Animal &
Plant Health
Agency

Bovine TB in cattle: badger control areas monitoring report

For the period 2013 to 2021

September 2022

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Purpose of this report

This report provides the annual bovine tuberculosis (TB) monitoring data for cattle herds in licensed badger control areas that have been exposed to at least one period of badger culling and have had at least one year of follow-up ending during 2021. The report shows TB changes over time in cattle in areas subject to badger culling, but the data presented are insufficient by themselves to demonstrate whether the policy has been effective or not in reducing bovine TB in cattle. Evaluation of the effect of the badger control policy requires consideration of other factors that could affect cattle TB incidence in addition to culling and has been subject to separate analytical studies (Brunton et al., 2017; Downs et al., 2019).

Please note that all data presented in this report are available in an accessible format in the accompanying OpenDocument Spreadsheets (ODS).

Introduction

The badger control policy encompassing badger culling was implemented in England to reduce the population of badgers where bovine tuberculosis (TB) is endemic. The aim of the policy is to reduce the potential for transmission of *Mycobacterium bovis*, the bacterium that causes TB, between badgers and cattle, and hence reduce the incidence of TB in cattle. The policy is based upon evidence generated by the Randomised Badger Culling Trial (RBCT) conducted in England between 1998 and 2005. The incidence of confirmed cattle herd TB incidents was overall around 29% (95%CI 21 to 36%) lower in areas where proactive culling was conducted relative to non-intervention areas (Donnelly et al., 2007; Jenkins et al., 2010). Increased risks of TB were observed in cattle herds on land adjoining land where culling was conducted although the increased risk did not persist once culling had stopped.

The current badger control policy includes licensing of industry-led badger culling (Defra, 2021) from 2013 and provision of biosecurity advice to farmers in licensed areas since 2014. From April 2017 to June 2021 where badger control operations have been conducted for a minimum of 2 years, interferon (IFN) gamma testing of cattle has been introduced in addition to tuberculin skin testing to detect and remove infected cattle during TB incidents.

In 2013, two licences were issued under the Protection of Badgers Act 1992 by Natural England (NE), to groups of farmers and landowners in Gloucestershire and Somerset in the High Risk Area (HRA) for TB in England. A further licence was issued in Dorset, also in the HRA, in 2015. Seven licences were issued in 2016 and 11 in each of 2017, 2018, 2019 and 2020. The majority of areas are located in the HRA, but 10 straddle the HRA and Edge Area and three are located entirely in the Edge Area. Two are located entirely in the Low Risk Area (LRA) for TB in England and linked to TB Hotspots. APHA is commissioned

by Defra to monitor the incidence of TB in cattle in the areas that have been issued licences for badger control. To address this requirement APHA publishes monitoring results showing the incidence and prevalence of TB in cattle herds in the badger control areas that have been exposed to at least one period of culling and for which there is at least one year of follow-up since culling was started. Culling is initiated in the autumn and generally continues for a period of around 6 weeks until badger removal targets are met. The monitoring data are from TB tests conducted during routine surveillance and control of TB in cattle. To date monitoring results have been reported for the areas where culling is conducted and for 2 km wide buffer areas surrounding each central cull area, where the land is not part of another culling area or coastline.

APHA has also undertaken analytical studies to assess whether there is any association between badger control and cattle TB incidence. To date these have been conducted using multivariable analyses comparing TB incidence rates in areas subject to badger control to TB incidence rates in areas not subject to the badger control whilst controlling for differences between the areas that could be related to TB risk and badger culling (Brunton et al., 2017; Downs et al., 2019). After 4 years of culling there were reductions in TB incidence rates of 66% (95% CI 61 to 71%) in Gloucestershire and 37% (95% CI 31 to 42%) in Somerset relative to comparison areas. TB incidence rates in the buffer areas surrounding cull areas were lower after 4 years in Gloucestershire and after 2 years in Dorset relative to comparison area buffer areas (Downs et al., 2019). Further evaluation of effects is ongoing and has required a different design because of the loss of comparison area land to new cull areas. The loss of buffer land to new cull areas has reduced the utility of data from these areas for understanding effects from culling.

As with all monitoring reports published since 2018, no data from potential comparison areas are included because of the loss of land (to culling) which might be used to compare TB incidence rates in cattle to rates in cull areas.

Changes from the monitoring report published in 2021

1. Natural England (NE) have made small changes to the boundaries of cull areas from time to time. Whilst the list of herds in the cohort remains unchanged, the Herds in Existence (HIE) herd data for central zones are reported for the maximum area known to have ever been culled under licence at the time the report was compiled. Percentage change to central areas between this report and the previous annual report are shown above the figures for incidence and prevalence contained within the report.
2. We no longer report data for buffer areas for the reasons set out on page 5, however all data for central areas are reported as usual.
3. The following errors detected in the report published last year have been corrected;
    a. The OTF-W prevalence per 100 active herds in figures 12 and 16 for areas 6 and 8 respectively (data in the supplement published last year were correct).

b. The % change in the size of Area 13.

Changes to TB testing frequency that can affect TB incidence and prevalence

Reported incidence and prevalence of TB reflects the background force of infection but also surveillance and control policies, which affect the detection of disease. Surveillance and control policies, including the frequency of routine testing for TB in cattle and the types of tests applied, can differ across the TB risk areas and therefore can differ between cull areas. The main changes to TB surveillance and control policies over time affecting cattle in cull areas are listed below. Further information about TB tests and surveillance and control policies can be found on the TBhub.

1. Prior to 2013, when the badger control policy started, cattle herds in counties now in the HRA were subject to routine annual field surveillance for TB using the tuberculin skin test. Most counties in the Edge Area were subject to field surveillance every two years. In 2013 all herds in the Edge Area also became subject to routine annual surveillance.
2. Six monthly surveillance testing has gradually been introduced into counties in the Edge and the HRA. In 2015 part of the county of Cheshire in the Edge Area became subject to routine 6-monthly testing because the area was recognised as having a particularly high risk of infection. In 2018 routine 6-monthly testing was applied to all of Cheshire, Oxfordshire and Warwickshire and parts of Berkshire, Hampshire and Derbyshire. In September 2020 routine 6-monthly testing was applied to the HRA counties of Staffordshire and Shropshire. In July 2021 routine 6-monthly testing was applied to the remainder of the HRA (Animal and Plant Health Agency, 2021a; Six-monthly surveillance testing of cattle herds in the HRA). Herds in counties subject to 6-monthly testing can revert to annual testing upon meeting criteria which demonstrates a lower risk of infection (earned recognition).
3. From 2017 to 2021, mandatory IFN gamma testing to detect and remove infection was applied to TB incident herds in areas that had been subject to two or more years of culling (Refinements to the IFN gamma testing policy in the HRA and Edge Area).
4. During 2020, the public health measures, including social distancing and self-isolation, adopted by the government to contain the COVID-19 outbreak impacted the ability of veterinarians to carry out some TB testing. From 23 March 2020, skin testing for select purposes was not mandatory for cattle under 180 days old if the official veterinarian conducting the test felt it was unsafe to carry out the testing while maintaining social distancing. Short interval tests, which are required to restore a herd's official TB free (OTF) status, were not originally included in this derogation. However, herds were considered on a case-by-case basis with extensions granted to time windows to perform short interval tests, and also for tests to maintain OTF status.

Monitoring methods

Data source and quality

TB data for the report are extracted from Sam, the APHA database, which records the results from TB tests conducted in cattle herds throughout Great Britain. Data were downloaded on 11-May-2022.

These data are compiled over time as a result of TB surveillance activities and control policies and historical data may be updated/ corrected in light of new information. Corrections may include removal of a herd that has become inactive, inclusion of a herd that has become active, and revisions to the geographical location of the herd. Additionally, NE has revised cull area boundaries from time to time. Herd TB incident designation may also change from unconfirmed infection (Officially Tuberculosis Free-Suspended, OTF-S) to confirmed infection (Officially Tuberculosis Free- Withdrawn, OTF-W) due to confirmatory information about the presence of *M. bovis* infection becoming available since the previous report was published. Data corrections and routine validation can affect the counts of incidents and the calculated time at risk. The corrections in the past have generated minor differences in statistics between annual reports, particularly in relation to the year prior to the most recent year in the report. The most recently published report contains the most accurate current and historical data known to the project team. Where areas licensed for culling have changed size, this is indicated above the figures and tables for the relevant areas.

Badger control areas

Central areas

These are the areas which are licensed by NE for badger culling. The boundaries of these areas are defined and provided by NE to APHA each year. They have remained broadly stable over time, with small revisions to some boundaries by NE.

The APHA reports levels of TB for the population of HIE based on the most up-to-date information provided by NE. Data for HIE are reported for the largest area known to have ever been culled for each central area at the time data for each annual monitoring report are compiled. In contrast, the population of cohort herds was established in the year culling started in an area and only changes in activity of the herd e.g. loss of herds from farms that are no longer operating will affect the cohort. The cohort population is not affected by changes to cull area boundaries.

Each central area has a unique identifier, which relates to when the area was licensed for badger culling and the county in which it is located.

Buffer areas

TB and herd data for buffer areas has been reported in previous reports but is no longer included. This is because of substantial reductions in the land available for buffer areas due to licensing of new cull areas.

Buffer areas were defined by the APHA project team in the past using the central area boundary information provided by NE. The land designated as buffer was 2 km wide and surrounded each central area where culling was conducted. The overall size of buffer areas varied due to factors such as central area size, existence of physical boundaries such as a coastline and proximity of other areas where culling is conducted. For example, where two cull areas abutted each other, any pre-existing buffer was eliminated. Early in the badger control policy buffer areas generally comprised continuous land encircling a central area. Over time the proportion of the buffer area remaining around central areas has decreased with substantial deductions in some areas (Animal and Plant Health Agency 2021b, Table 1). Additionally, remaining buffer is often comprised of small, separated areas of land which contain small numbers of herds. The overall reduction of available buffer land and the division of remaining buffer into small segments diminishes its value in an analysis of effects from culling.

Time period

The baseline date

Each area has its own associated baseline date. This is the start date of the first cull in that area. A “cull year”, as referred to in this report, is the period of 12 months starting from the same day and month of the baseline date for each year in the reporting period and is defined separately for each area.

Monitoring herd groups

Cohort

Cohort herds are herds recorded as active in central areas on the baseline date. The central cohort are herds identified, using map reference data, as being located within the cull areas originally licensed by NE.

TB data for cohort herds always relates to the original cohort of herds located within the areas defined by the original NE licence, even if map reference data show that a herd is not in the area in non-baseline years. Over time some of the herds in a cohort may become inactive and are lost to follow-up. This means that the number of herds in the cohort can decrease but not increase between years.

Cohort herds were all in existence on the baseline date and we can therefore assume them to be exposed to badger control operations for the full follow-up period whilst they remain active.

Herds in existence (HIE)

HIE provides an annual snapshot of active herds that are located within central areas based on the area boundaries licensed by NE at the time data are compiled for the annual monitoring report. This group of herds will include herds recorded as active within the area before and after the baseline date, based on current herd location map reference data.

The annual count of HIE for the central areas includes new herds that come into existence after the baseline date and herds that were active prior to the baseline date. Inclusion of the HIE population should help show any bias due to the natural loss of herds from the cohort due to changes in business activity. However, it is important to note that herds reported on in this group were not all in existence on the baseline date when culling started and therefore may not have been exposed to badger control operations for the entire follow-up period.

HIE includes herds in the maximum area culled for each area due to boundary changes. For example, the central area for Area 32 in Cumbria (first licenced in 2018) was extended in January 2019 to include some of the buffer area, following the discovery of *M. bovis* infected badgers in the buffer area. Area 32 was then reduced in size in August 2020, but for the purpose of this report the total largest area from January 2019 is used for HIE. To date, Area 32 is the only central area known to reduce in size. The TB data for HIE in the current report is for areas subject to culling up to and including the cull year commencing in 2020.

Individual area monitoring data

The figures in this report plot TB incidence rates and TB prevalence by cull year in the central areas subject to at least one period of annual culling and one year of follow-up. The figures show TB incidence rates and prevalence for both cohort herds and HIE for the periods before and after the baseline date when culling started in each area. The supplement contains data for TB incidents, herds, herd years at risk and numbers of reactors by cull year and calendar year for central areas.

Values in cells representing data for areas with 10 or fewer herds in total have been supressed to ensure the confidentiality of individual herd owners. This cut-off value is used by the Office for National Statistics (ONS) for England and has subsequently been adopted by a number of other Safe Settings and government departments (Office for National Statistics, n.d.; Welpton, 2019). Safe Settings refer to secure facilities with access to sensitive data, who work to ensure the confidentiality of data subjects.

Glossary of definitions for figures and supplementary data

Incidence tables

All incidents and OTF-W incidents

All incidents refer to the total number of TB incidents (newly detected infection) in a herd during the 12-month reporting period e.g. cull year or calendar year. It is the sum of Officially Tuberculosis Free-Withdrawn (OTF-W) and Officially Tuberculosis Free-Suspended (OTF-S) incidents detected. Both OTF-W and OTF-S are incidents of TB in a herd that have been disclosed through TB surveillance. However, in OTF-W incidents, *M. bovis* infection has been confirmed through post-mortem tests in at least one animal from the herd. OTF-W incidents refers to the number of OTF-W incidents detected throughout the reporting period.

TB incidents have been referred to as breakdowns in previous reports.

Number of herds

The number of herds refers to the number of active herds in the area for each group (cohort or HIE) at the start of each reporting period e.g. cull year or calendar year.

Time at risk (TAR)

The TAR is the total period of time the herds in an area were considered at risk of TB infection (Defra, 2015; Downs et al., 2013). Herds are considered to be at risk of infection when they are not under trading restrictions because of TB infection (i.e. an incident) in the herd. The TAR is reported in years and is calculated from day one to the final day of the reporting period.

OTF-W incidence rate

The OTF-W incidence rate is the rate of occurrence of OTF-W incidents over the reporting period. The rate is calculated as the number of OTF-W incidents, divided by the TAR and is reported as incidents per 100 herd years at risk (Defra, 2015; Downs et al., 2013). This is the number of OTF-W incidents detected in the area during the reporting period divided by the total number of years that herds in the area were at risk of infection, multiplied by 100. OTF-W incidence is used as the primary outcome for monitoring rather than total TB incidence because stronger associations have been shown between OTF-W incidence and culling than with TB incidence (which includes OTF-W and OTF-S incidents) (Donnelly et al., 2007, Downs et al 2019).

95% Confidence interval

The lower and upper limits of a 95% exact Poisson confidence interval for the OTF-W incidence rate are given. The confidence interval gives an indication of the range of uncertainty around the reported estimated rate. If data were collected and the 95% confidence interval were calculated independently multiple times, we would expect the true incidence rate to be found within 95% of these confidence intervals. A wider confidence interval indicates greater uncertainty about the true underlying incidence rate.

Skin test reactors

Skin test reactors are cattle that reacted to the Single Intradermal Comparative Cervical Tuberculin (SICCT) test, which is a diagnostic test for TB. Inconclusive reactors are cattle which show a weaker reaction to the test. The yearly count of reactors relates to the date reactors were detected, not necessarily the year the incident started. Therefore, the count can include reactors from incidents which started in previous years.

The data does not include any cattle removed as “Direct Contacts (DC)”. These are non-reactor animals which are slaughtered because they are considered to be at high risk of being infected, normally as a result of contact with infected cattle.

Interferon (IFN) gamma reactors

IFN gamma reactors are cattle that tested positive to the IFN gamma assay, which is a rapid whole blood in-vitro assay to detect immune response to *M. bovis* infection for the diagnosis of bovine TB. Reactors to both the SICCT test and the IFN gamma assay are included within the count of skin test reactors but are not included within the count of IFN gamma reactors. Mandatory IFN gamma testing was introduced in 2017 for herds with a TB incident in areas that had been subject to 2 or more years of culling.

Antibody test reactors

Antibody test reactors are cattle that tested positive to an antibody detection assay, which detects whether the animal is generating an immune response to a current *M. bovis* infection.

Prevalence tables

All incidents and OTF-W incidents

All incidents refer to the number of herds under TB-related trading restrictions as a result of any TB incident (i.e. including both OTF-S and OTF-W incidents). OTF-W incidents refers to the number of herds under trading restrictions specifically due to an OTF-W incident. The count of herds under restrictions is taken at the last day of the reporting period (cull year or calendar year).

Number of herds

The number of herds is the number of active herds in the area for each group (cohort or HIE) at the end of each 12-month reporting period e.g. cull year or calendar year.

OTF-W prevalence

The OTF-W prevalence is a point prevalence estimate indicating the proportion of herds under trading restrictions due to an OTF-W incident on a particular date, which is the last day of each reporting period. It provides an indication of the burden of disease in an area.

95% Confidence interval

The lower and upper limits of a 95% exact Binomial confidence interval for the OTF-W prevalence are given. The confidence interval gives an indication of the range of uncertainty around the reported estimate of prevalence. If data were collected and the 95% confidence interval were calculated independently multiple times, we would expect the true incidence rate to be found within 95% of these confidence intervals. A wider confidence interval indicates greater uncertainty about the true underlying prevalence.

Baseline date

The baseline date is the start date of the cull in each area.

Figures with TB incidence and prevalence by cull year

Areas where the cull commenced in 2013, and supplementary culling commenced in 2017

Area 1 - Gloucestershire central

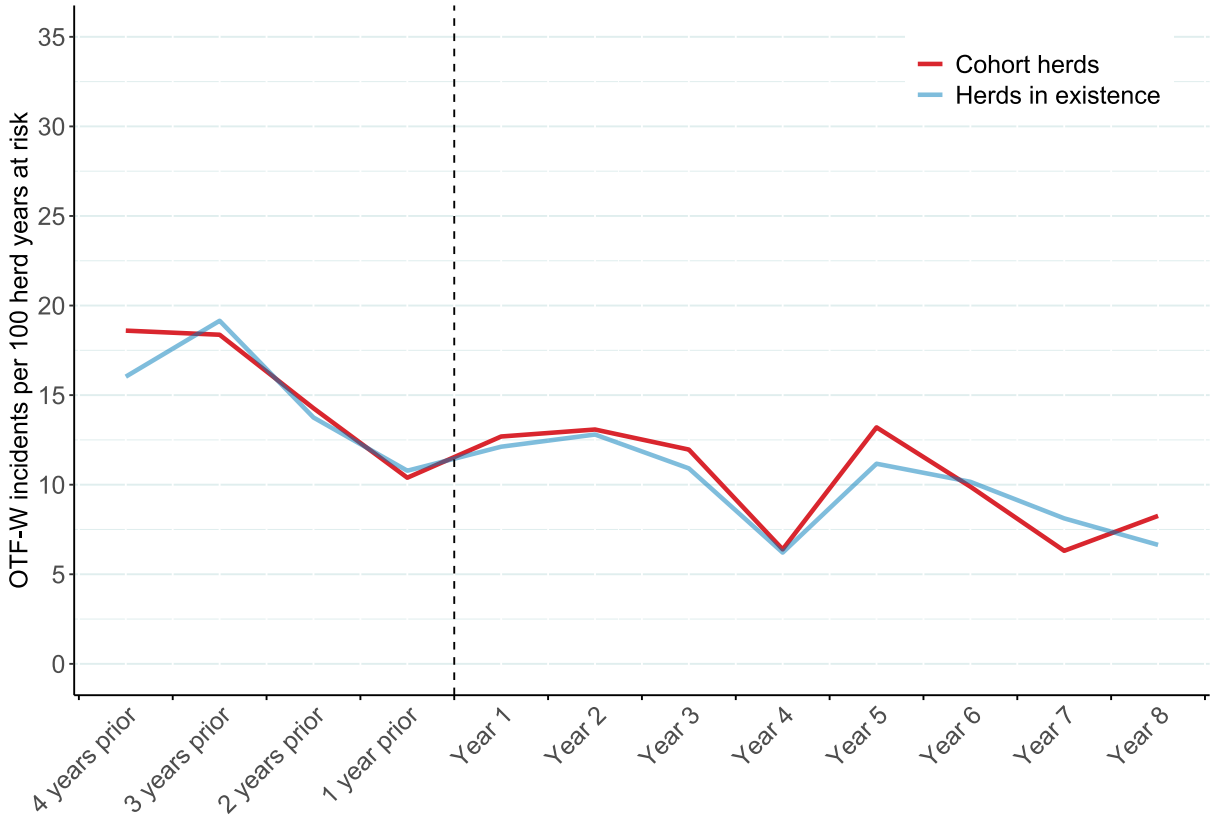

Figure 1 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 8 of intervention in Area 1, Gloucestershire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 1 in 2013, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

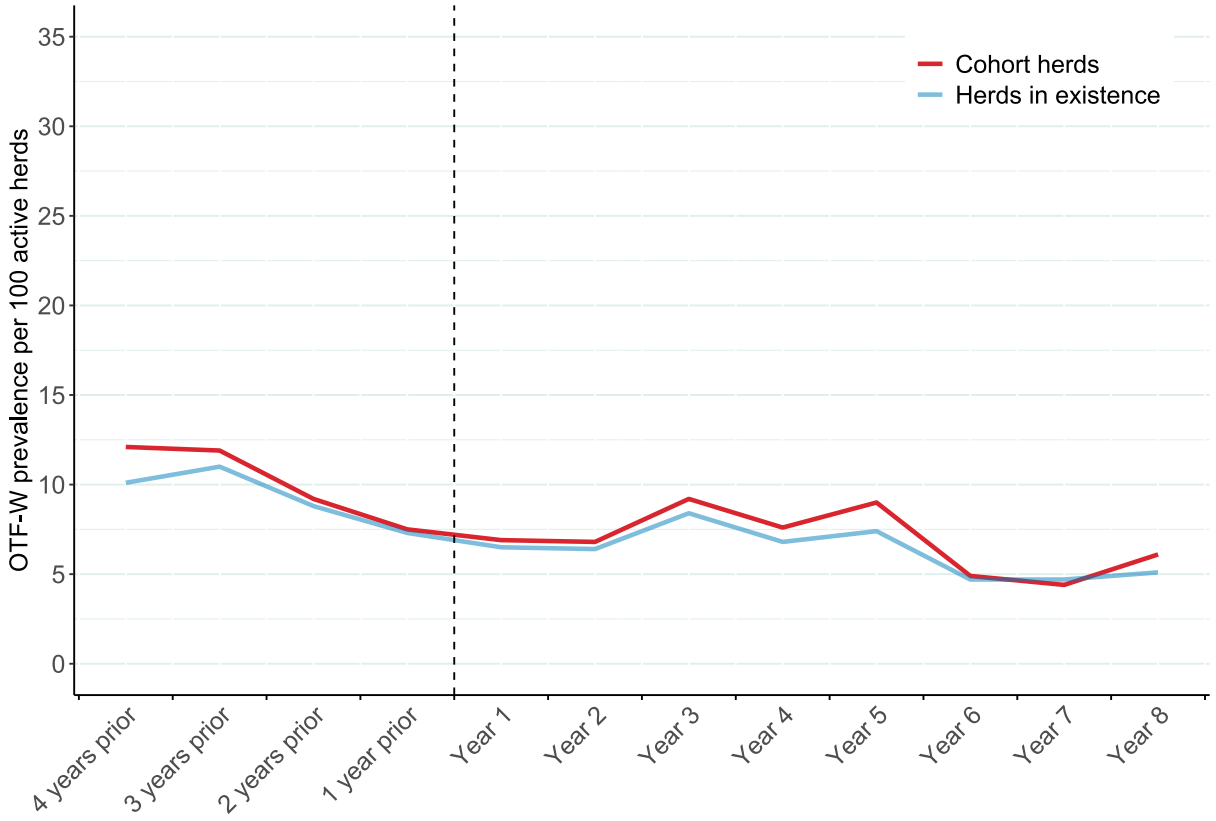

Figure 2 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 8 of intervention in Area 1, Gloucestershire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 1 in 2013, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 2 - Somerset central

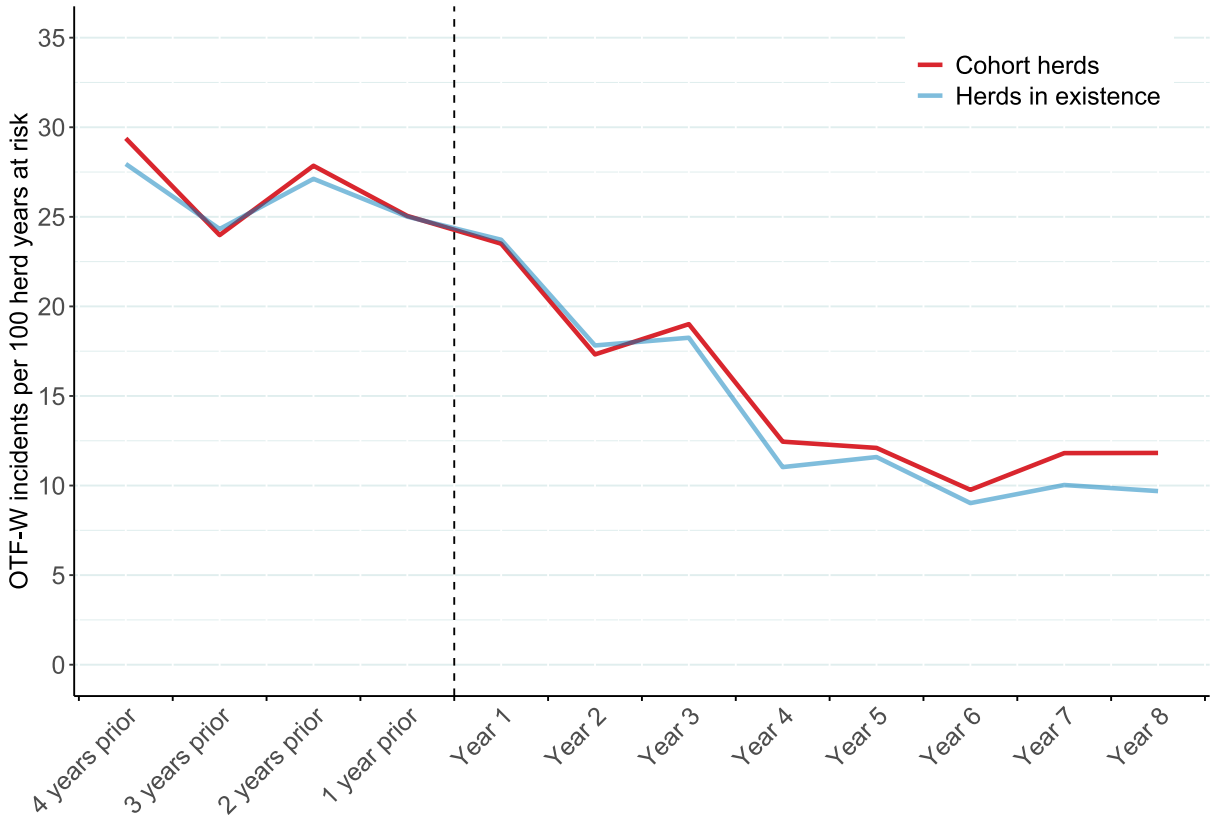

Figure 3 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 8 of intervention in Area 2, Somerset central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 2 in 2013, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

