officially Tuberculosis Free Suspended status. In England, an OTFS breakdown is a herd in which all the reactors removed had no visible lesions (NVL) on post-mortem examination and had negative culture results for *M. bovis*
- OTF-W – Officially Tuberculosis Free Withdrawn status. In England, an OTFW breakdown is a herd in which at least one test reactor with visible lesions (VL) and/or an animal with *M. bovis*-positive culture result have been disclosed
- Persistent herd breakdown – a herd that has been under TB movement restrictions for 18 months or longer due to infection with *M. bovis*
- Potential ‘Hotspots’ – a temporary area of enhanced TB cattle and wildlife surveillance that may be declared around some OTFW TB breakdowns of uncertain origin detected in a Region of historically low TB incidence
- SIT – short-interval test. A tuberculin skin test of all bovines in a TB breakdown herd, carried out 60 days after the removal of the last test reactor (or laboratory confirmation of a TB slaughterhouse case) in order to restore the OTF herd status. In the majority of cases, two successive SITs with negative results are necessary. The results can be read using standard or severe interpretation of the skin test. Calves under 42 days old are usually exempted.
- VRA – Veterinary Risk Assessment.



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