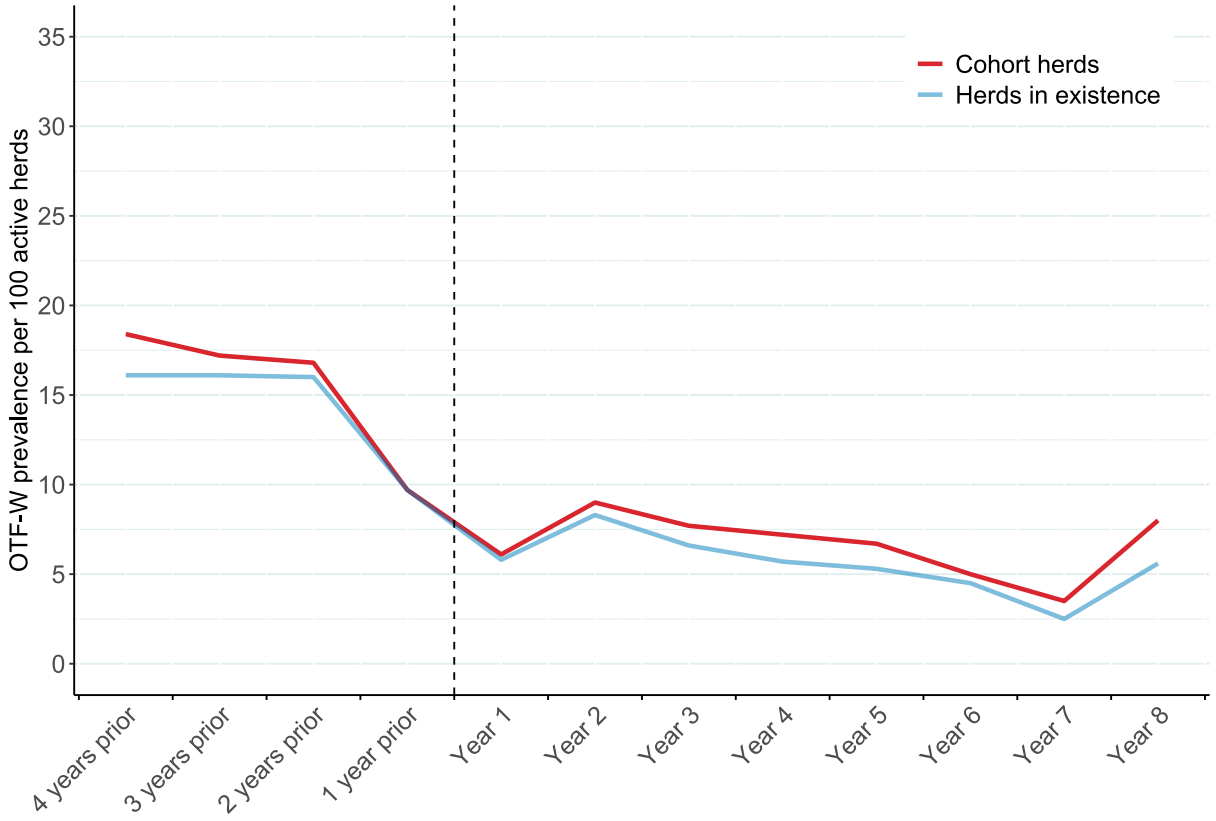

Figure 4 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 8 of intervention in Area 2, Somerset central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 2 in 2013, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Areas where the cull commenced in 2015, and supplementary culling commenced in 2019

Area 3 - Dorset central

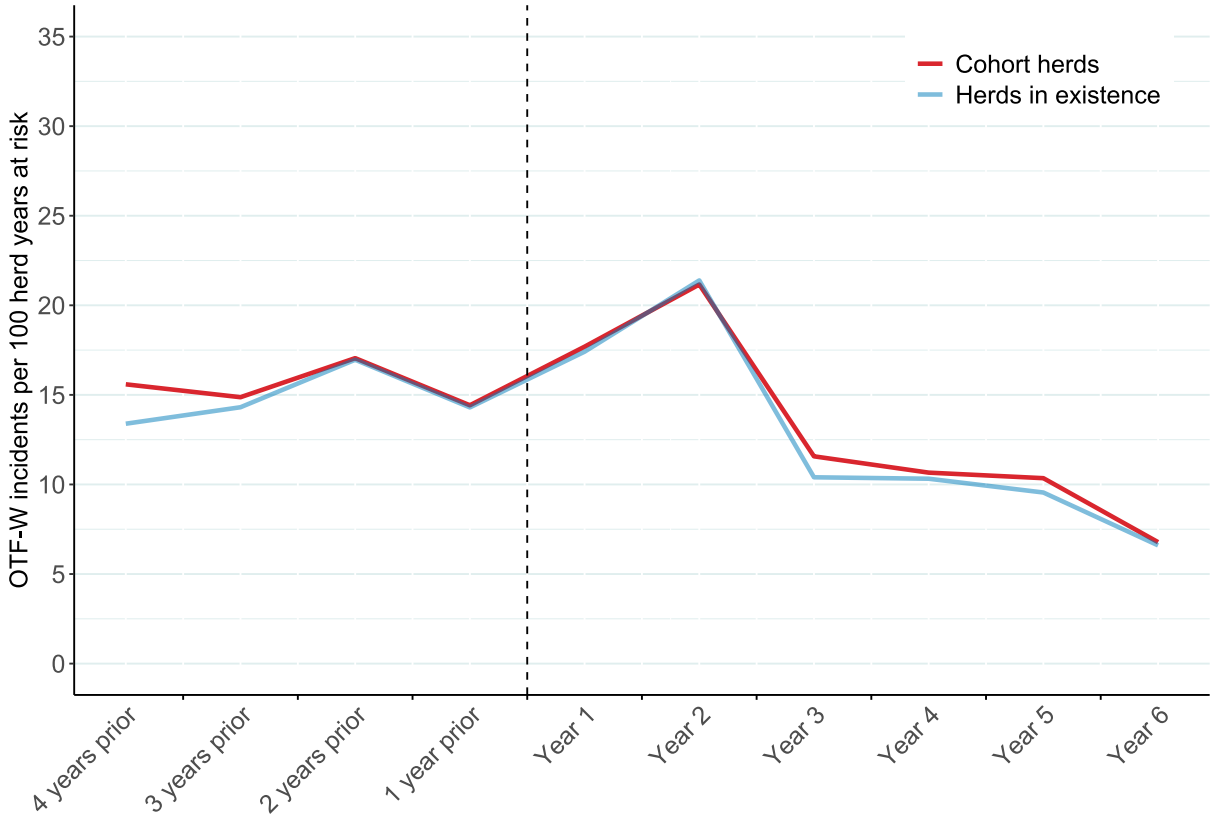

Figure 5 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 6 of intervention in Area 3, Dorset central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 3 in 2015, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

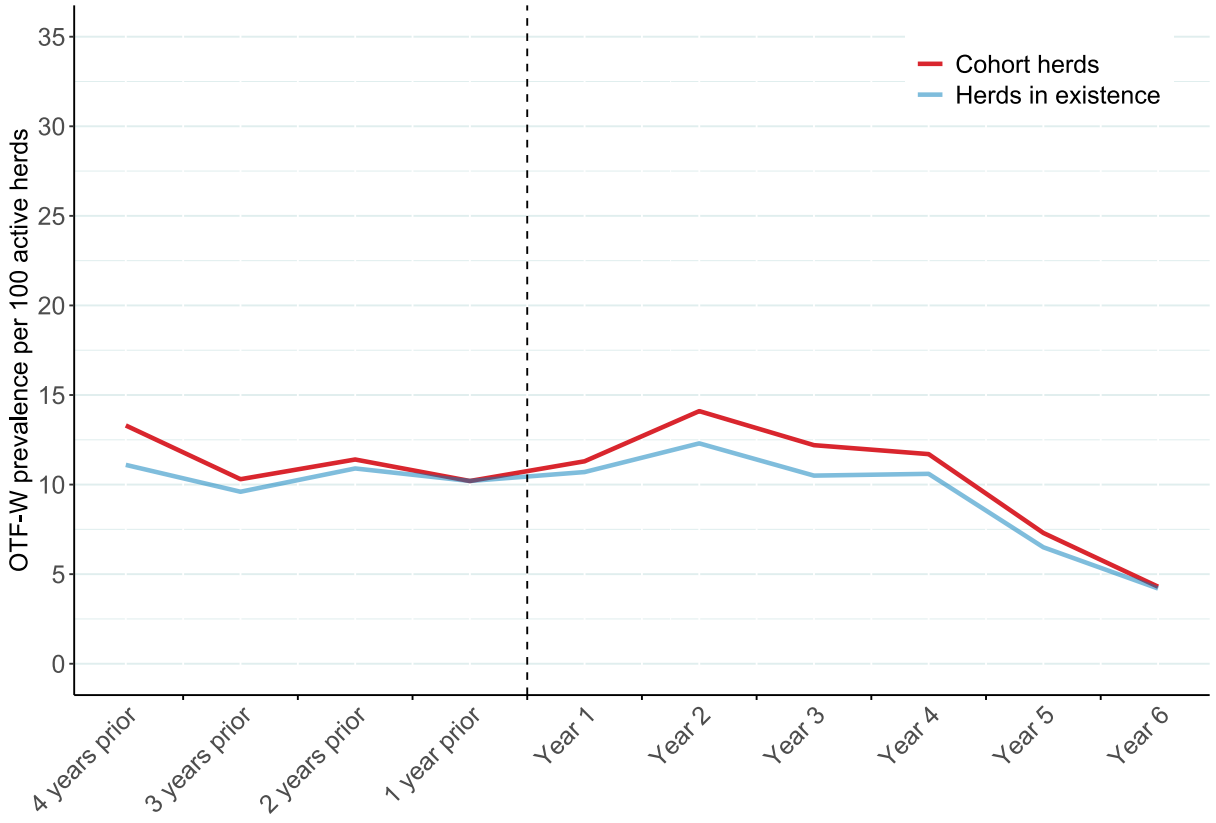

Figure 6 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 6 of intervention in Area 3, Dorset central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 3 in 2015, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Areas where the cull commenced in 2016, and supplementary culling commenced in 2020

Area 4 - Cornwall central

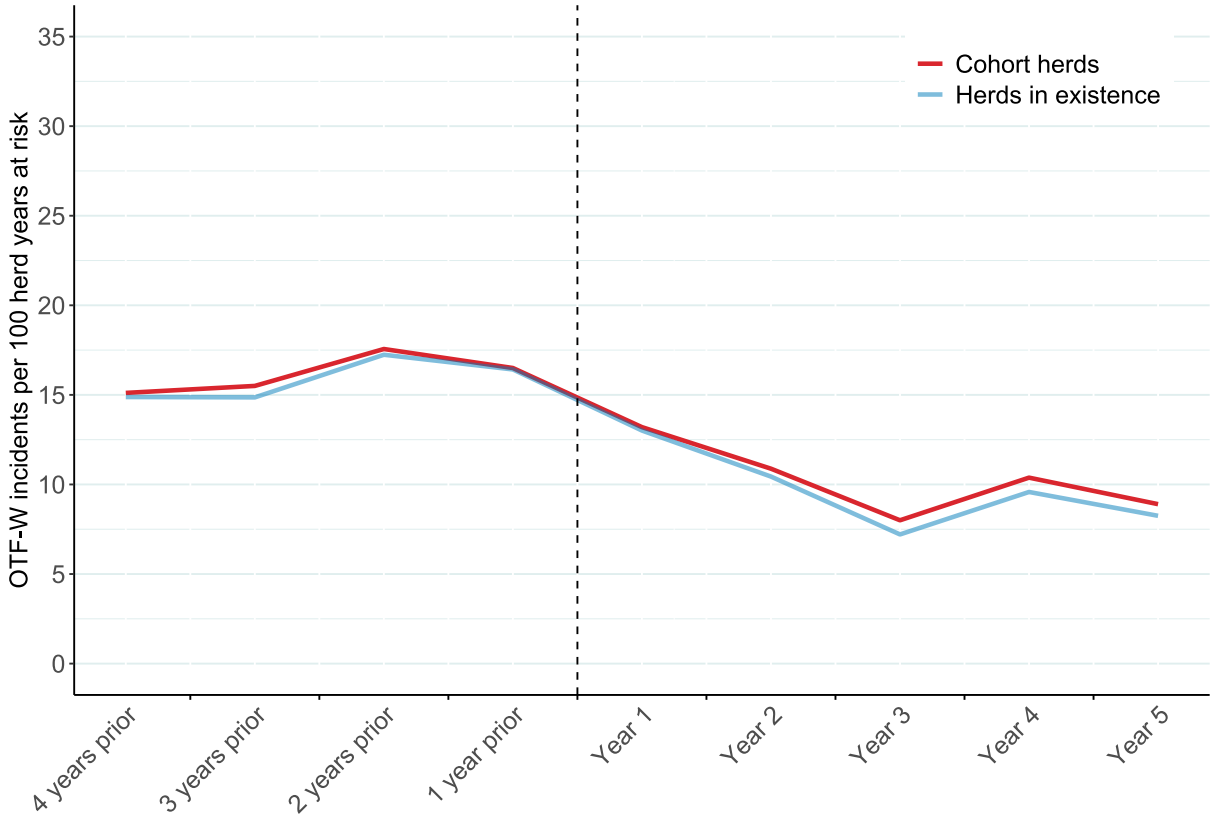

Figure 7 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 5 of intervention in Area 4, Cornwall central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 4 in 2016, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

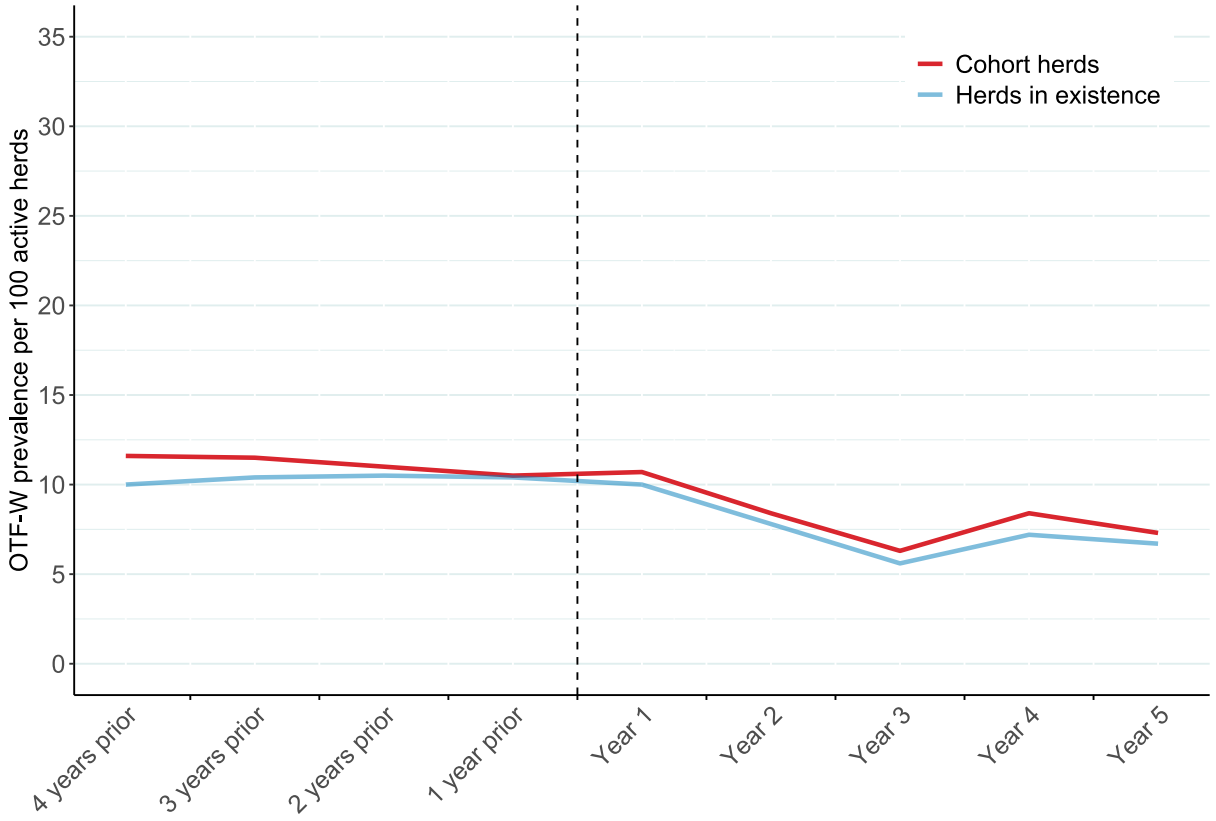

Figure 8 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 5 of intervention in Area 4, Cornwall central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 4 in 2016, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 5 - Cornwall central

Figure 9 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 5 of intervention in Area 5, Cornwall central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 5 in 2016, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

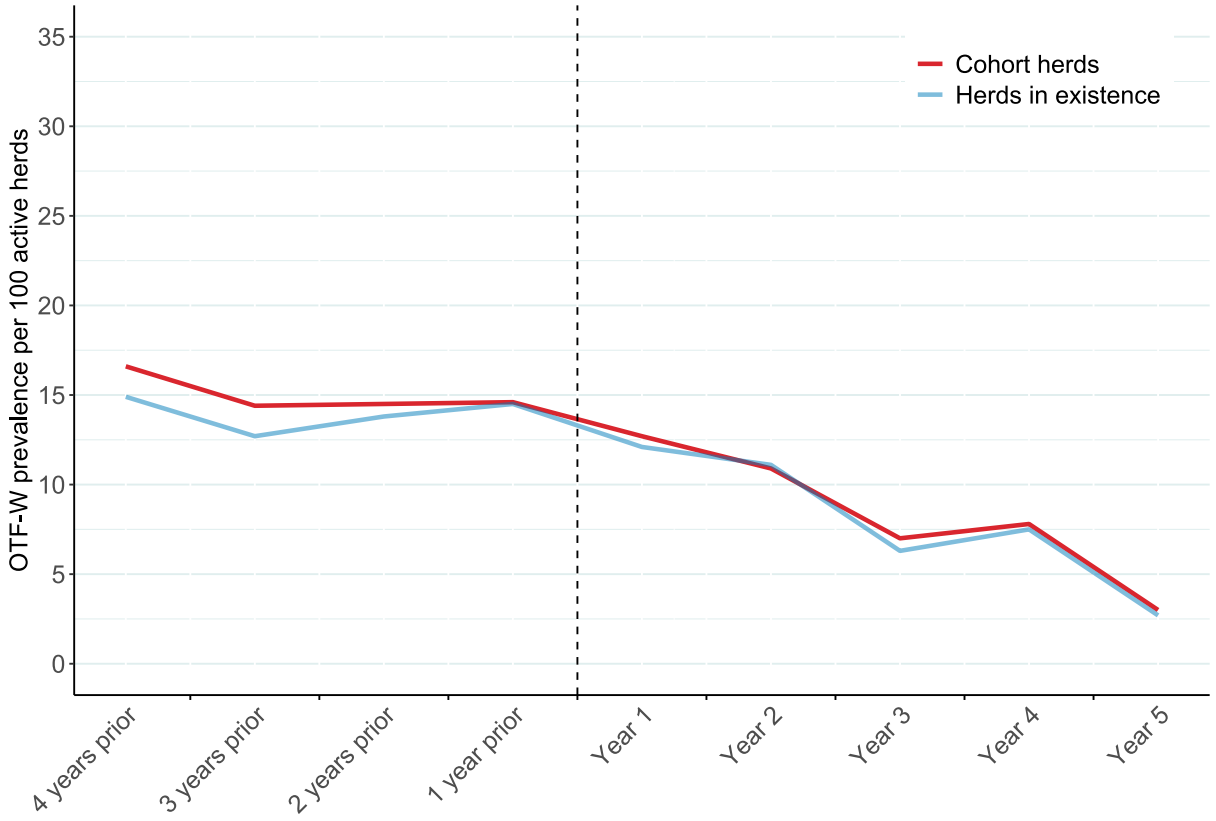

Figure 10 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 5 of intervention in Area 5, Cornwall central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 5 in 2016, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 6 - Devon central

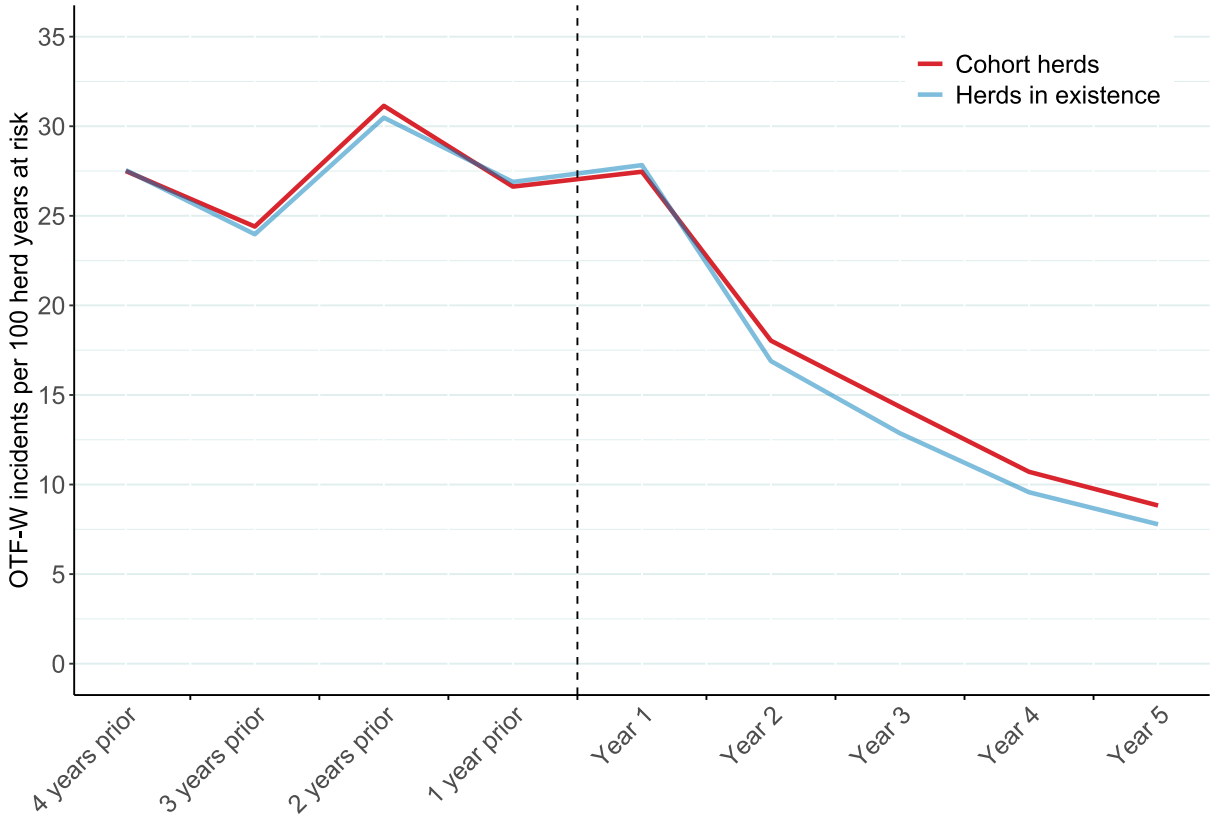

Figure 11 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 5 of intervention in Area 6, Devon central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 6 in 2016, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

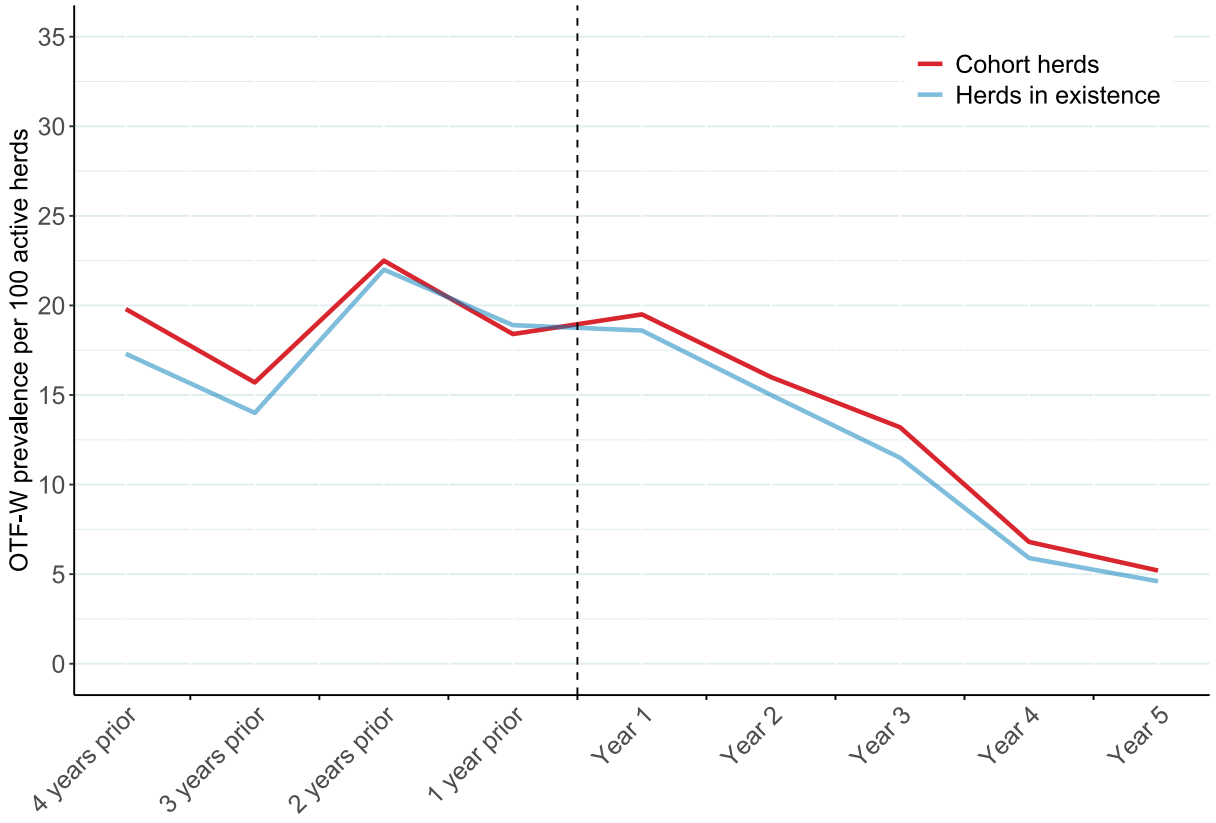

Figure 12 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 5 of intervention in Area 6, Devon central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 6 in 2016, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

An error in Figure 12 published in the 2020 monitoring report describing the OTF-W prevalence per 100 active herds in Area 6 has been corrected. The data published in the data supplement accompanying the report were correct.

Area 7 - Devon central

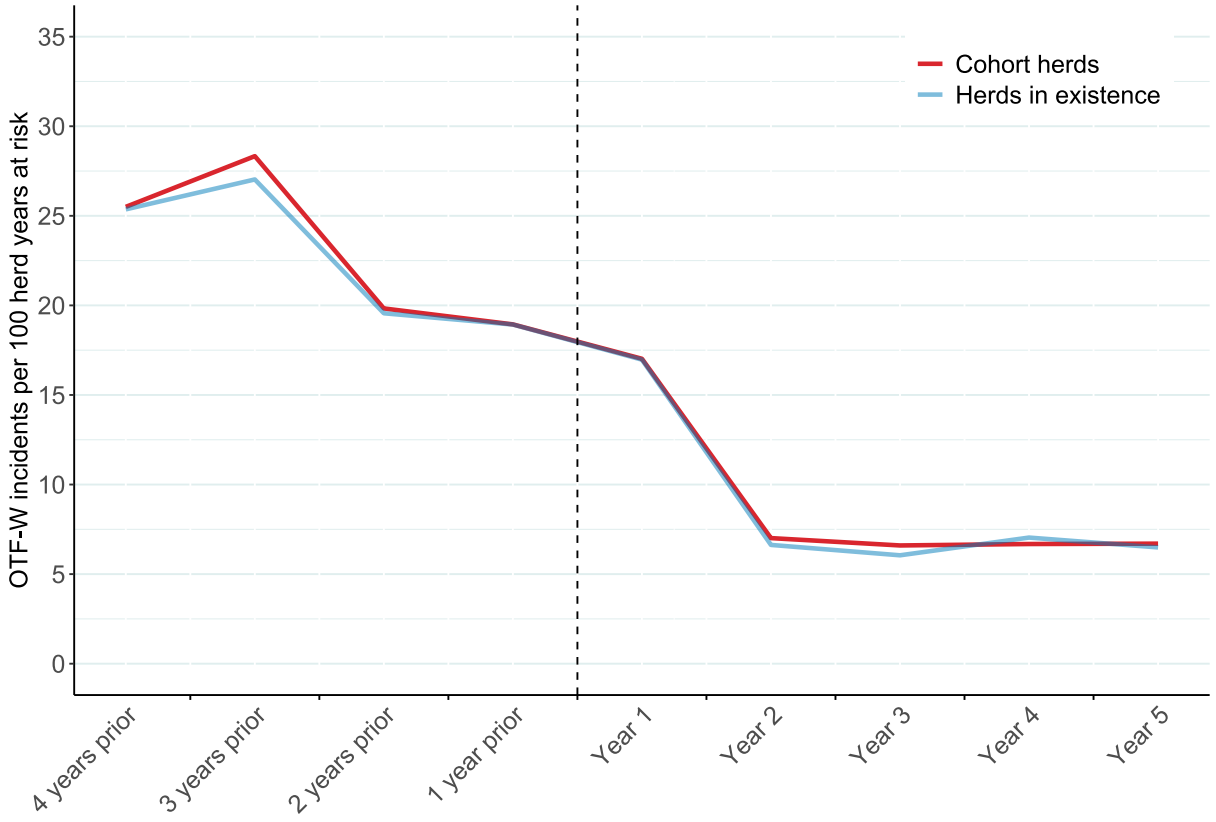

Figure 13 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 5 of intervention in Area 7, Devon central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 7 in 2016, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

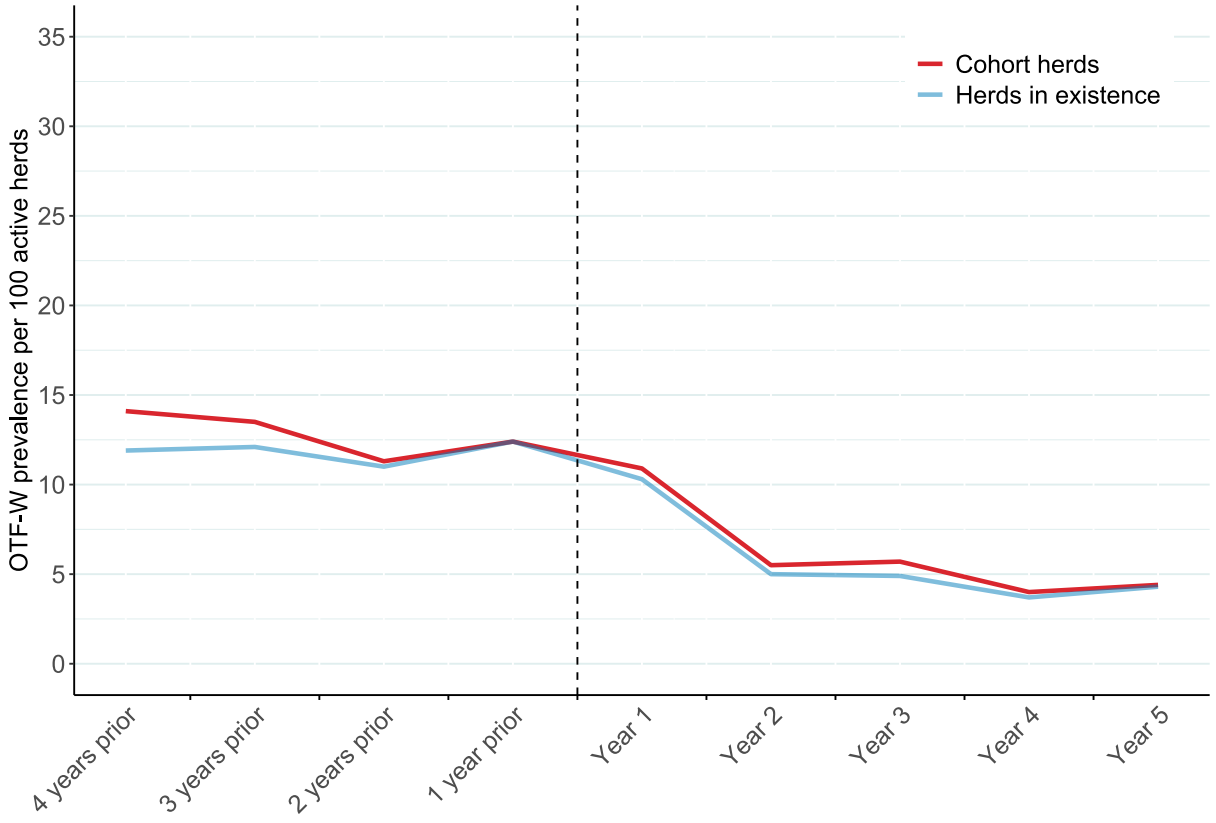

Figure 14 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 5 of intervention in Area 7, Devon central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 7 in 2016, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 8 - Dorset central

Central area increased in size by 3.2% in April 2017.

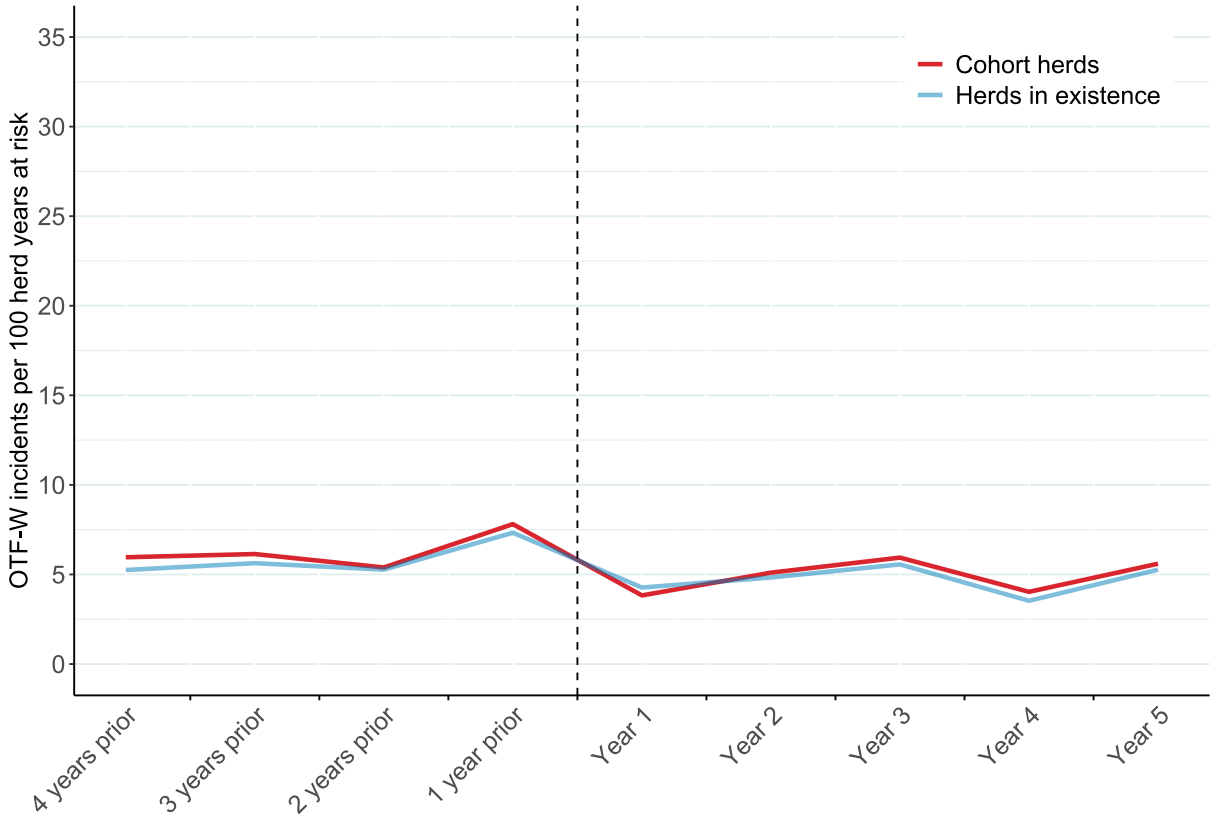

Figure 15 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 5 of intervention in Area 8, Dorset central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 8 in 2016, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

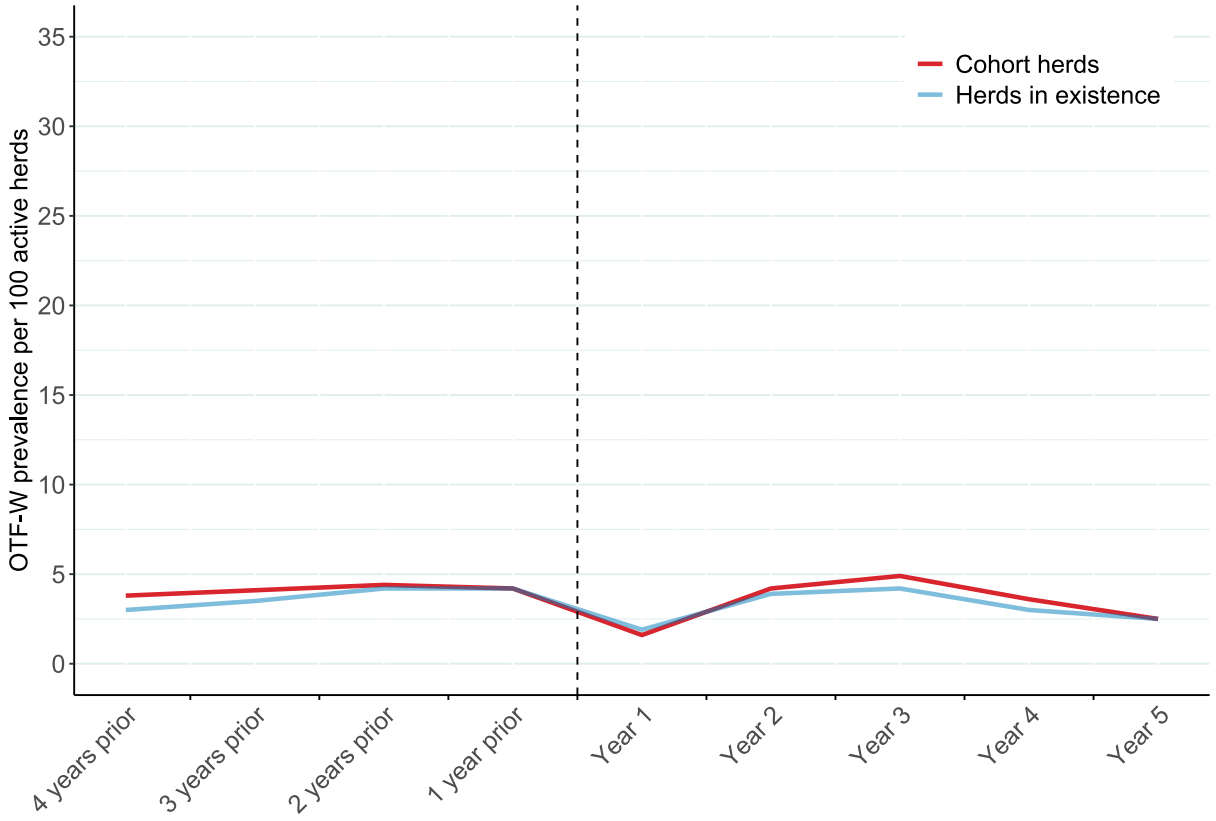

Figure 16 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 5 of intervention in Area 8, Dorset central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 8 in 2016, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

An error found in Figure 16 in the 2020 monitoring report describing the OTF-W prevalence per 100 active herds in Area 8 has been corrected. The data published in the data supplement accompanying the report were correct.

Area 9 - Gloucestershire central

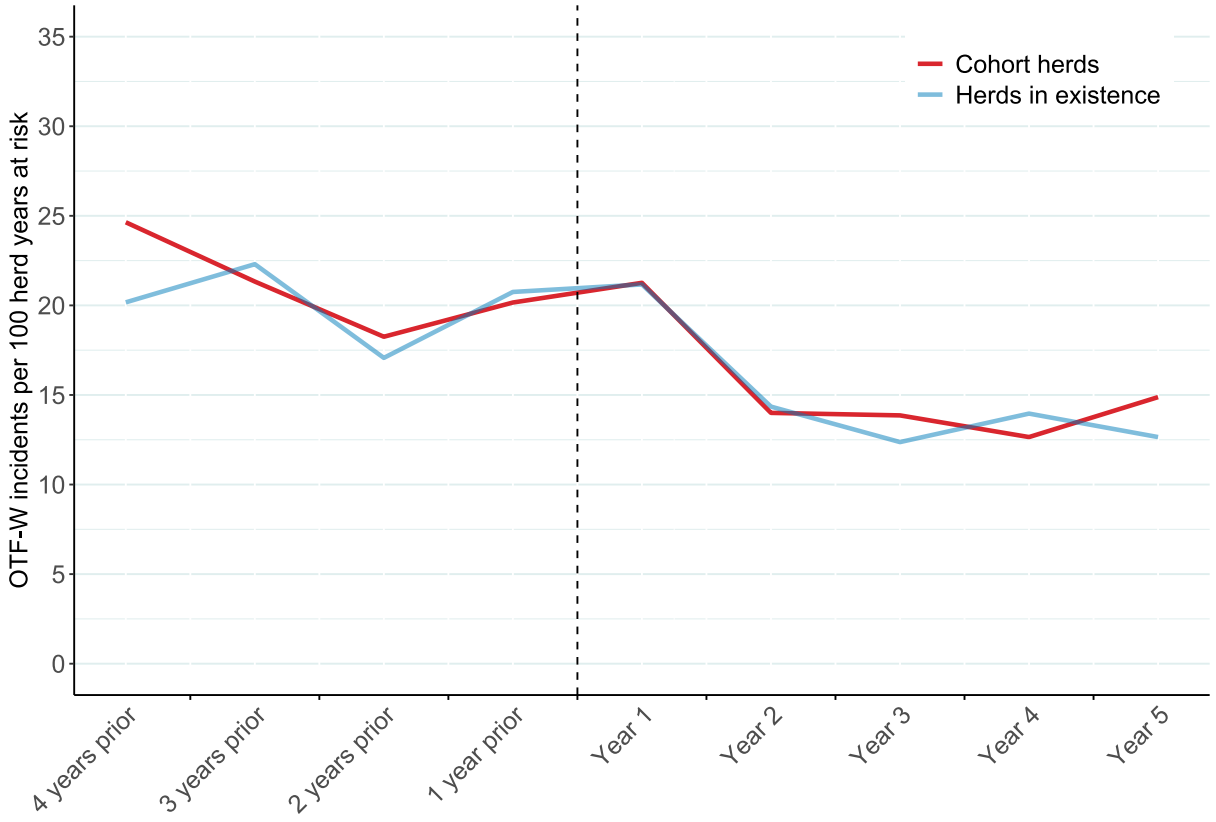

Figure 17 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 5 of intervention in Area 9, Gloucestershire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 9 in 2016, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

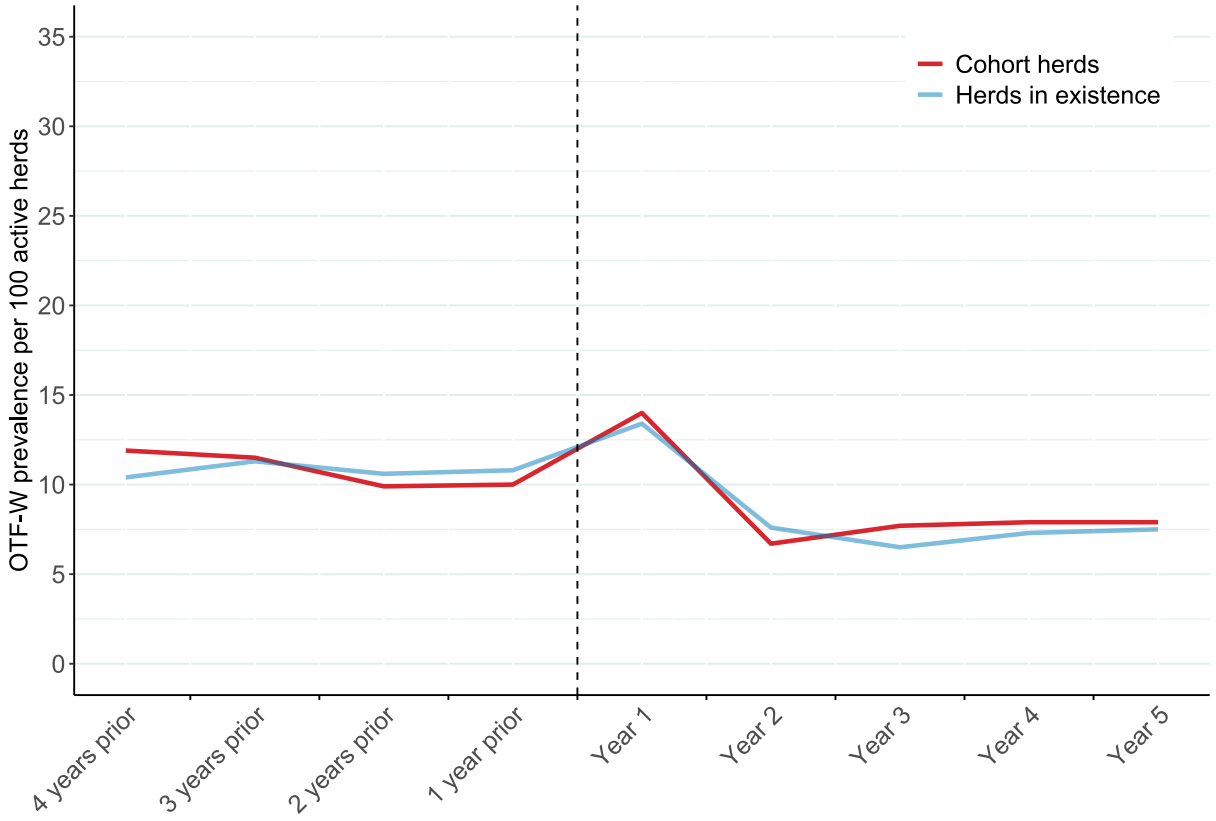

Figure 18 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 5 of intervention in Area 9, Gloucestershire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 9 in 2016, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 10 - Herefordshire central

Figure 19 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 5 of intervention in Area 10, Herefordshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 10 in 2016, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

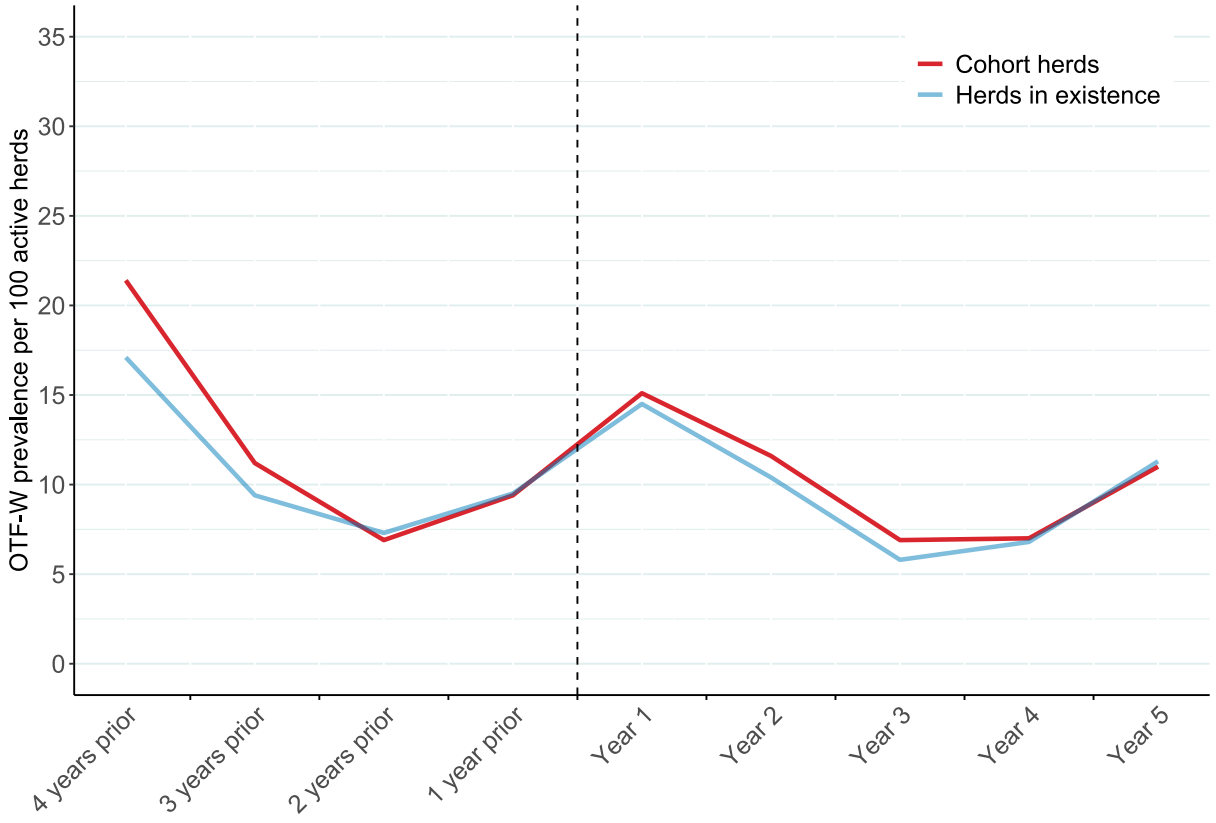

Figure 20 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 5 of intervention in Area 10, Herefordshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 10 in 2016, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Areas where the cull commenced in 2017

Area 11 - Cheshire central

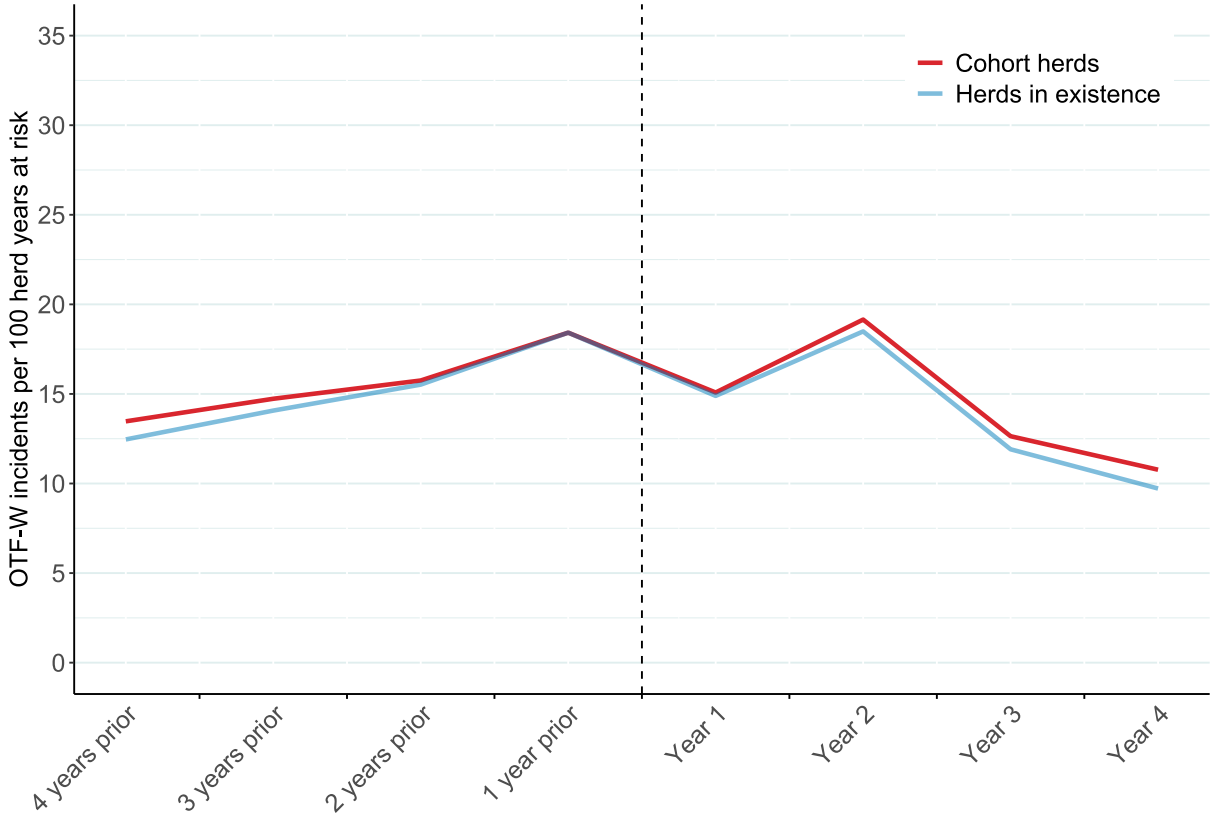

Figure 21 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 4 of intervention in Area 11, Cheshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 11 in 2017, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

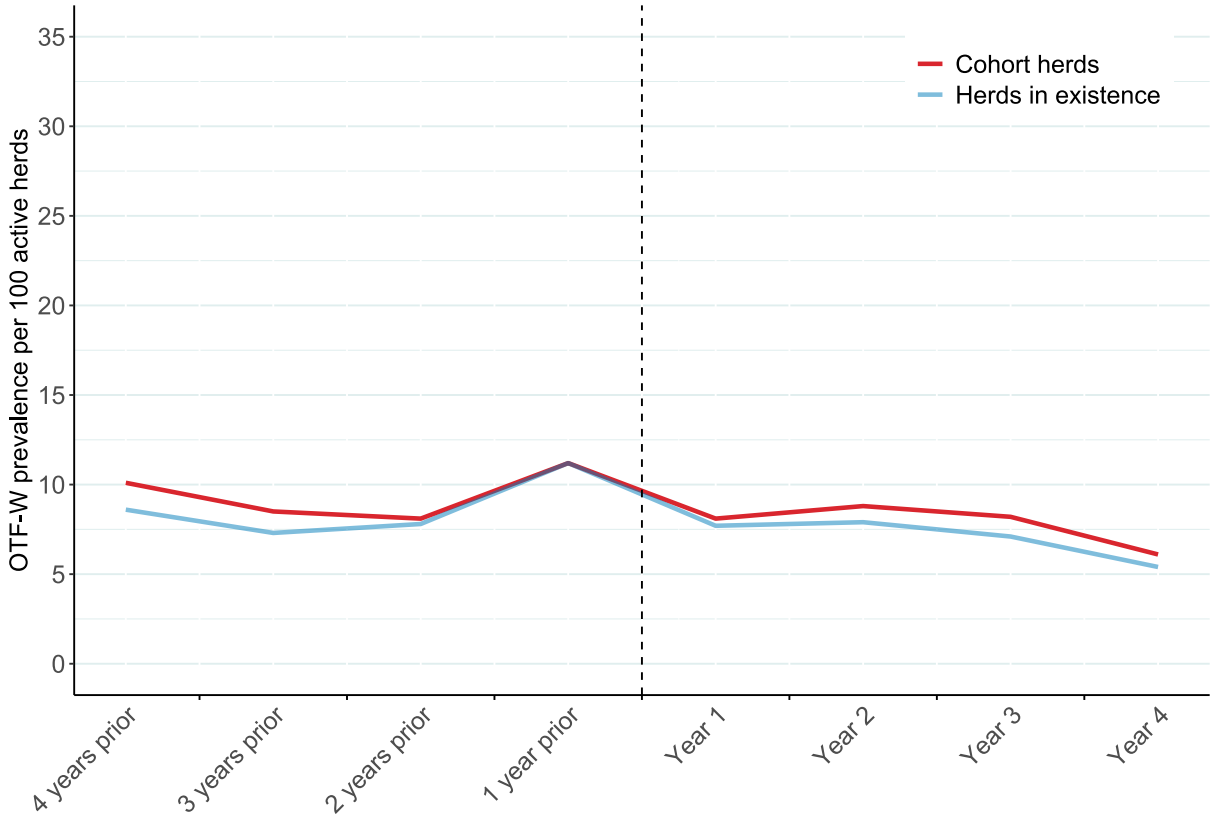

Figure 22 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 4 of intervention in Area 11, Cheshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 11 in 2017, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 12 - Devon central

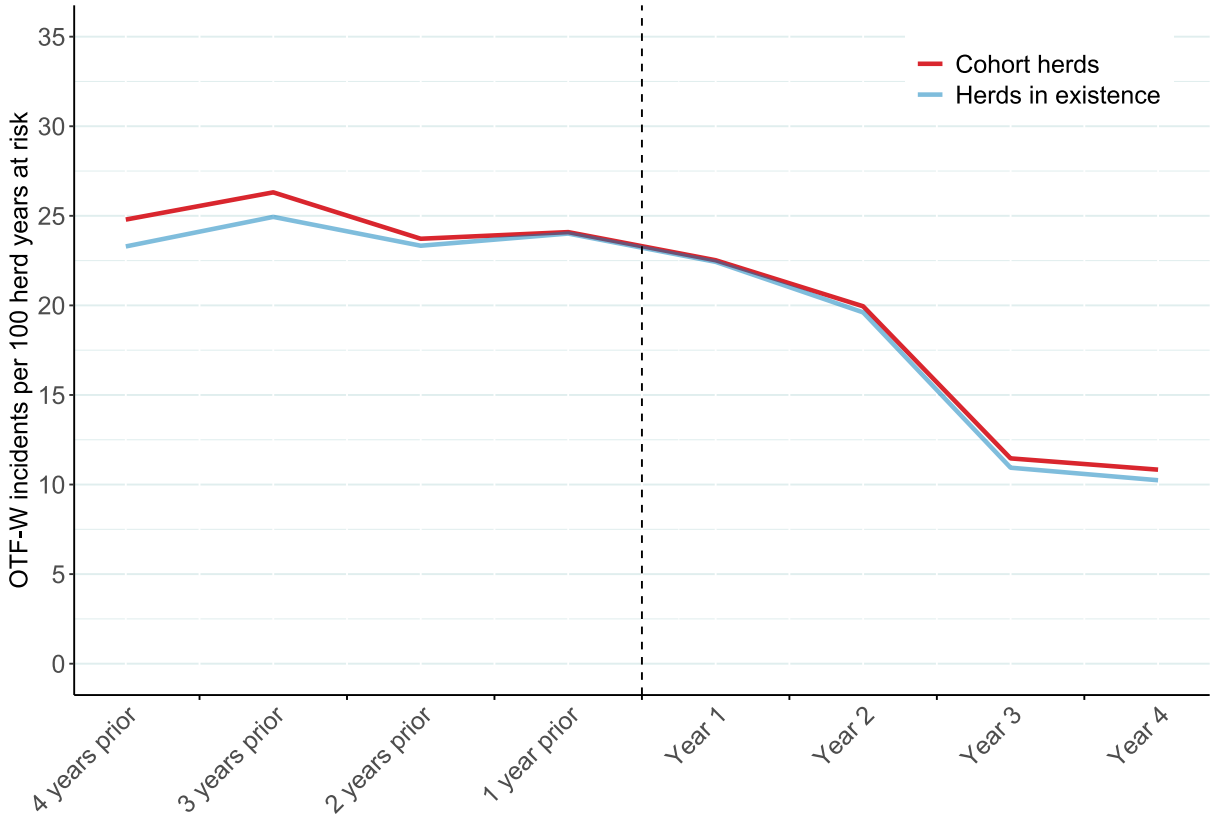

Figure 23 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 4 of intervention in Area 12, Devon central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 12 in 2017, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

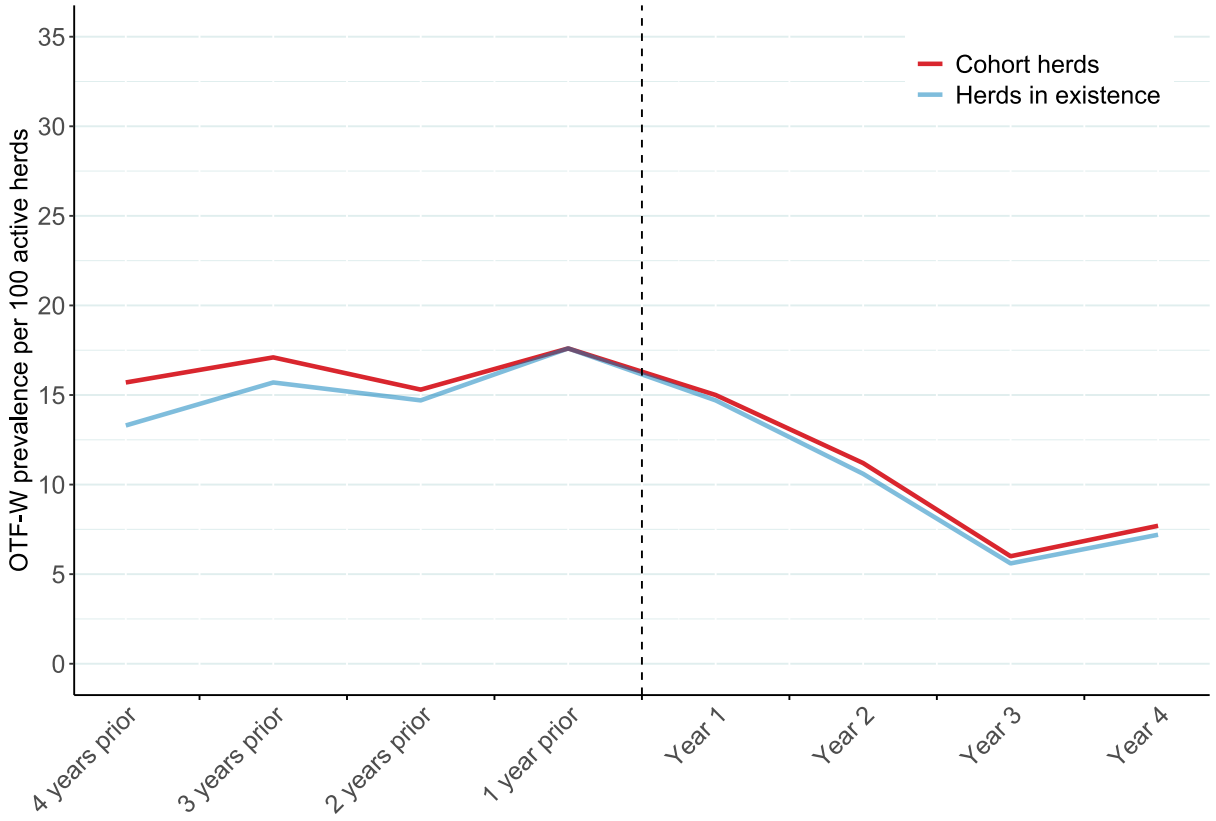

Figure 24 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 4 of intervention in Area 12, Devon central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 12 in 2017, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 13 - Devon central

Central area increased in size by 9.4% in May 2018. This was reported incorrectly in previous monitoring reports as 3.1%.

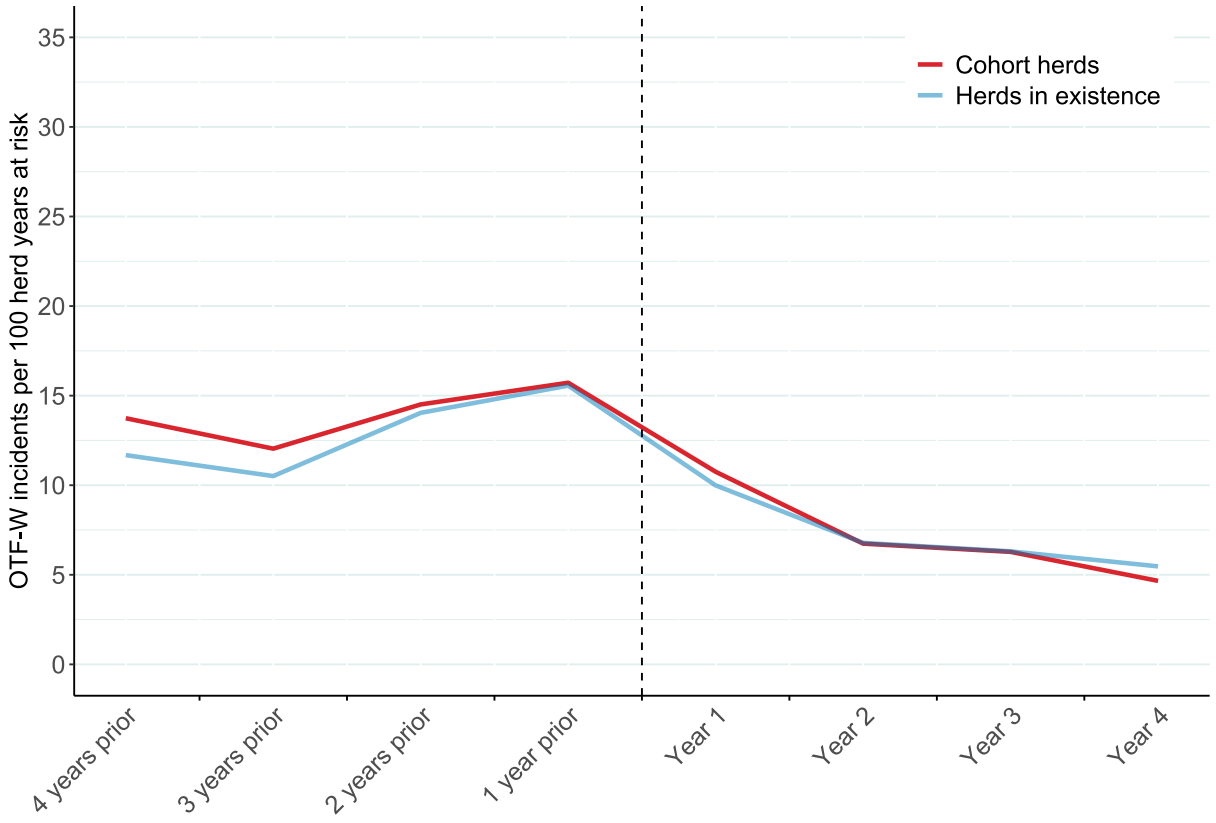

Figure 25 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 4 of intervention in Area 13, Devon central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 13 in 2017, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

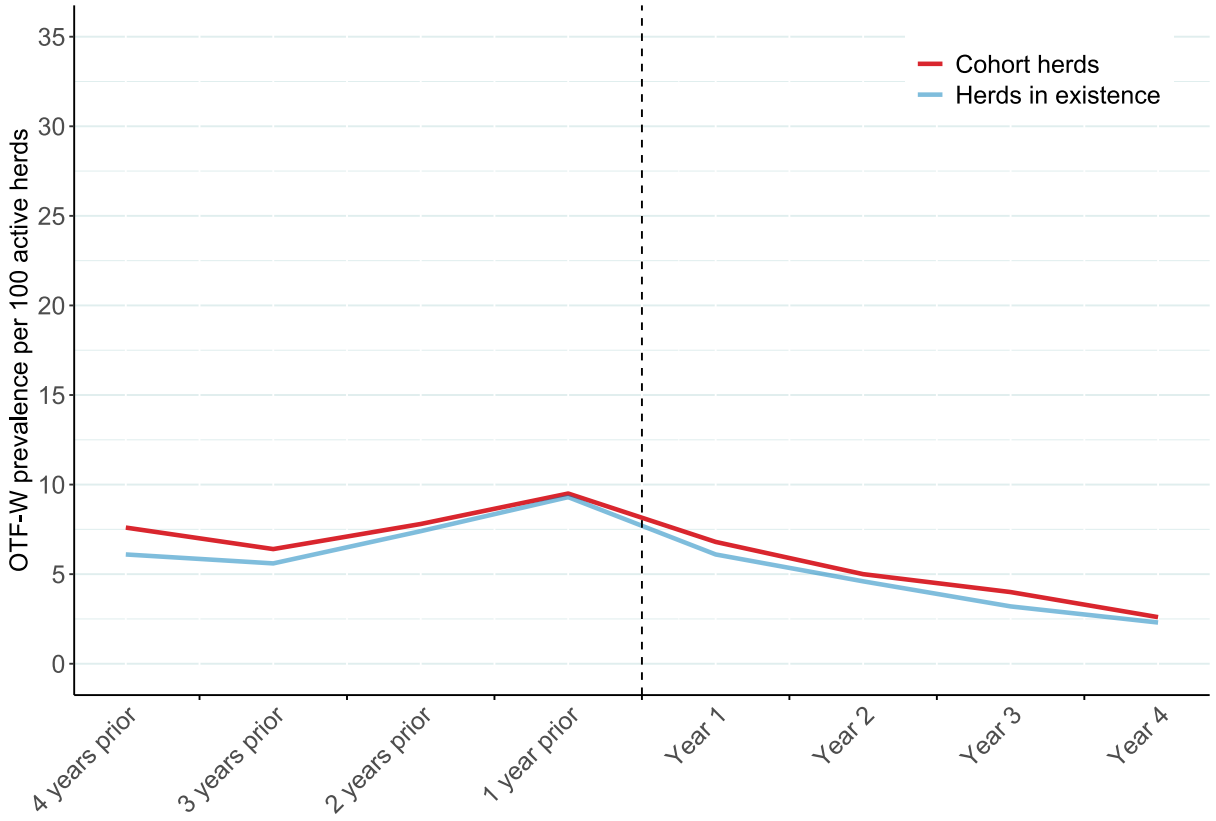

Figure 26 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 4 of intervention in Area 13, Devon central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 13 in 2017, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 14 - Devon central

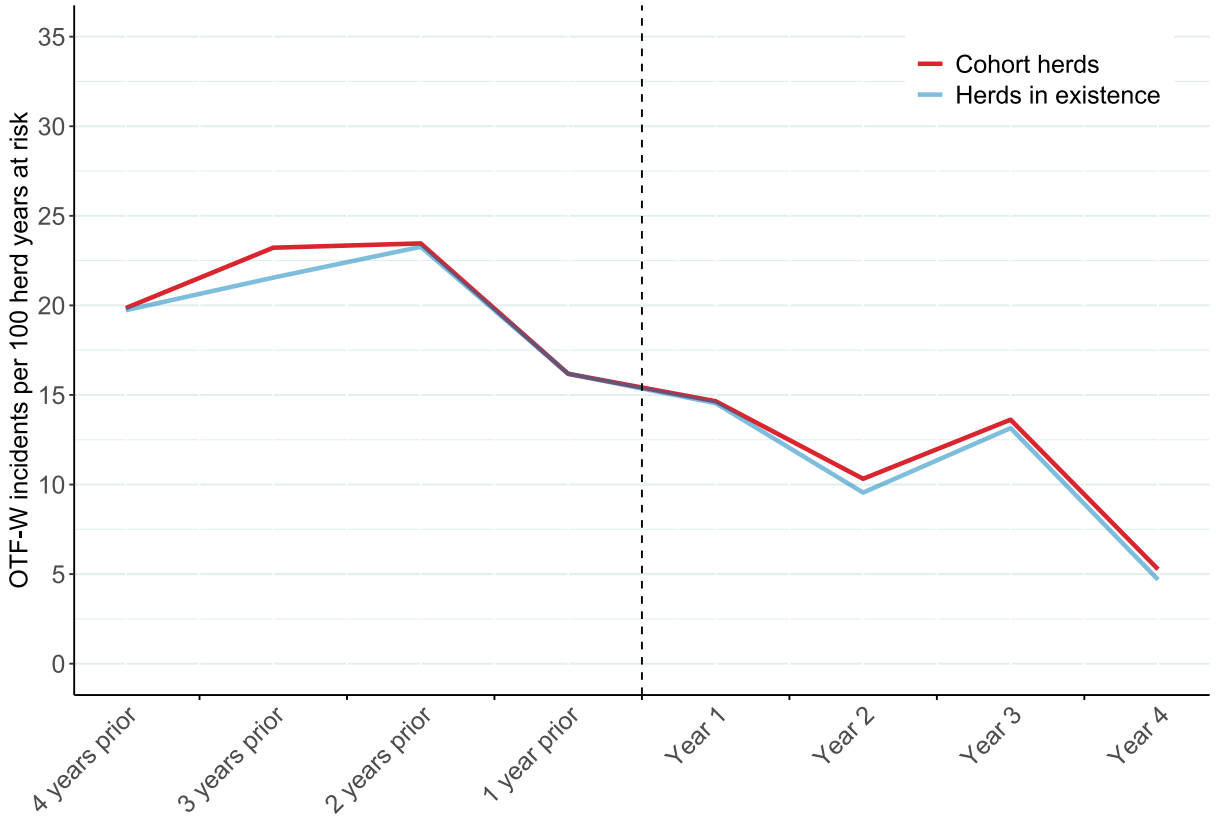

Figure 27 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 4 of intervention in Area 14, Devon central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 14 in 2017, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

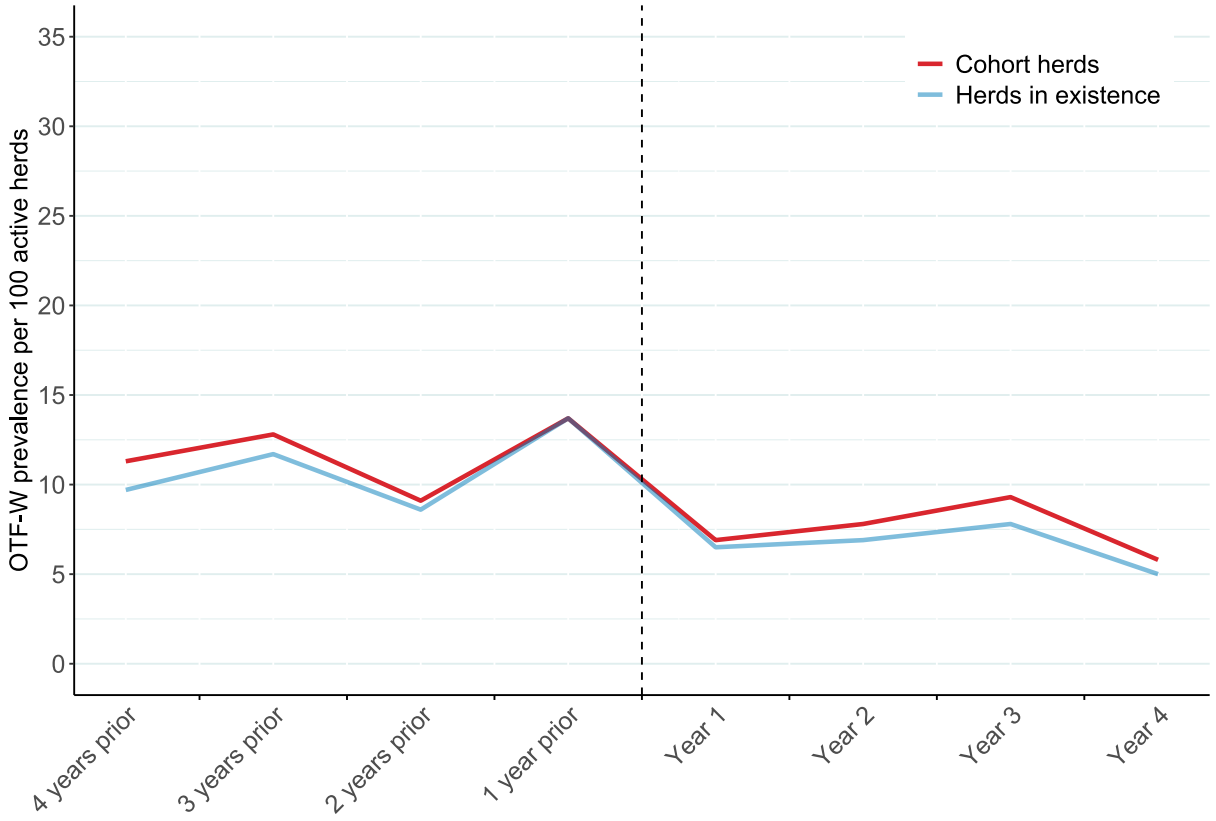

Figure 28 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 4 of intervention in Area 14, Devon central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 14 in 2017, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 15 - Devon central

Central area increased in size by 0.6% in May 2018.

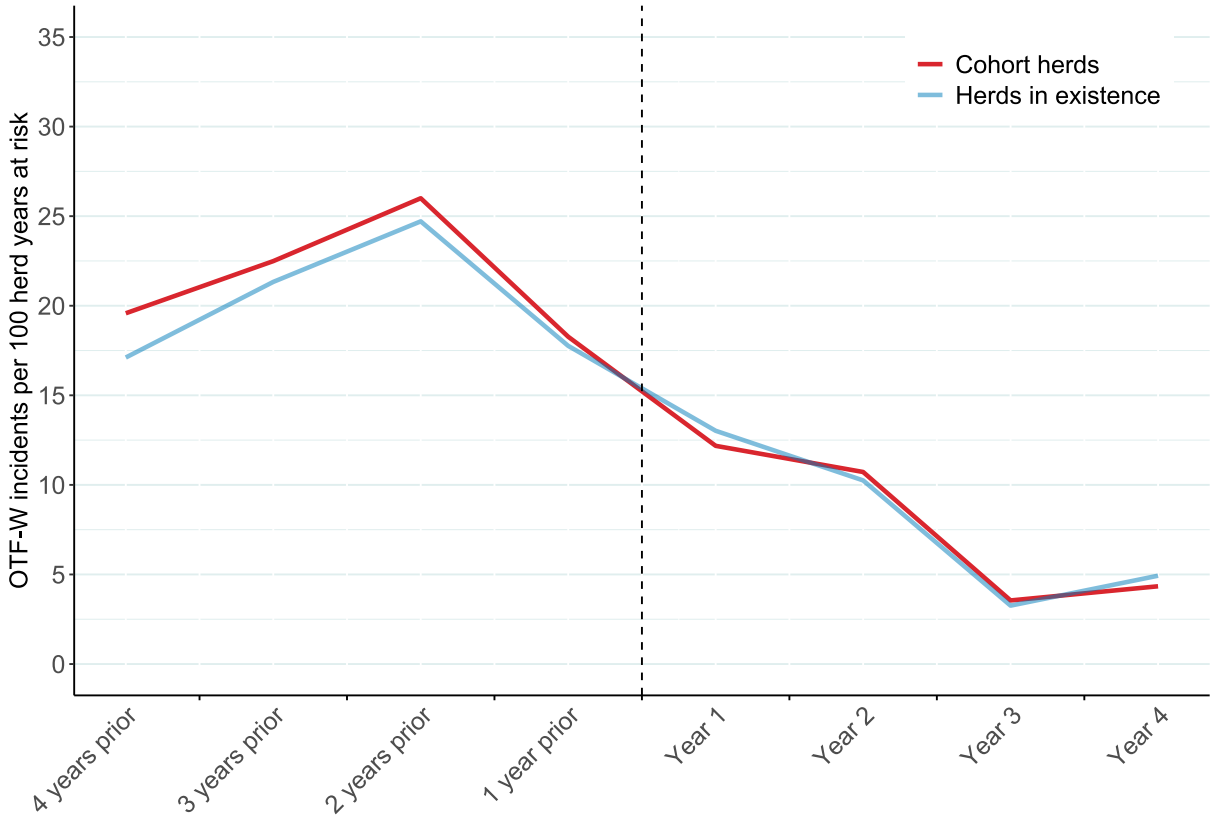

Figure 29 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 4 of intervention in Area 15, Devon central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 15 in 2017, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

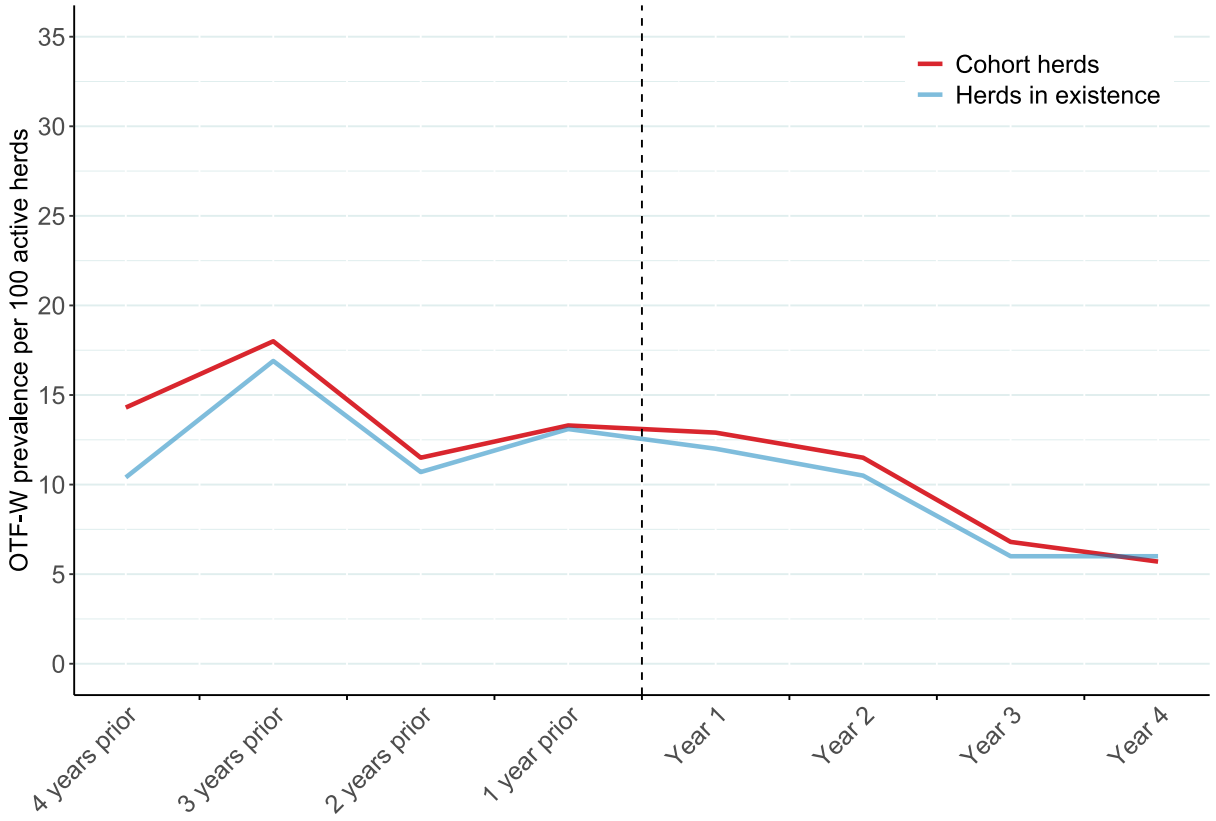

Figure 30 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 4 of intervention in Area 15, Devon central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 15 in 2017, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 16 - Dorset central

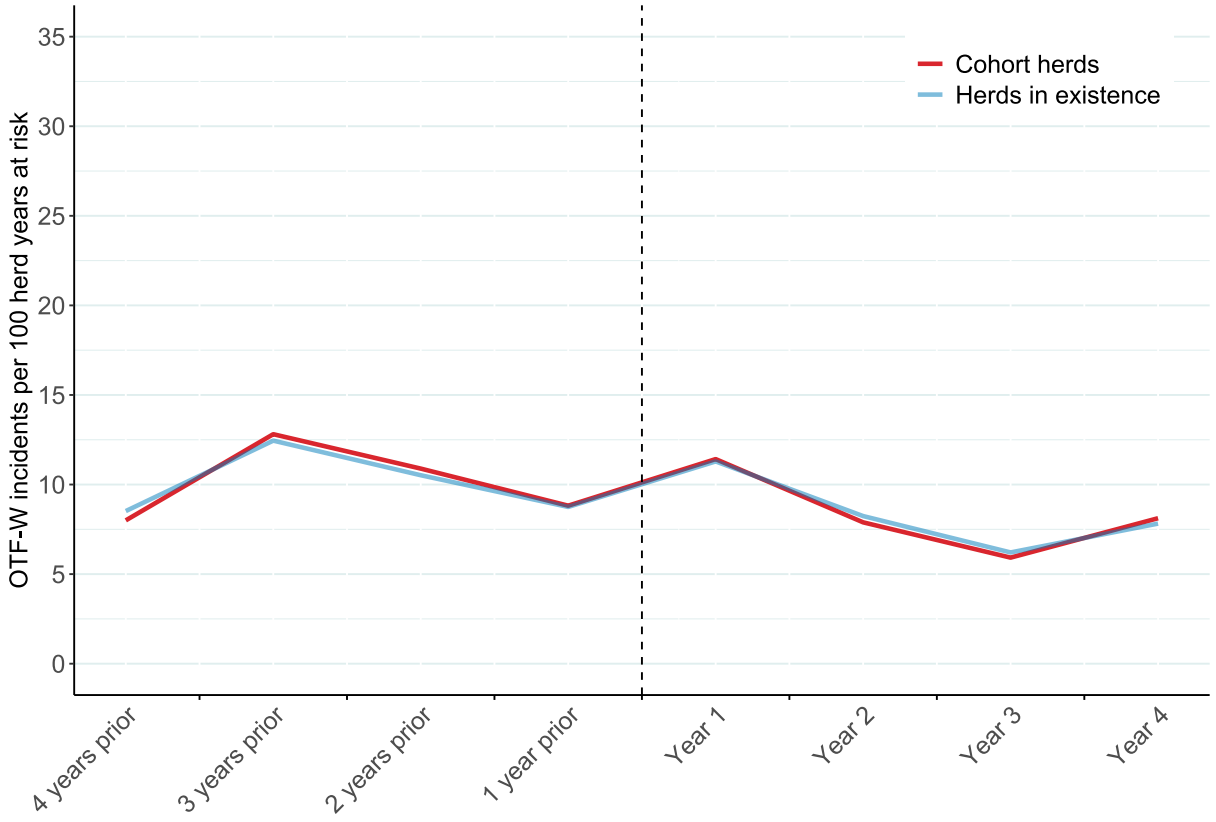

Figure 31 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 4 of intervention in Area 16, Dorset central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 16 in 2017, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

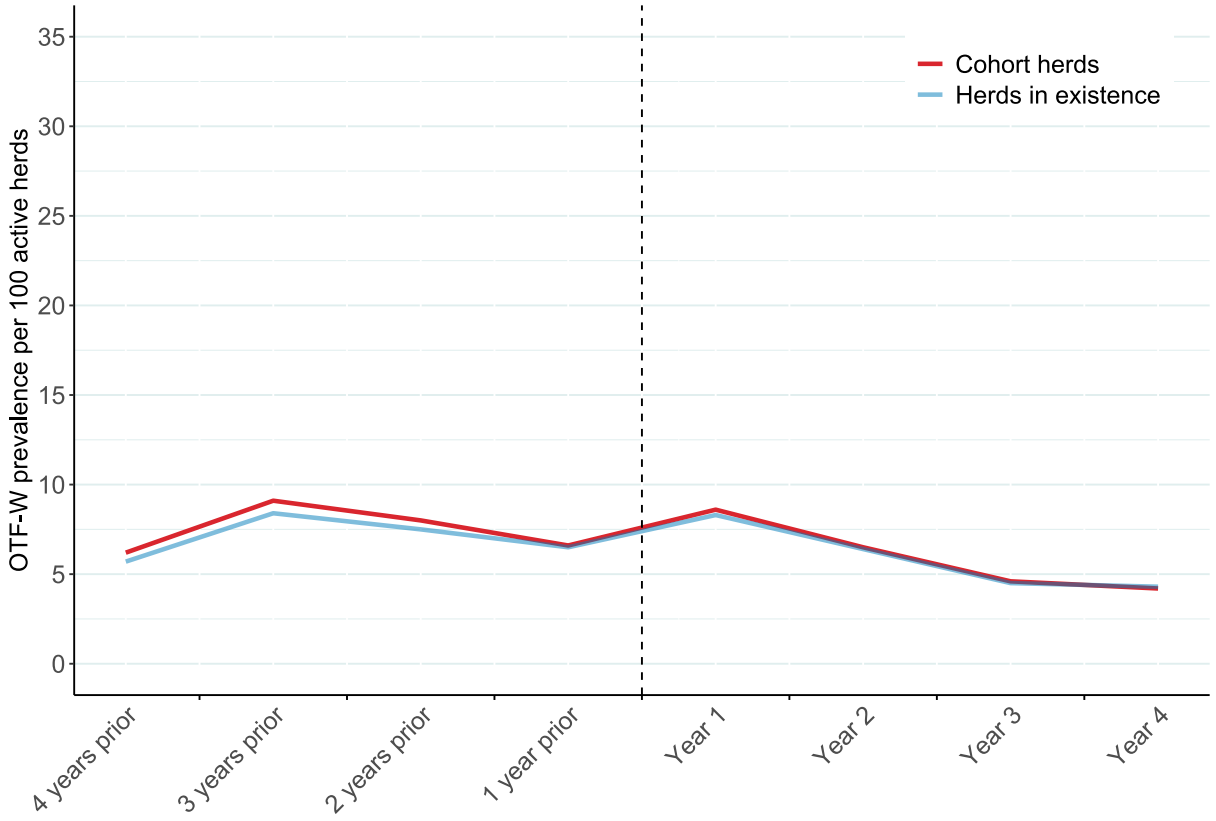

Figure 32 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 4 of intervention in Area 16, Dorset central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 16 in 2017, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 17 - Somerset central

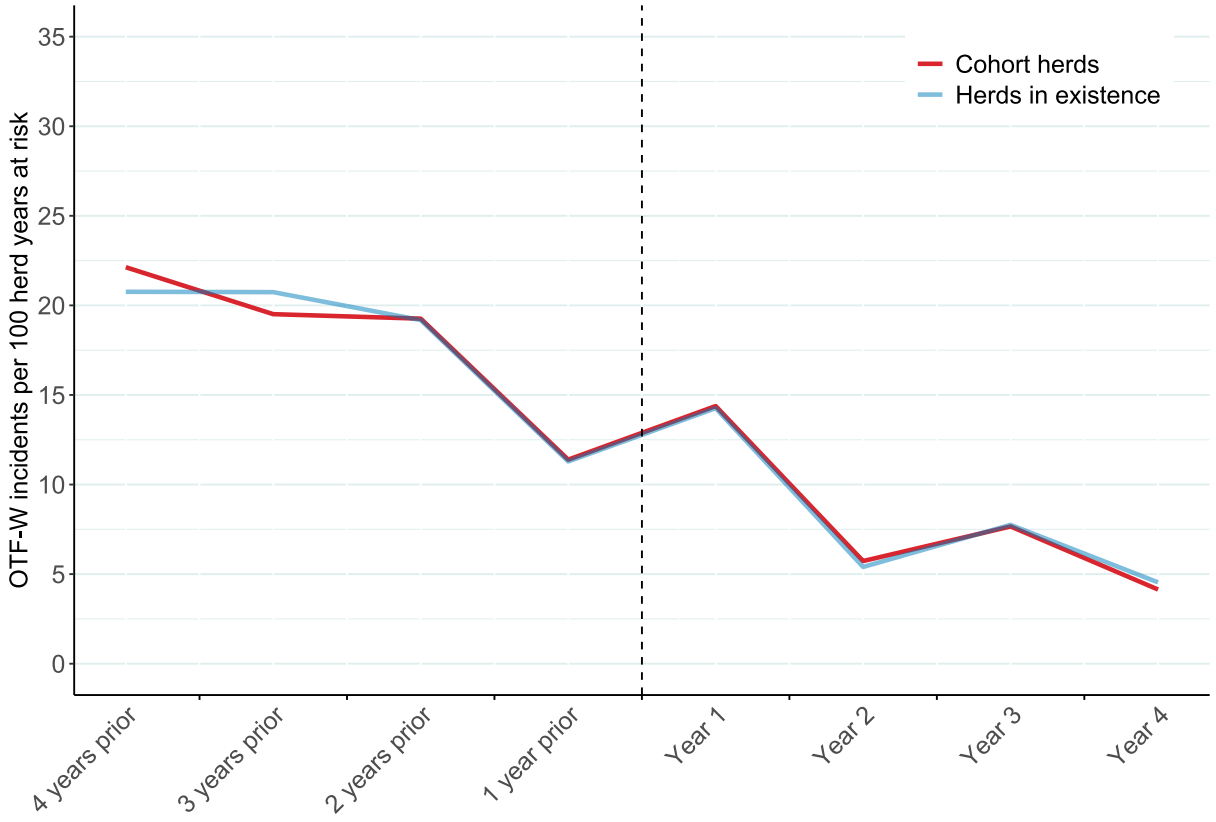

Figure 33 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 4 of intervention in Area 17, Somerset central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 17 in 2017, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

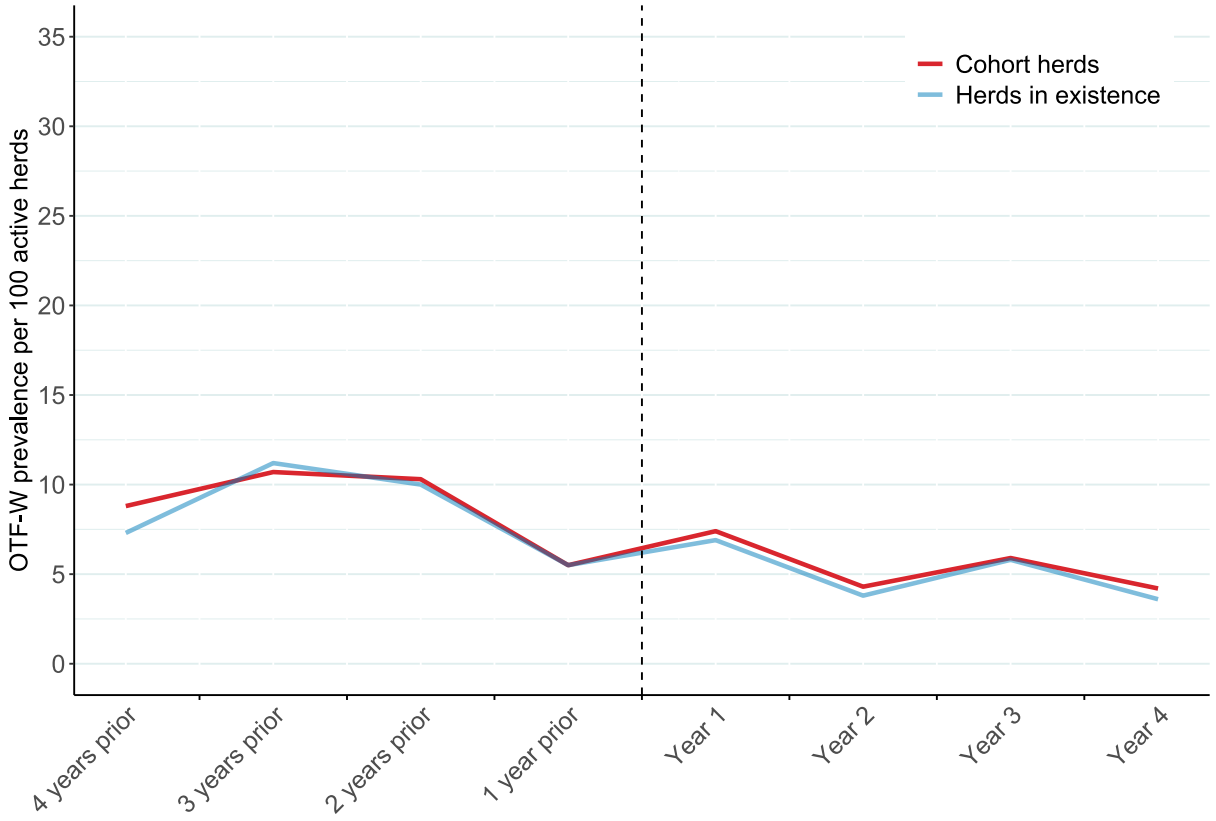

Figure 34 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 4 of intervention in Area 17, Somerset central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 17 in 2017, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 18 - Somerset central

Figure 35 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 4 of intervention in Area 18, Somerset central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 18 in 2017, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

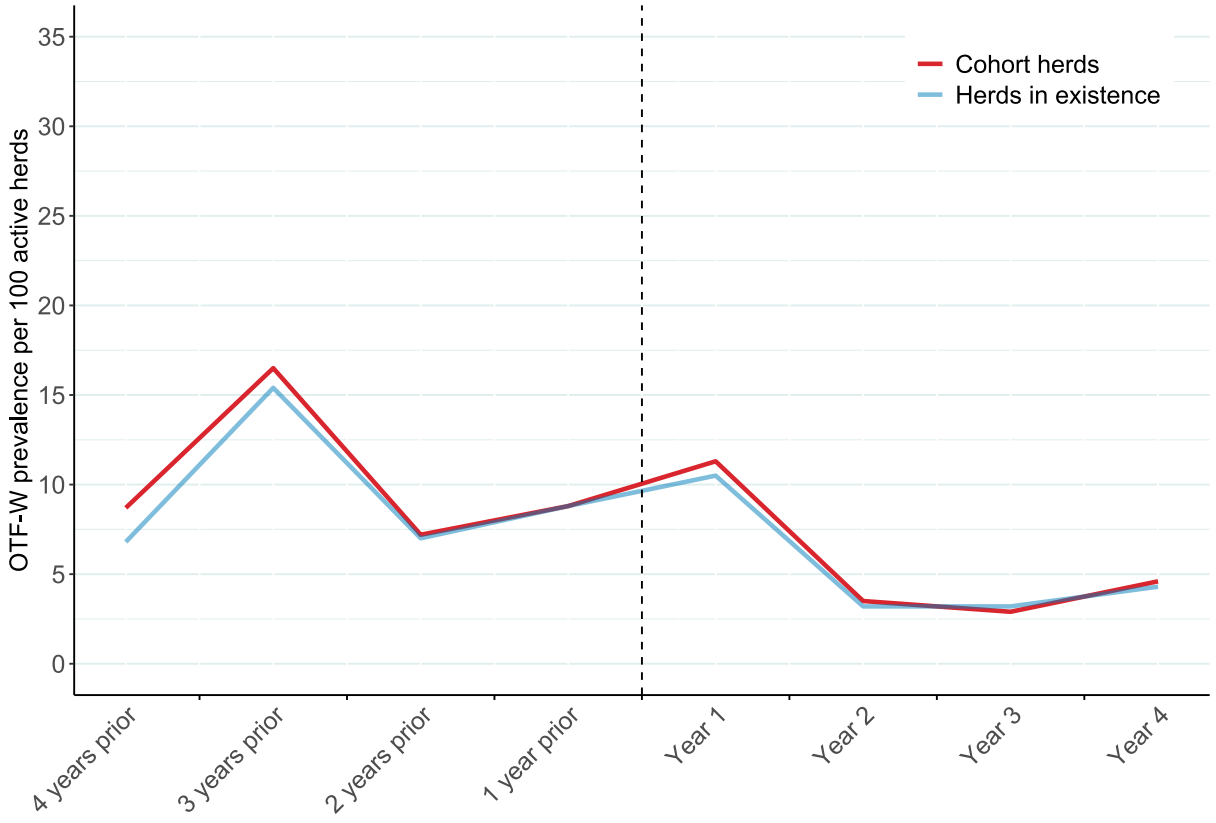

Figure 36 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 4 of intervention in Area 18, Somerset central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 18 in 2017, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 19 - Wiltshire central

Central area increased in size by 3.5% in May 2018.

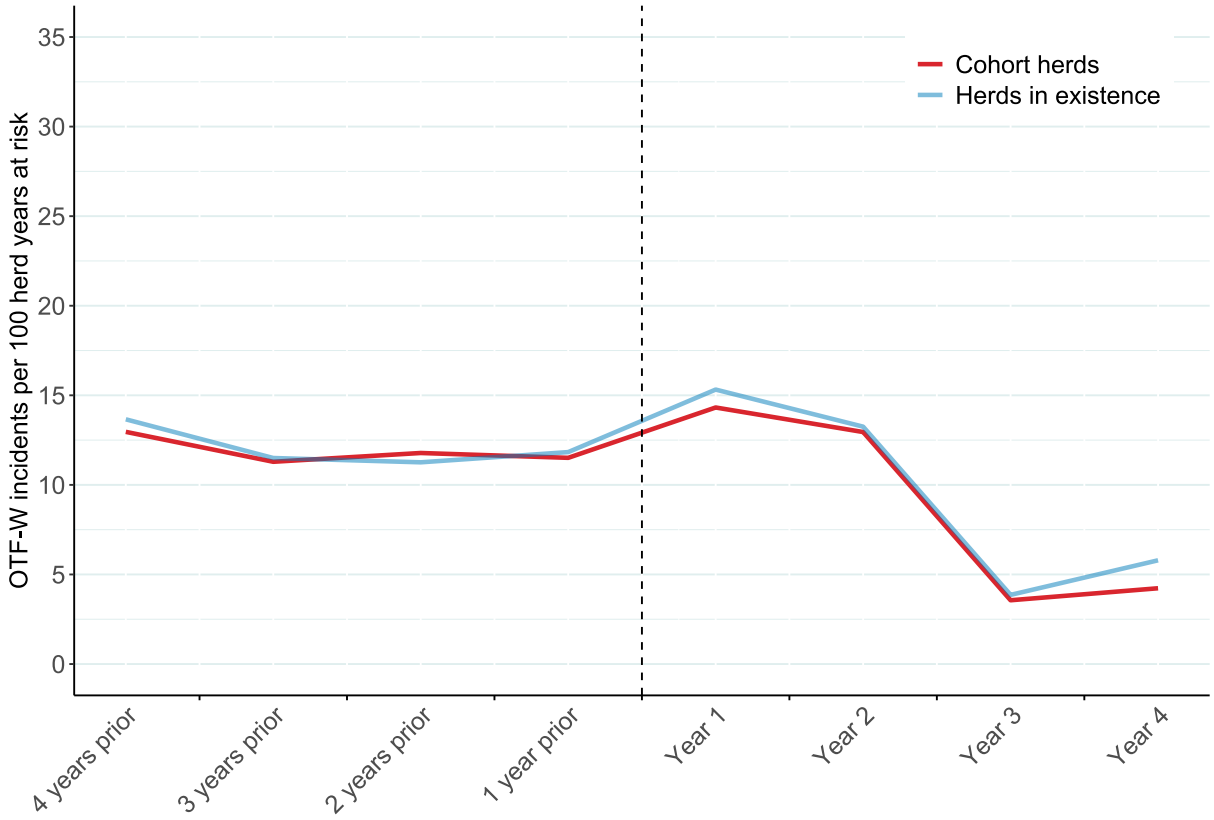

Figure 37 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 4 of intervention in Area 19, Wiltshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 19 in 2017, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

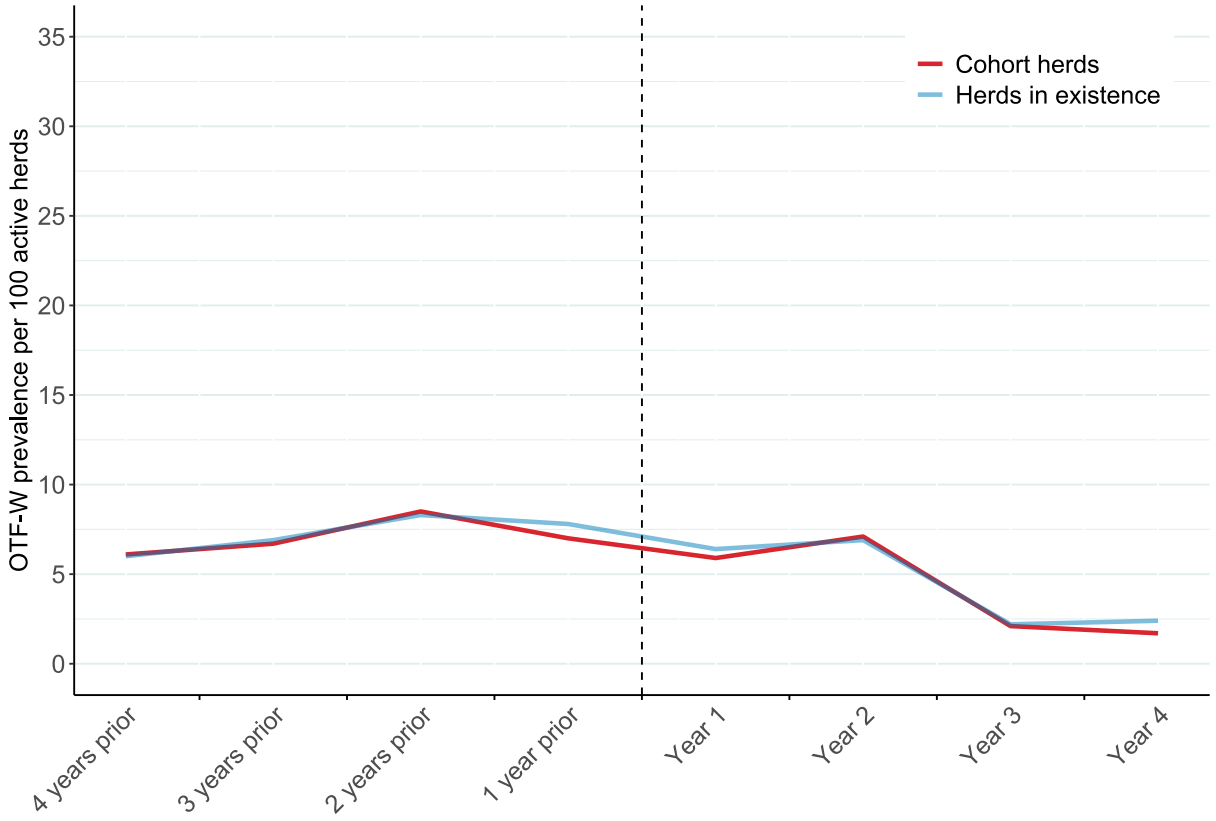

Figure 38 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 4 of intervention in Area 19, Wiltshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 19 in 2017, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 20 - Wiltshire central

Central area increased in size by 1.3% in May 2018.

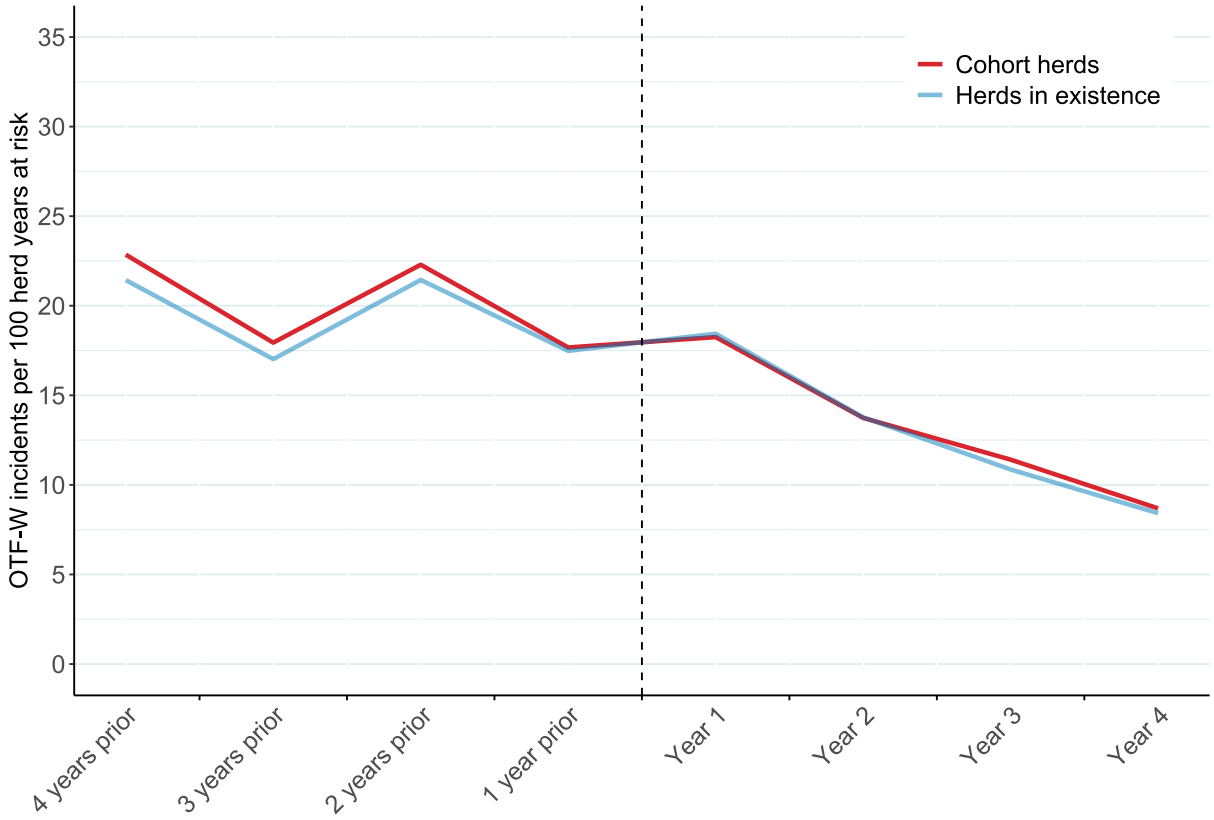

Figure 39 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 4 of intervention in Area 20, Wiltshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 20 in 2017, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

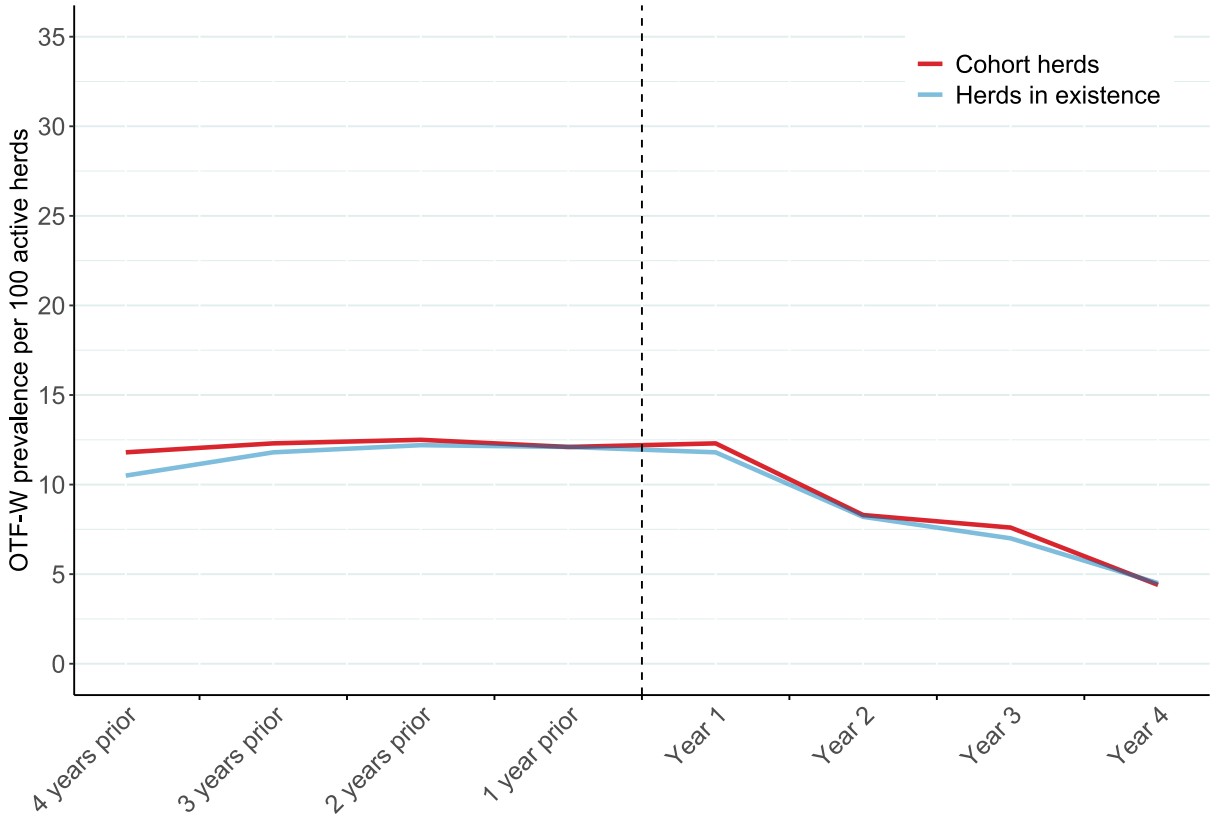

Figure 40 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 4 of intervention in Area 20, Wiltshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 20 in 2017, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 21 - Wiltshire central

Figure 41 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 4 of intervention in Area 21, Wiltshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 21 in 2017, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

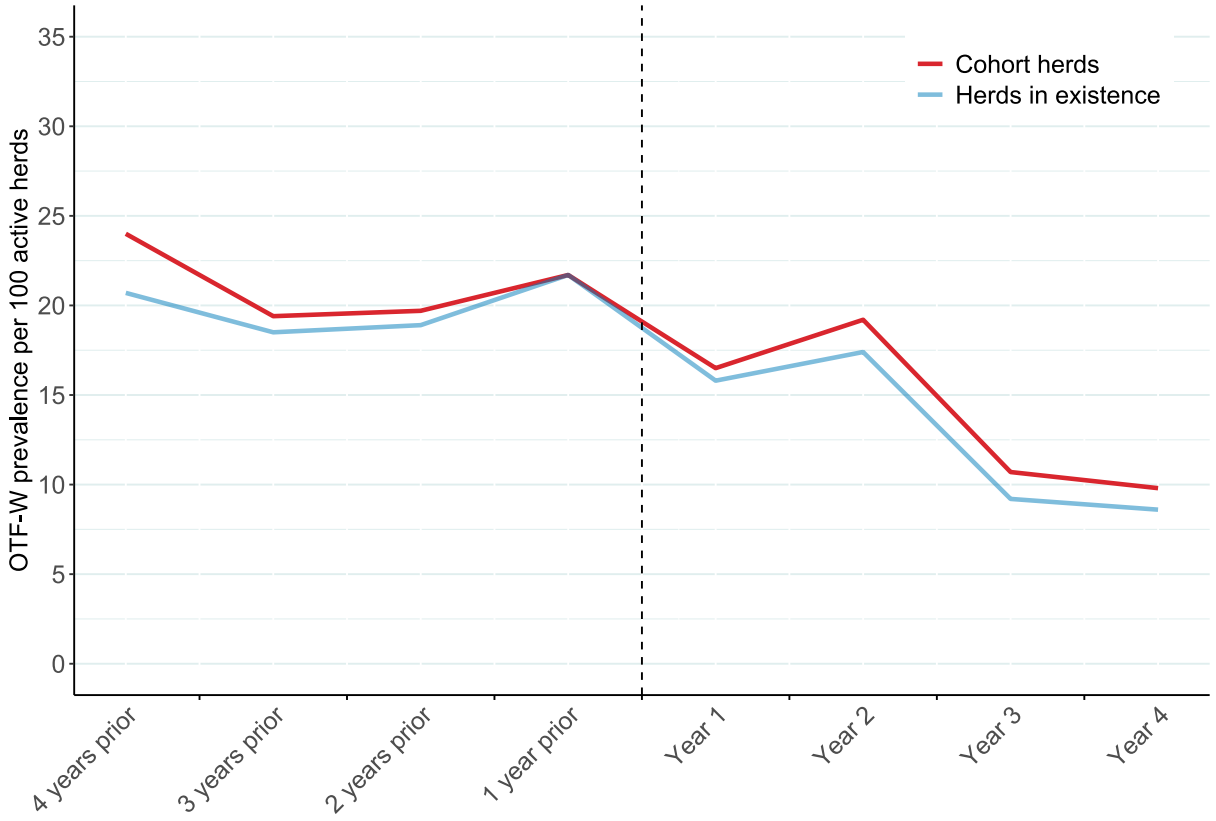

Figure 42 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 4 of intervention in Area 21, Wiltshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 21 in 2017, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Areas where the cull commenced in 2018

Area 22 - Cornwall central

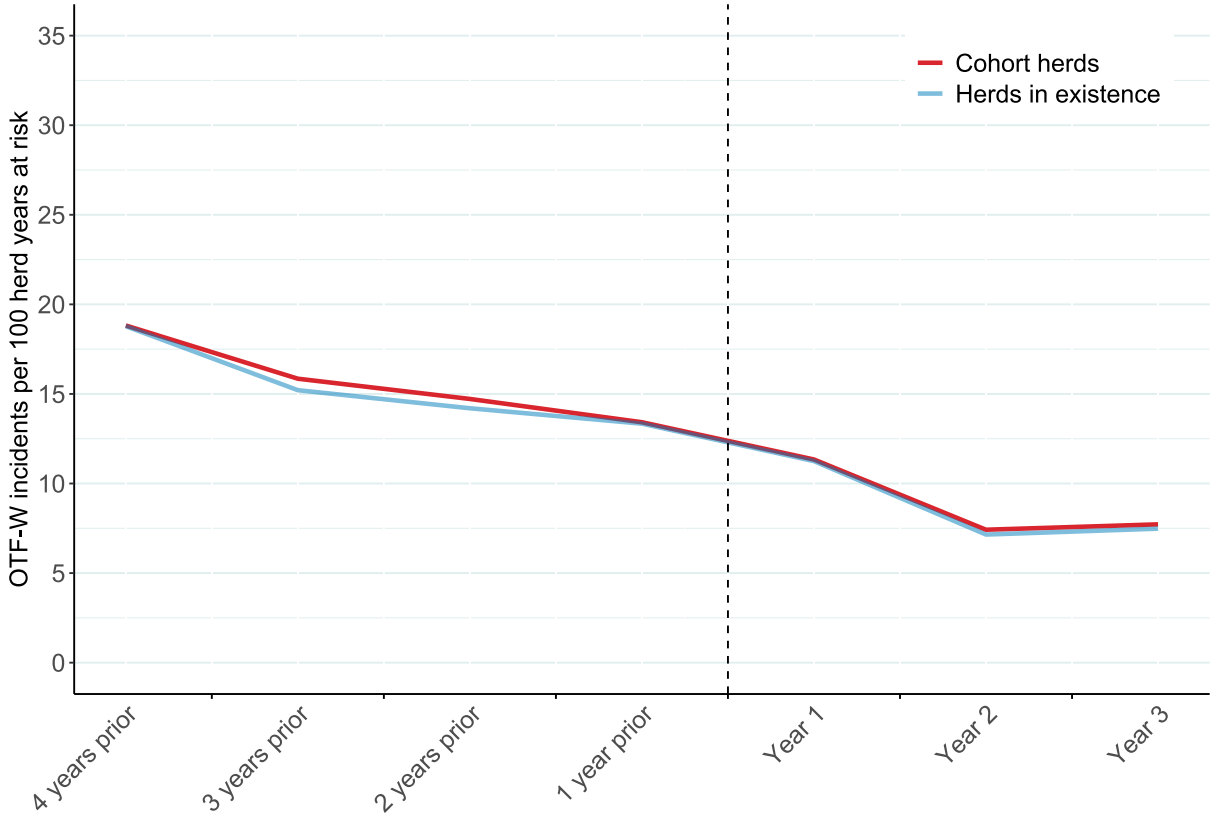

Figure 43 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 3 of intervention in Area 22, Cornwall central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 22 in 2018, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

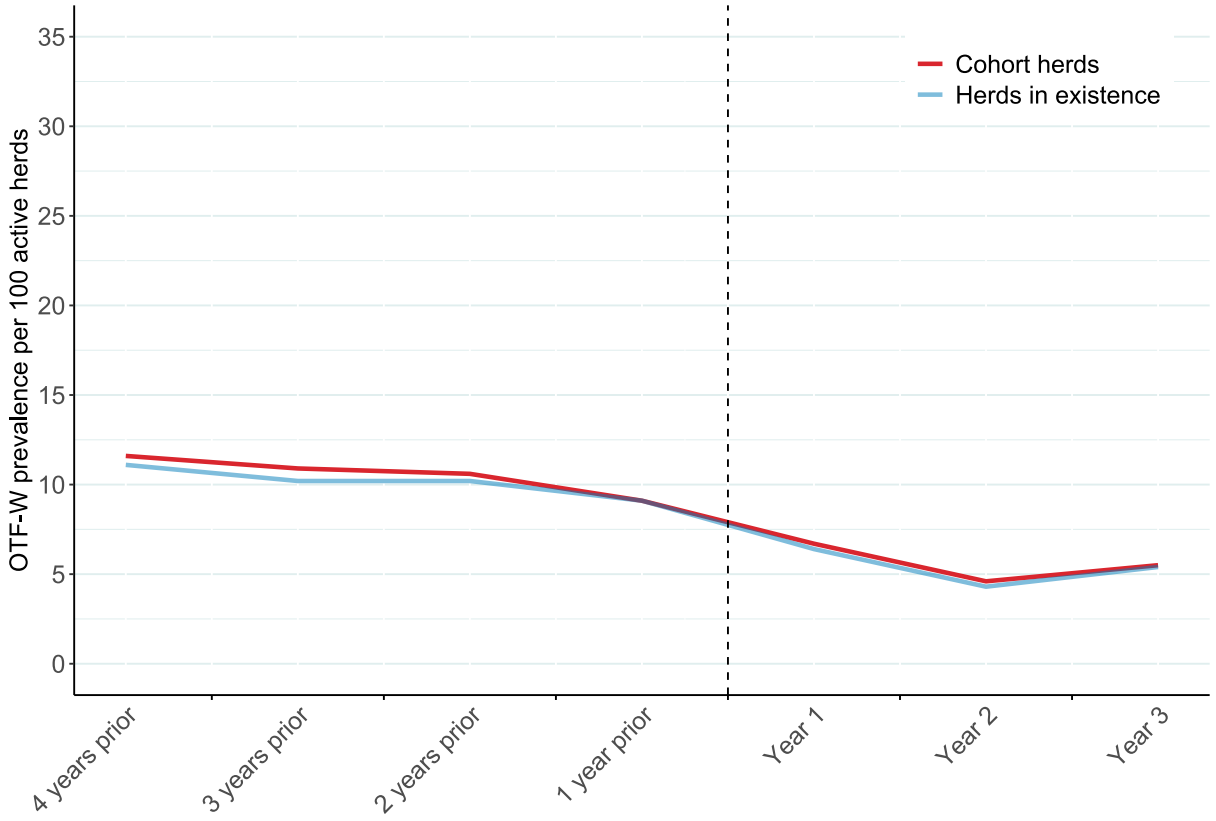

Figure 44 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 3 of intervention in Area 22, Cornwall central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 22 in 2018, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 23 - Devon central

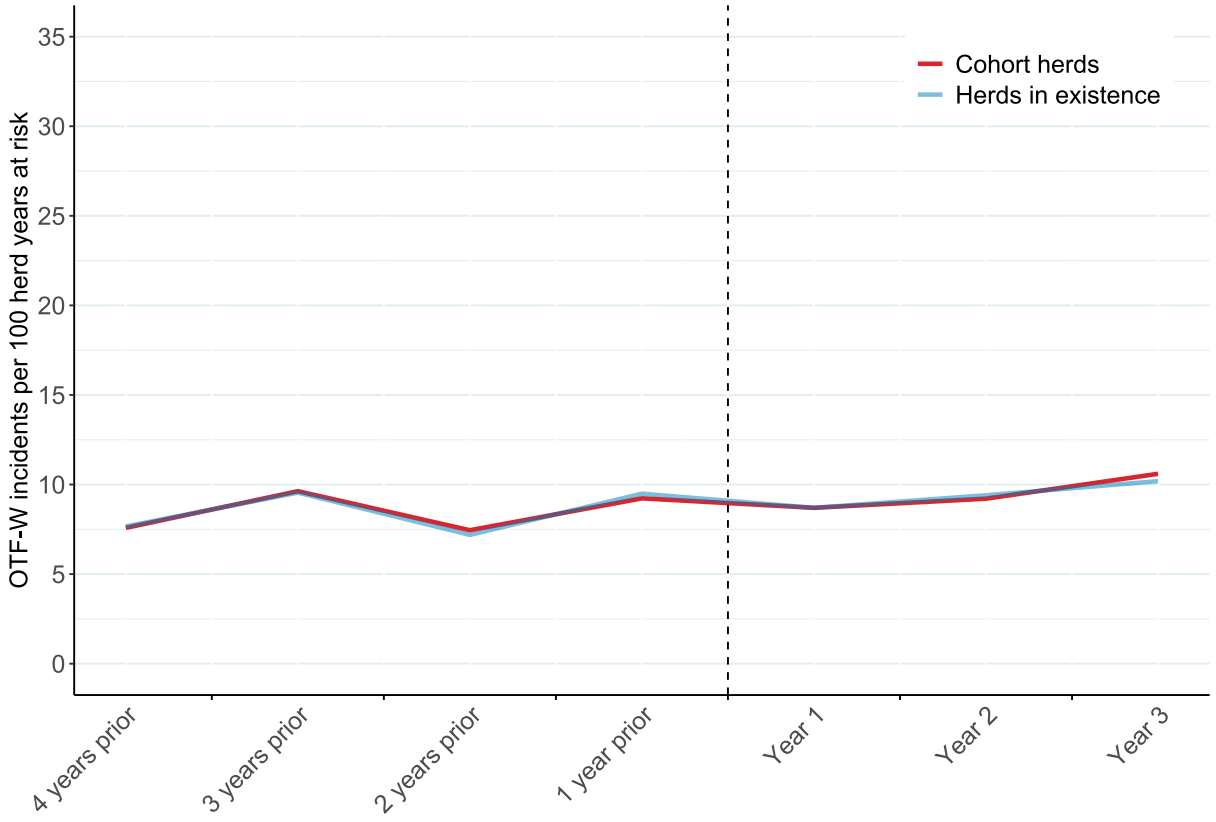

Figure 45 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 3 of intervention in Area 23, Devon central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 23 in 2018, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

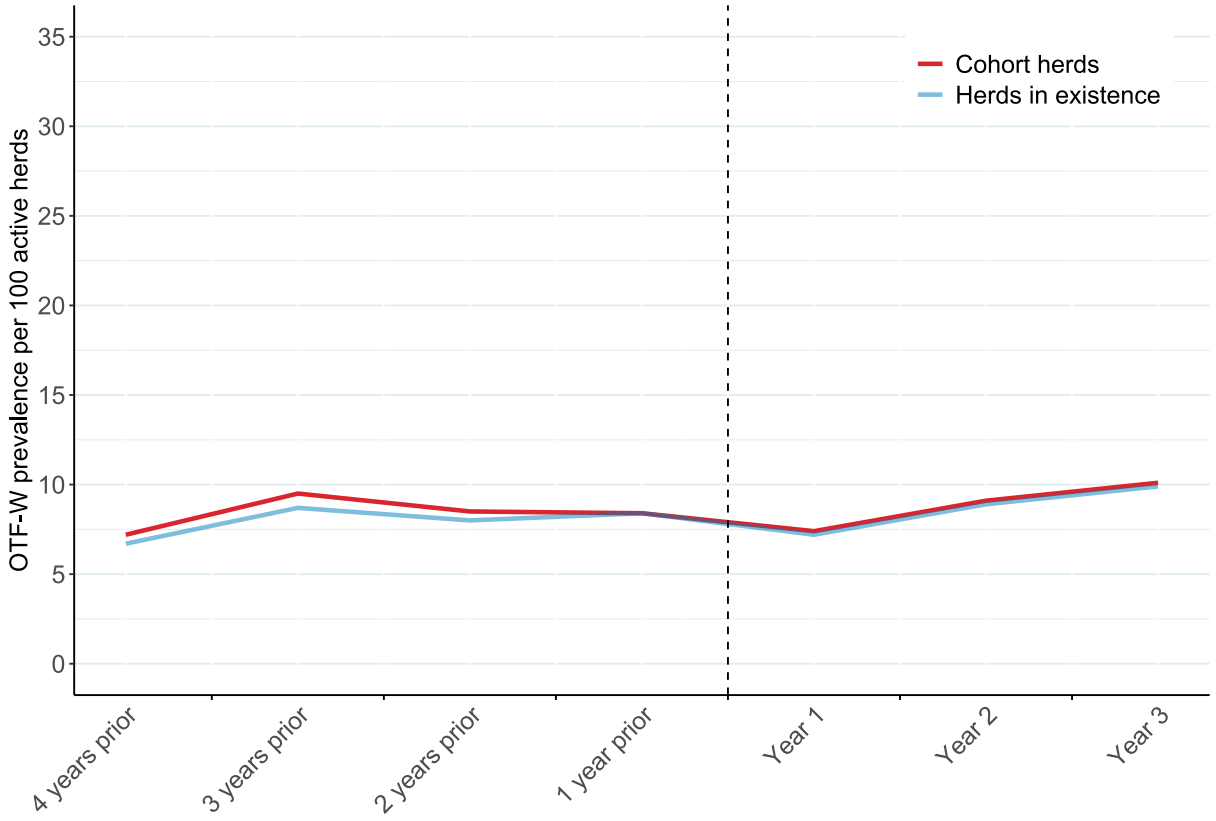

Figure 46 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 3 of intervention in Area 23, Devon central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 23 in 2018, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 24 - Devon central

Central area increased in size by 6.1% in February 2019.

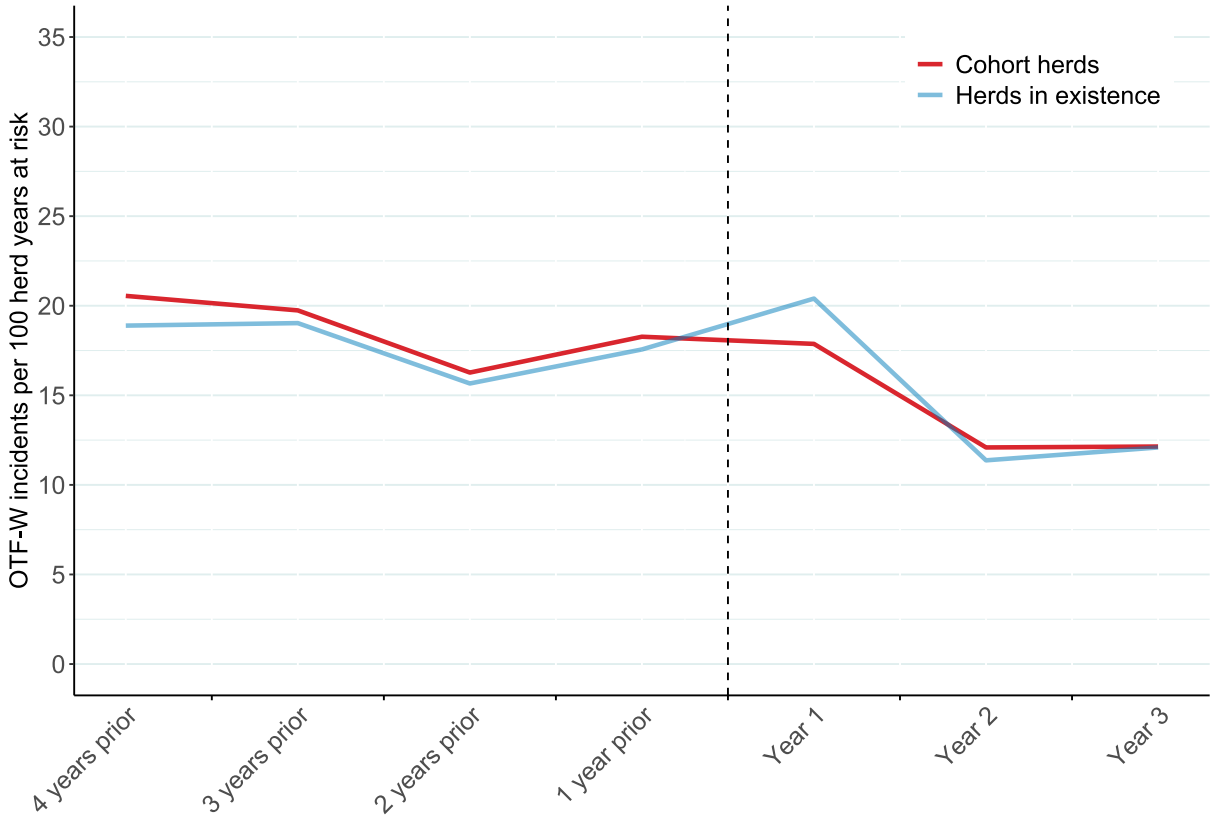

Figure 47 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 3 of intervention in Area 24, Devon central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 24 in 2018, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

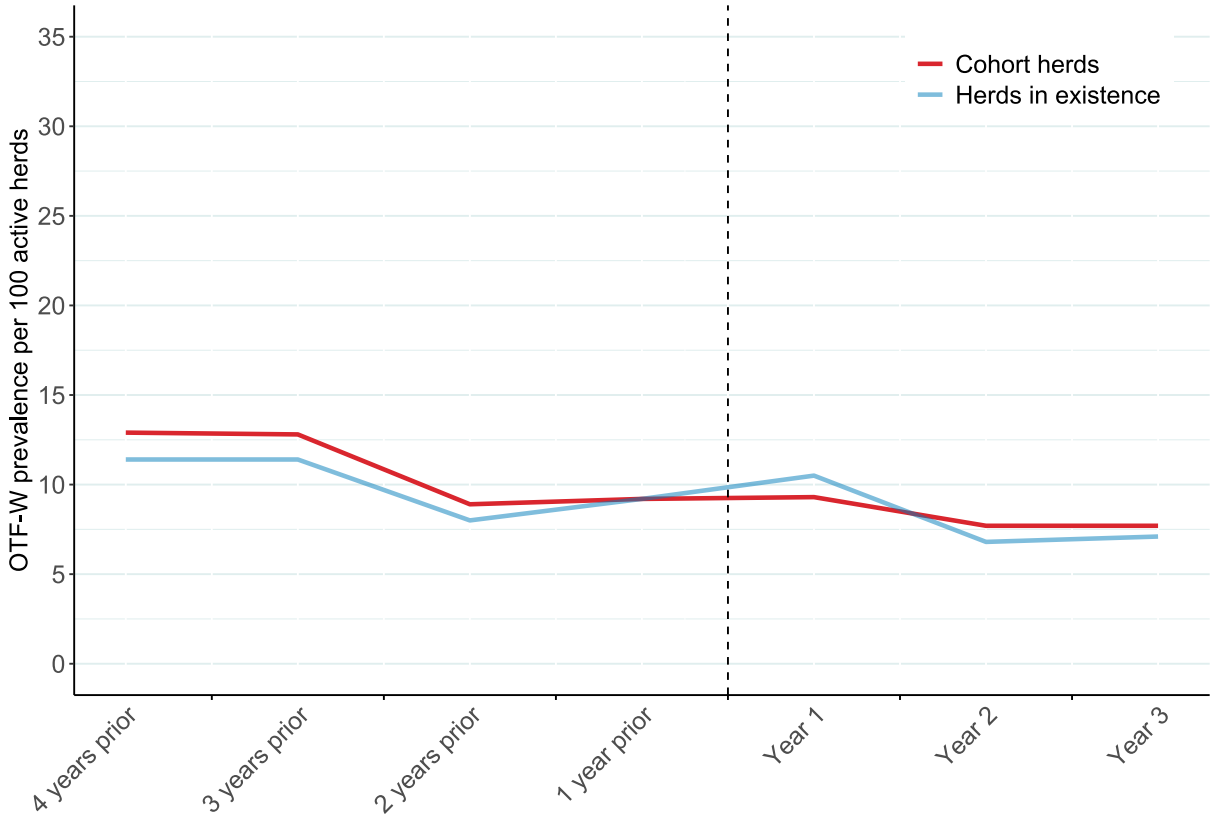

Figure 48 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 3 of intervention in Area 24, Devon central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 24 in 2018, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 25 - Devon central

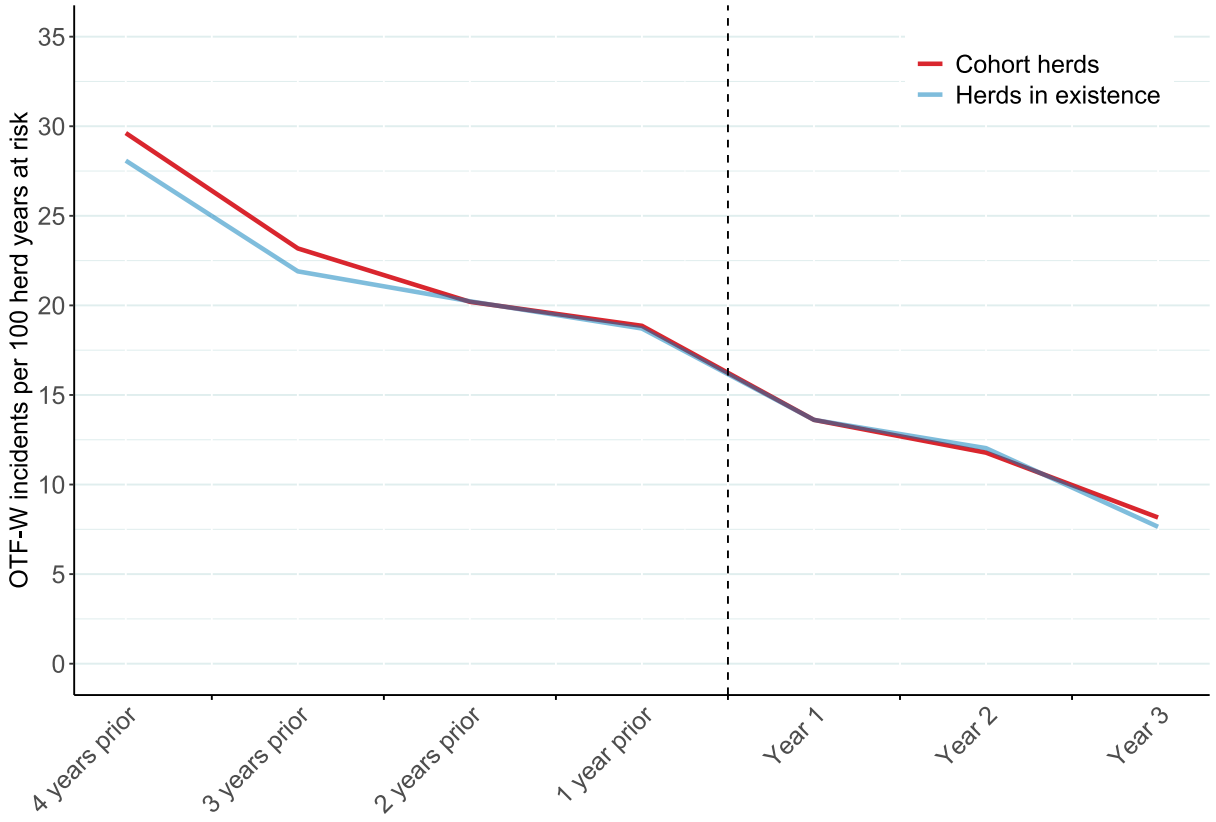

Figure 49 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 3 of intervention in Area 25, Devon central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 25 in 2018, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

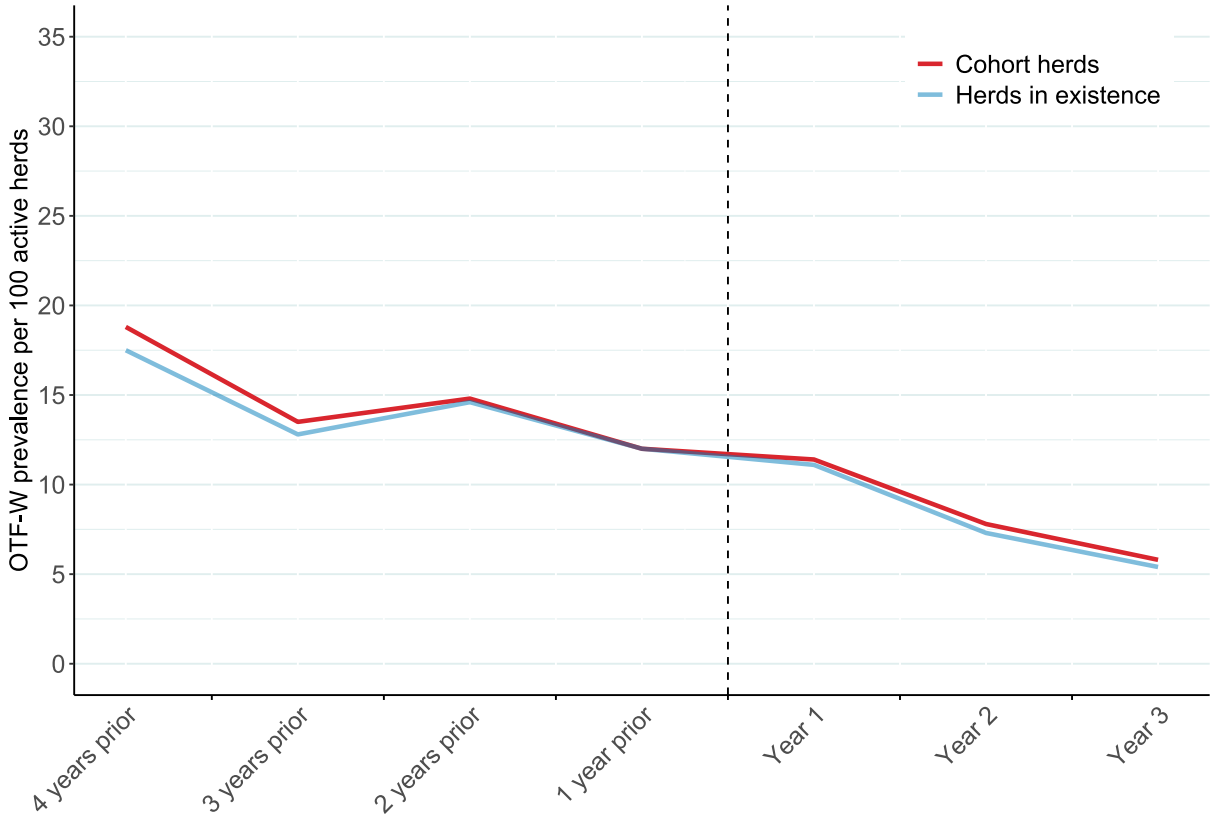

Figure 50 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 3 of intervention in Area 25, Devon central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 25 in 2018, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 26 - Devon central

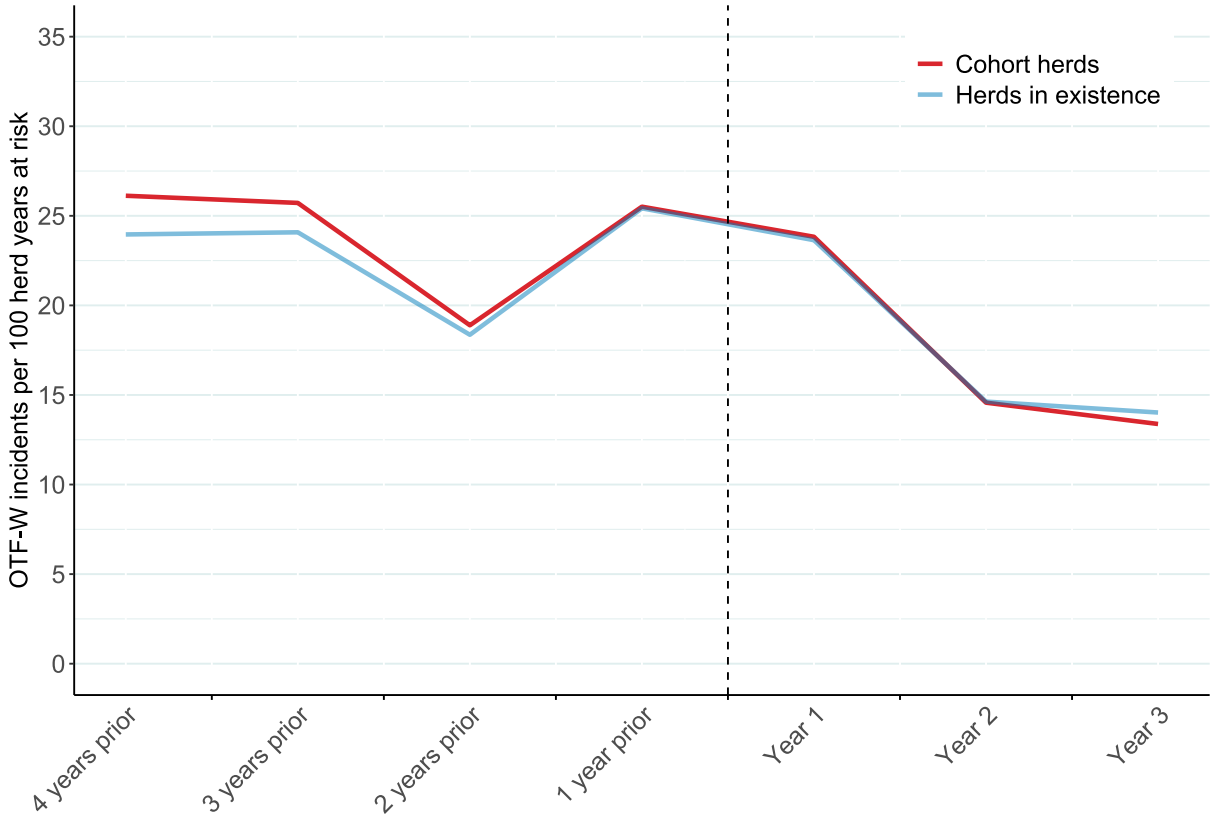

Figure 51 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 3 of intervention in Area 26, Devon central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 26 in 2018, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

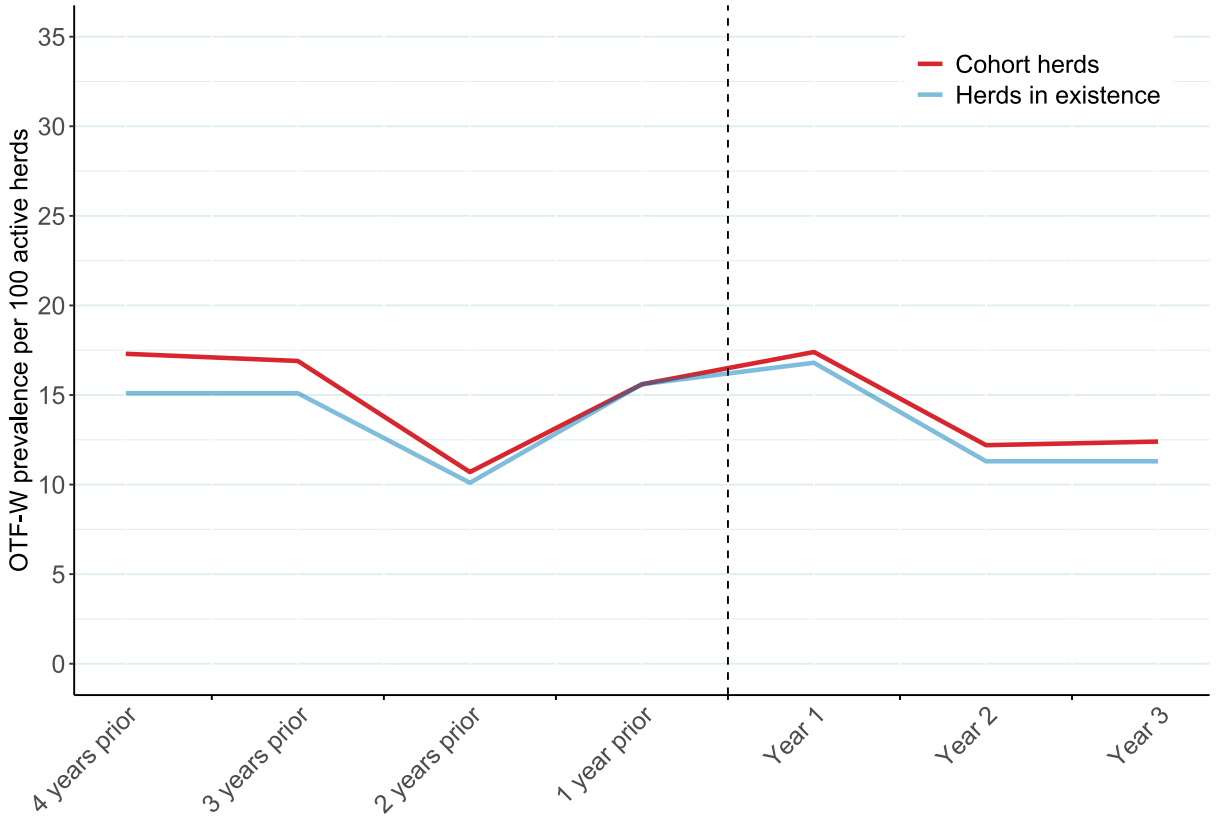

Figure 52 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 3 of intervention in Area 26, Devon central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 26 in 2018, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 27 - Devon central

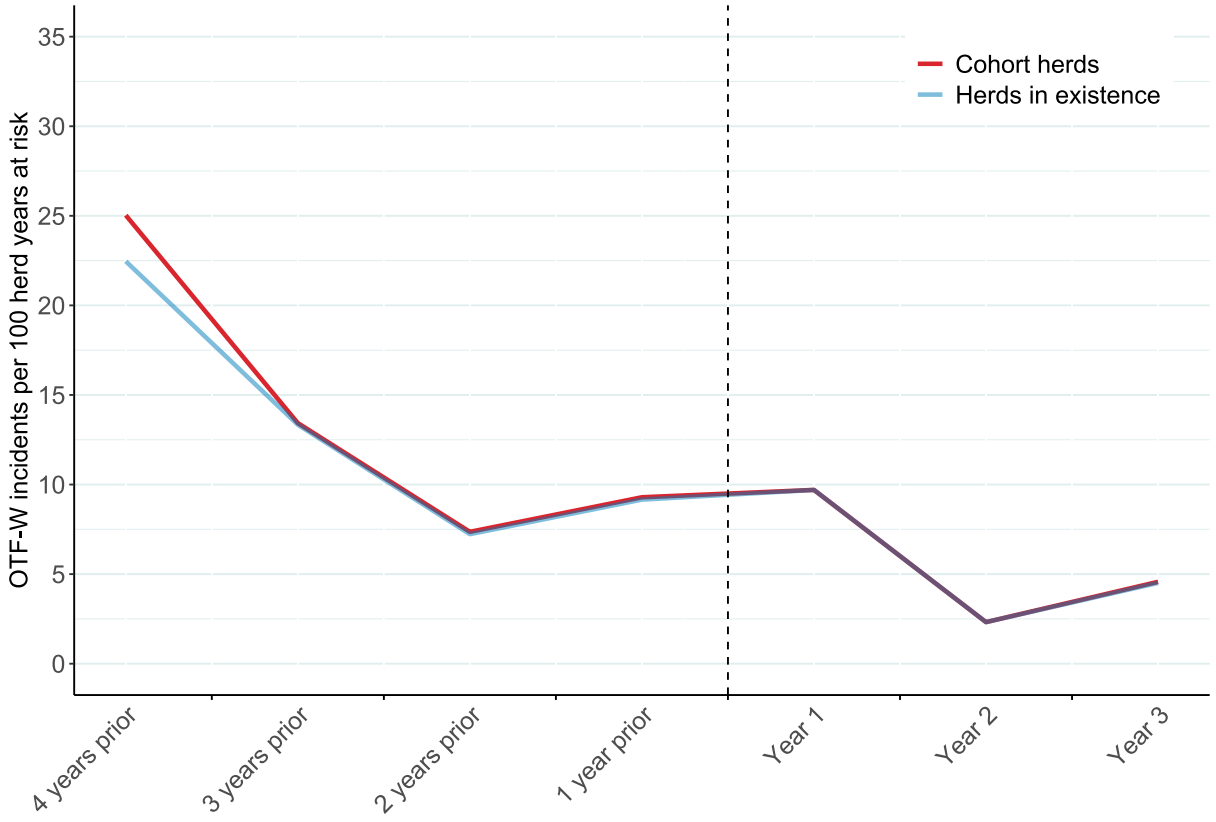

Figure 53 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 3 of intervention in Area 27, Devon central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 27 in 2018, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

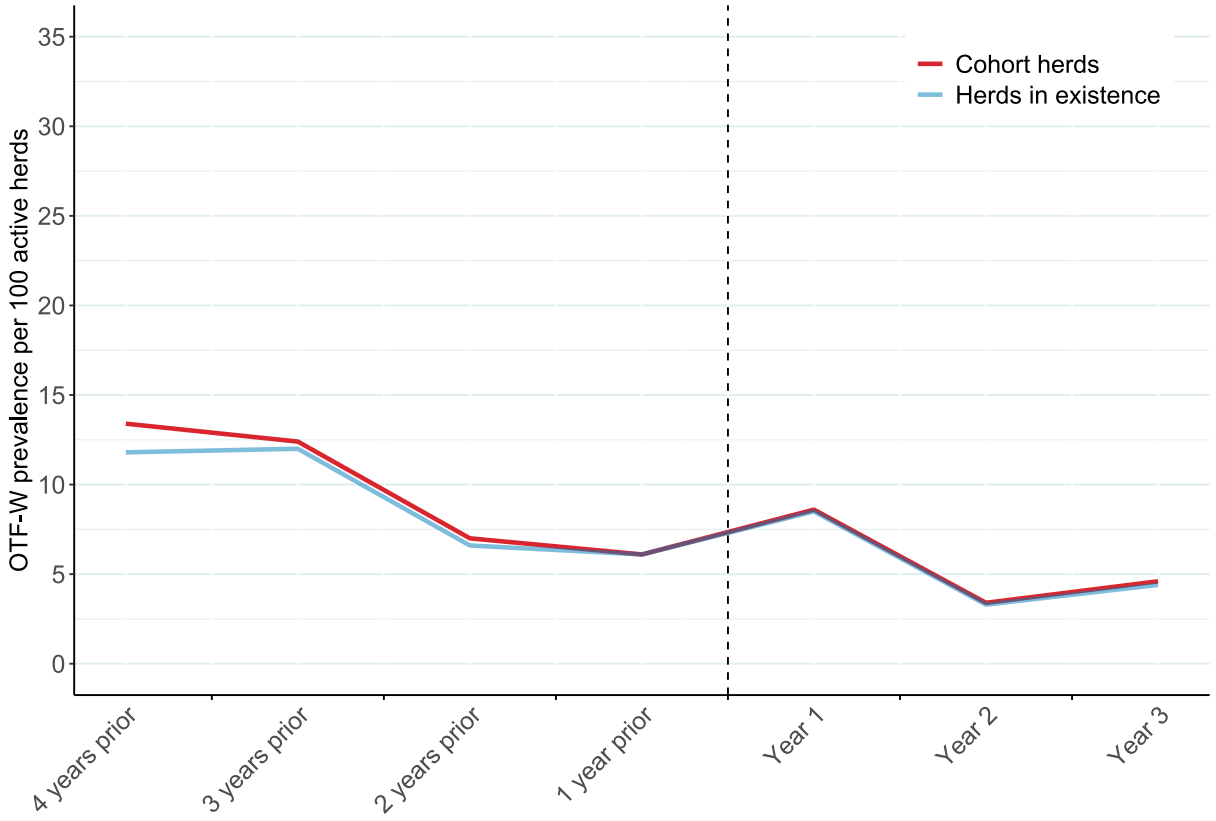

Figure 54 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 3 of intervention in Area 27, Devon central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 27 in 2018, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 28 - Devon central

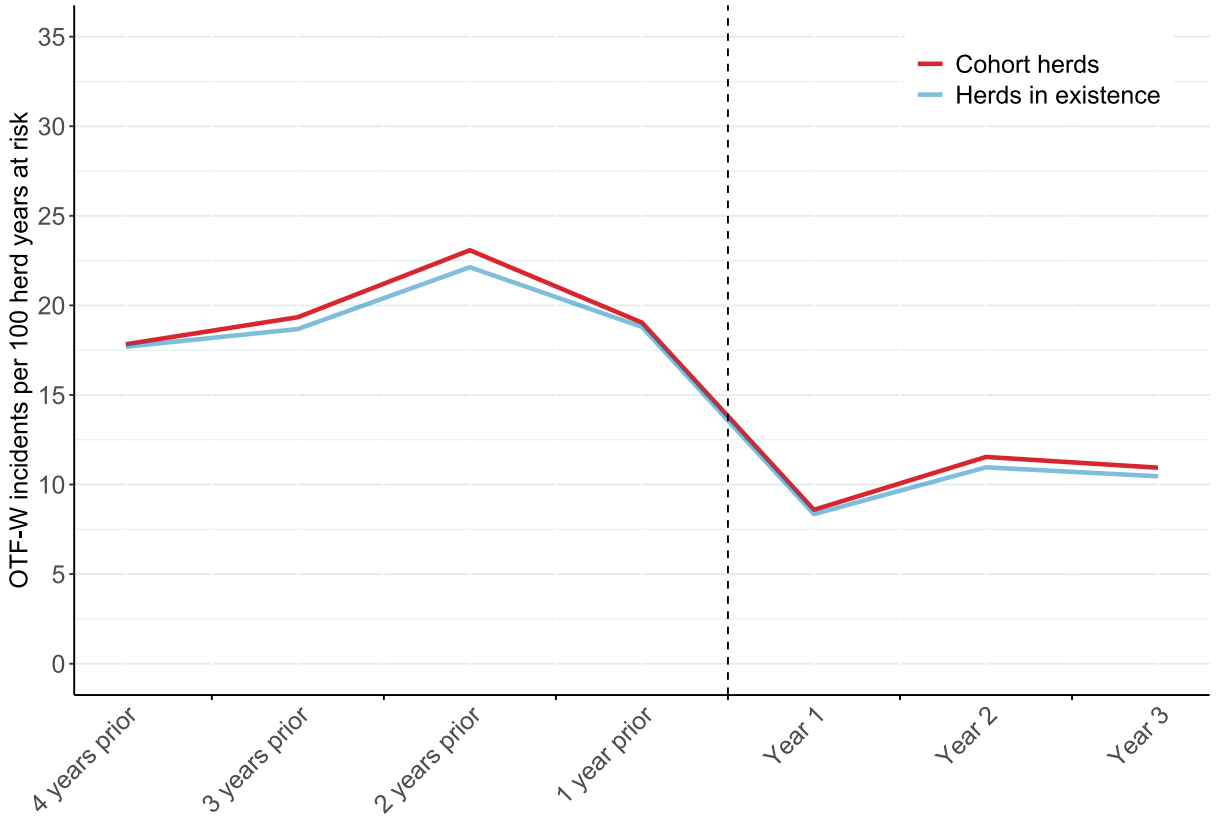

Figure 55 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 3 of intervention in Area 28, Devon central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 28 in 2018, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

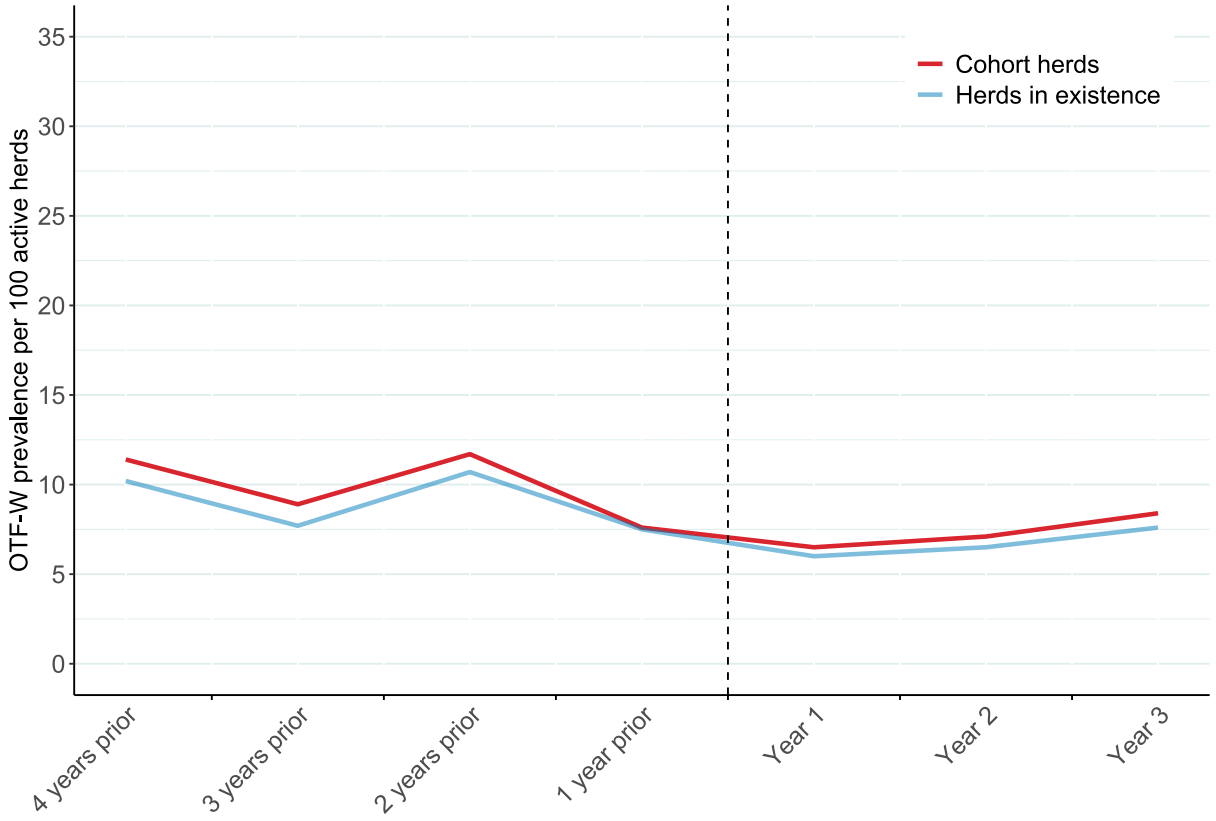

Figure 56 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 3 of intervention in Area 28, Devon central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 28 in 2018, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 29 - Gloucestershire central

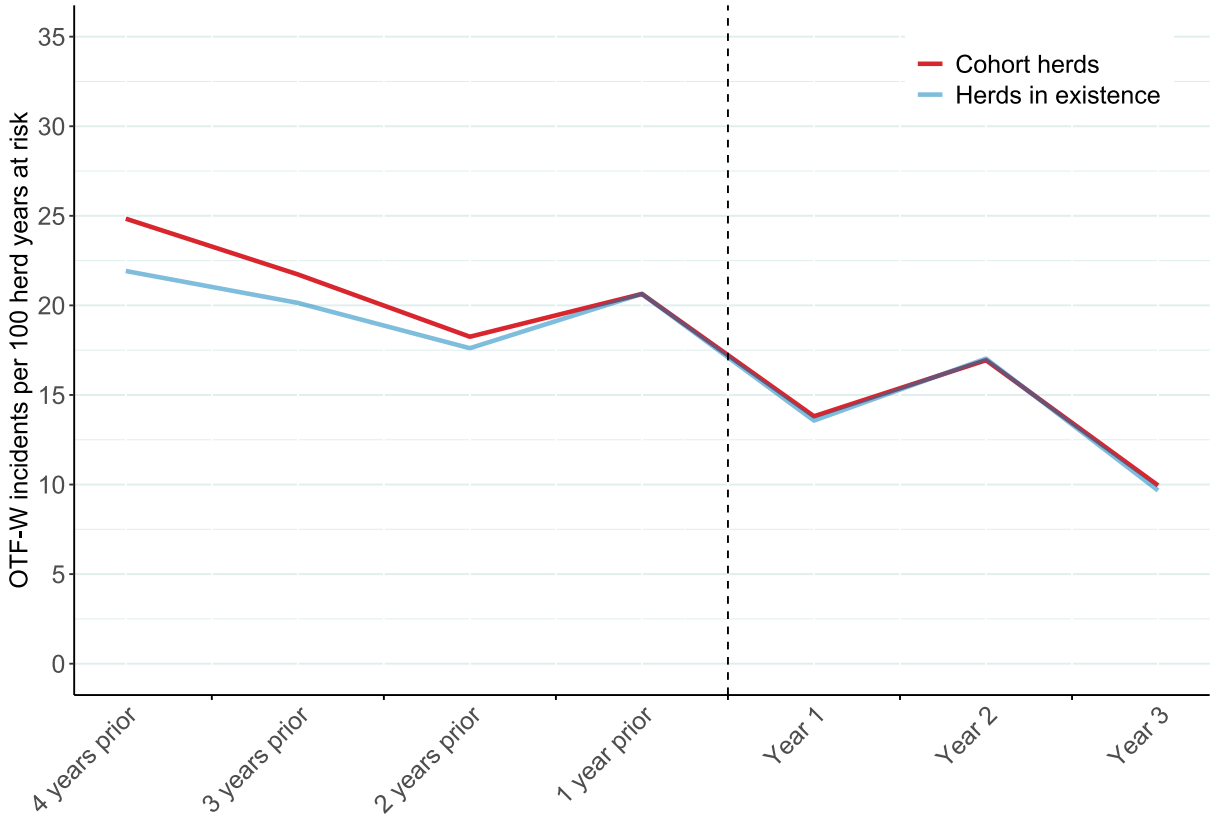

Figure 57 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 3 of intervention in Area 29, Gloucestershire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 29 in 2018, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

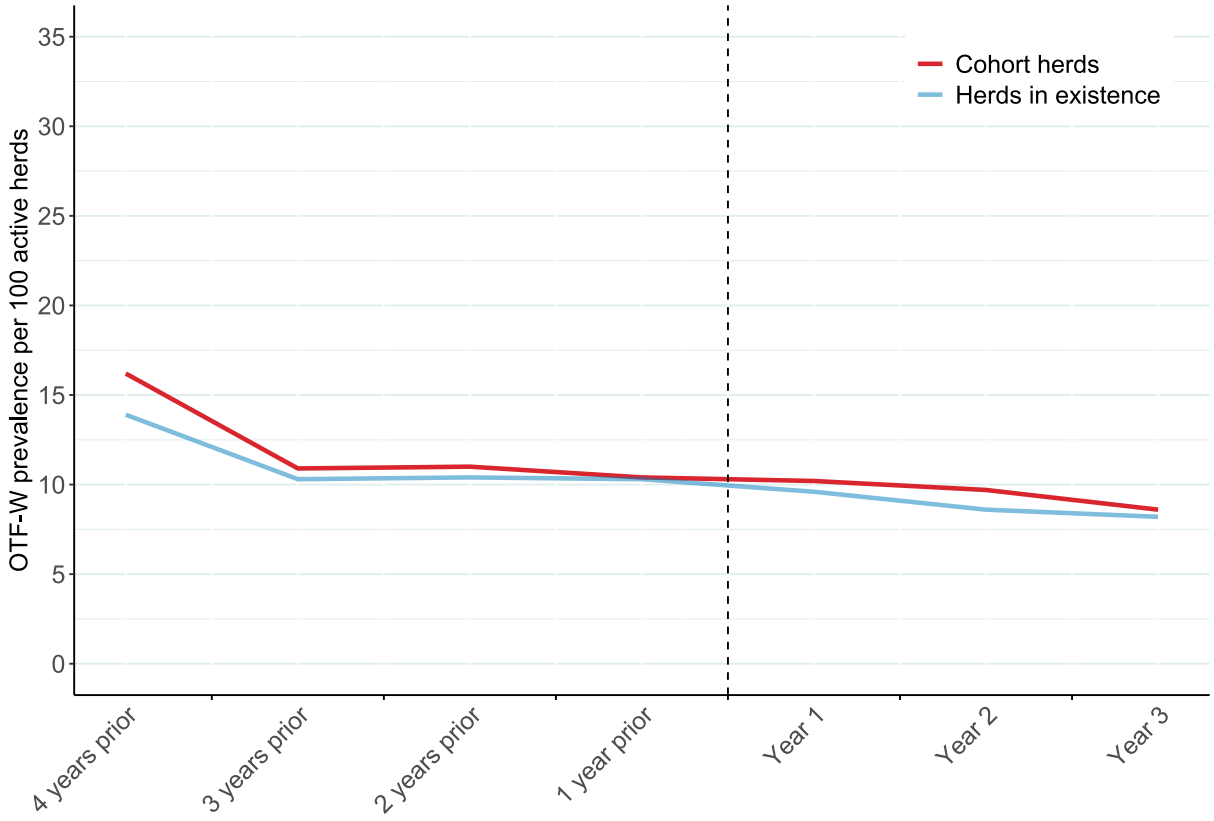

Figure 58 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 3 of intervention in Area 29, Gloucestershire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 29 in 2018, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 30 - Somerset central

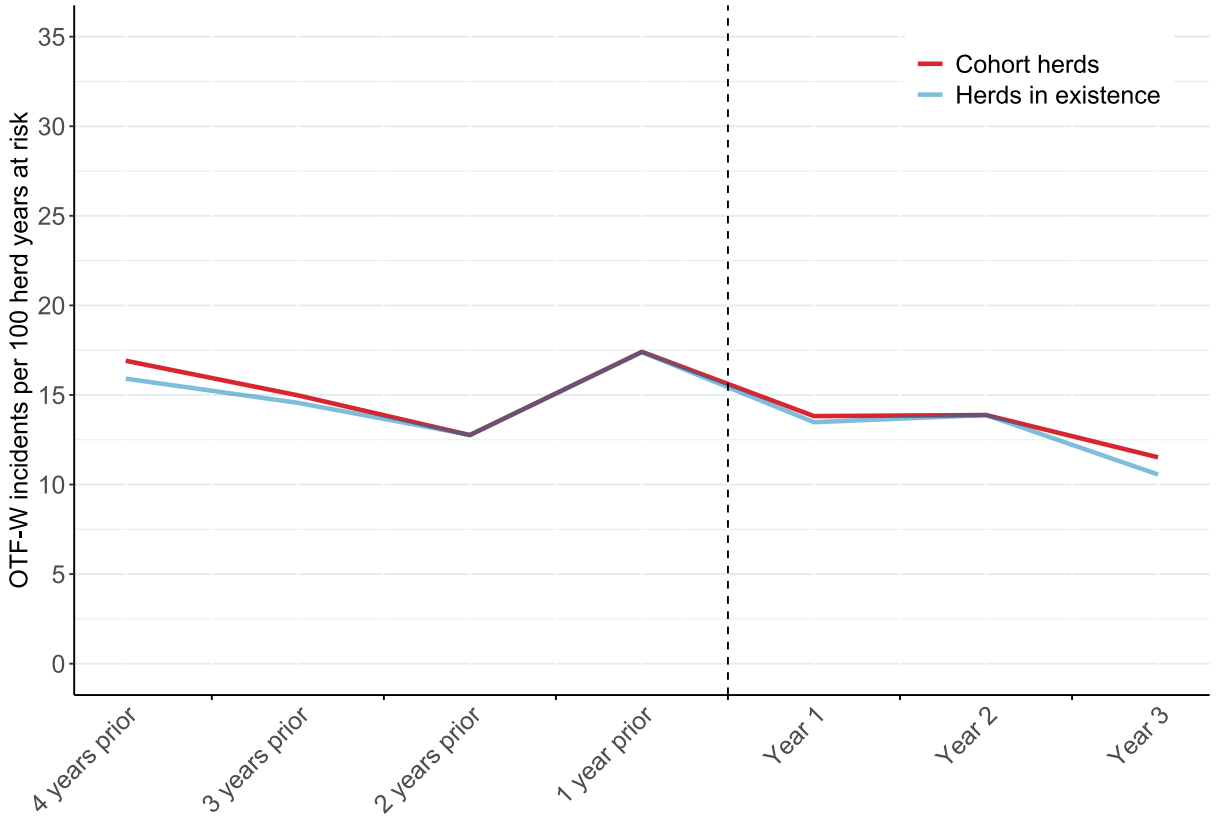

Figure 59 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 3 of intervention in Area 30, Somerset central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 30 in 2018, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

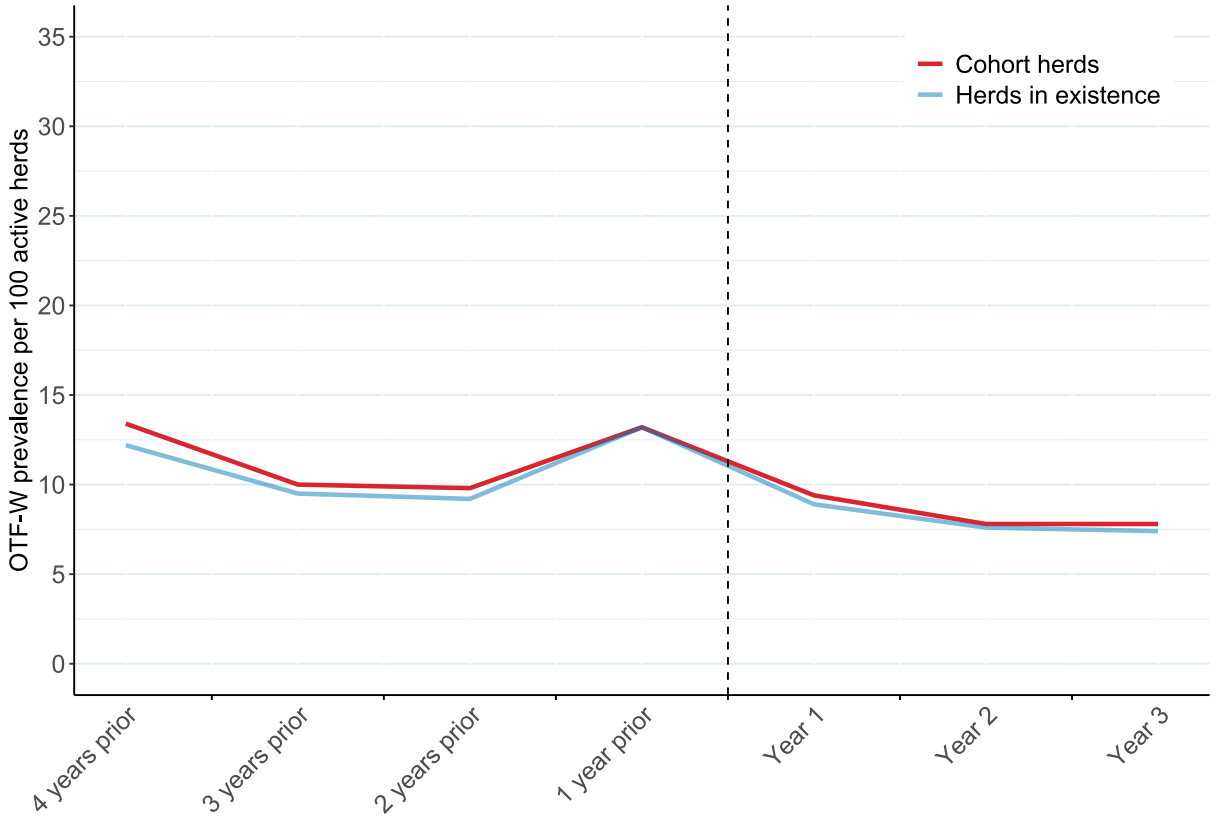

Figure 60 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 3 of intervention in Area 30, Somerset central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 30 in 2018, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 31 - Staffordshire central

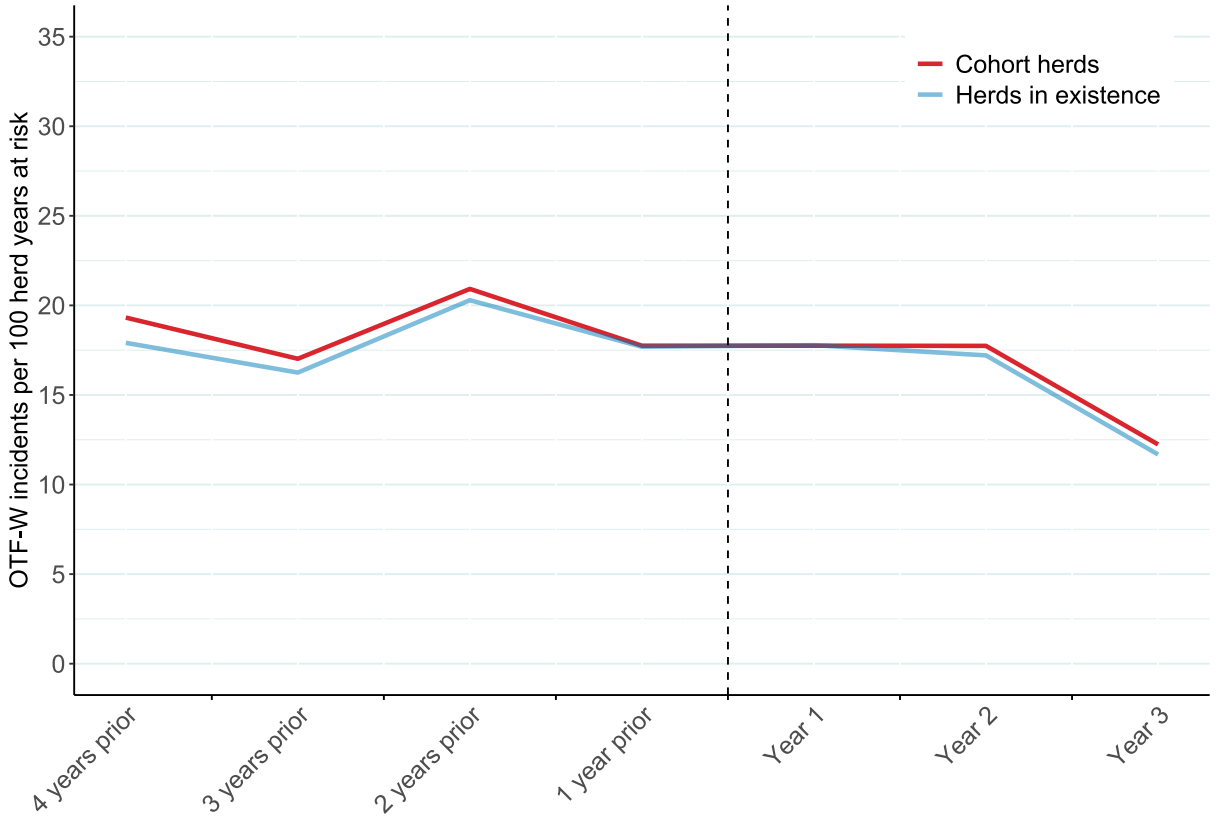

Figure 61 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 3 of intervention in Area 31, Staffordshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 31 in 2018, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

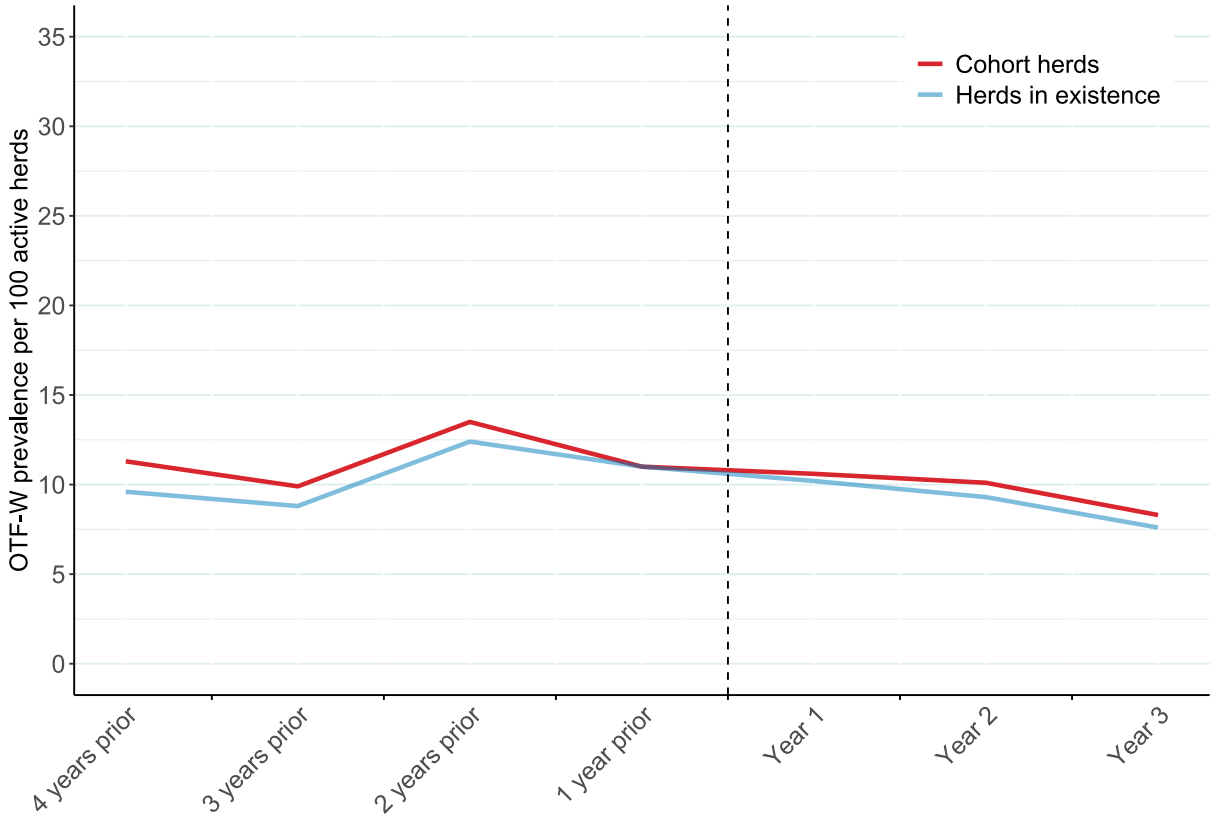

Figure 62 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 3 of intervention in Area 31, Staffordshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 31 in 2018, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 32 - Cumbria central

Central area increased in size by 12.7% in January 2019. Central area then decreased in size by 48.1% in August 2020, which was a 41.6% decrease in size from the original area.

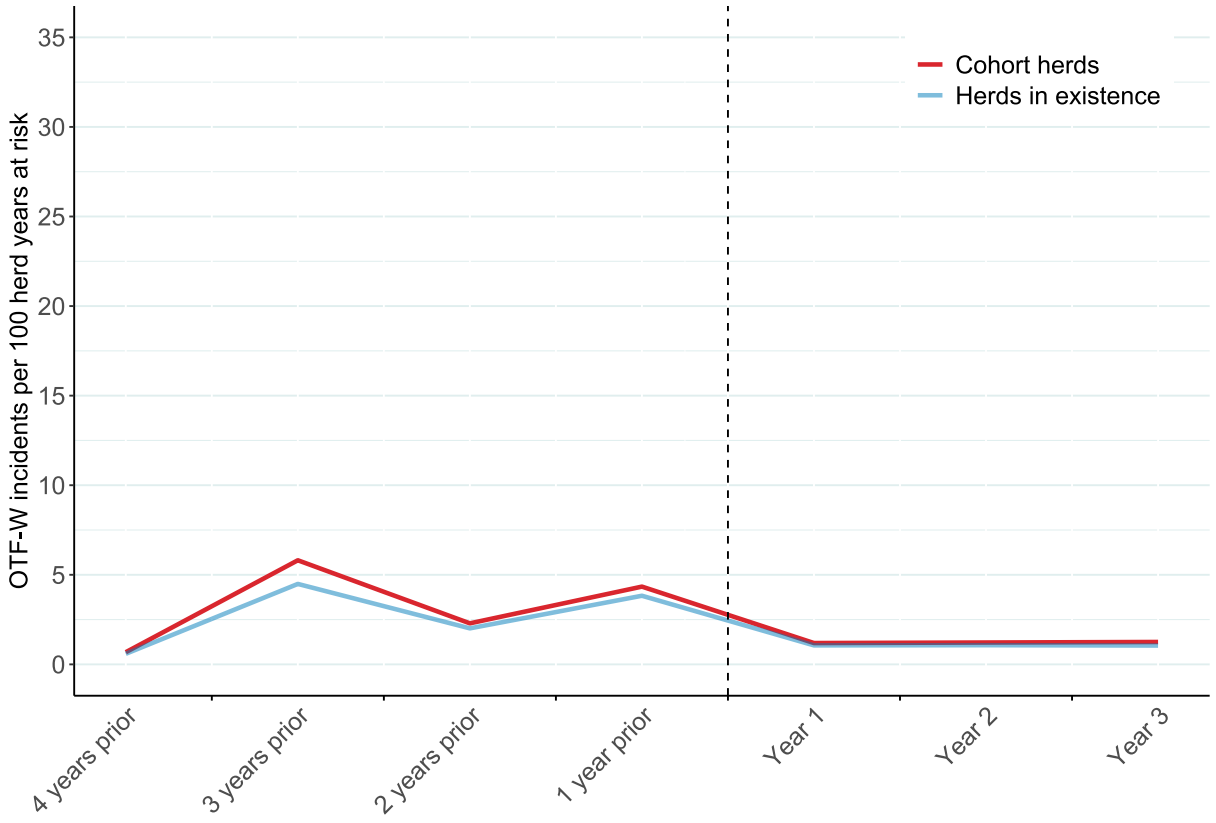

Figure 63 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 3 of intervention in Area 32, Cumbria central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 32 in 2018, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

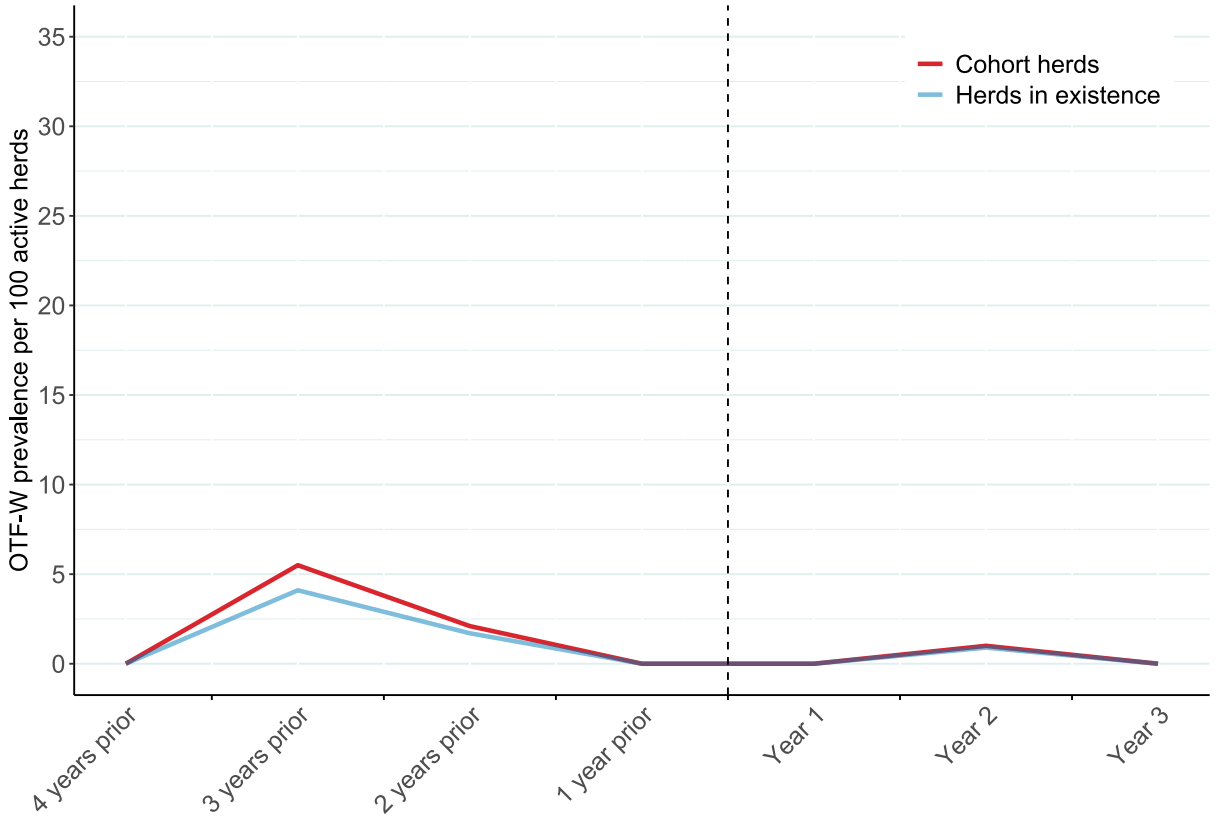

Figure 64 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 3 of intervention in Area 32, Cumbria central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 32 in 2018, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Areas where the cull commenced in 2019

Area 33 – Avon central

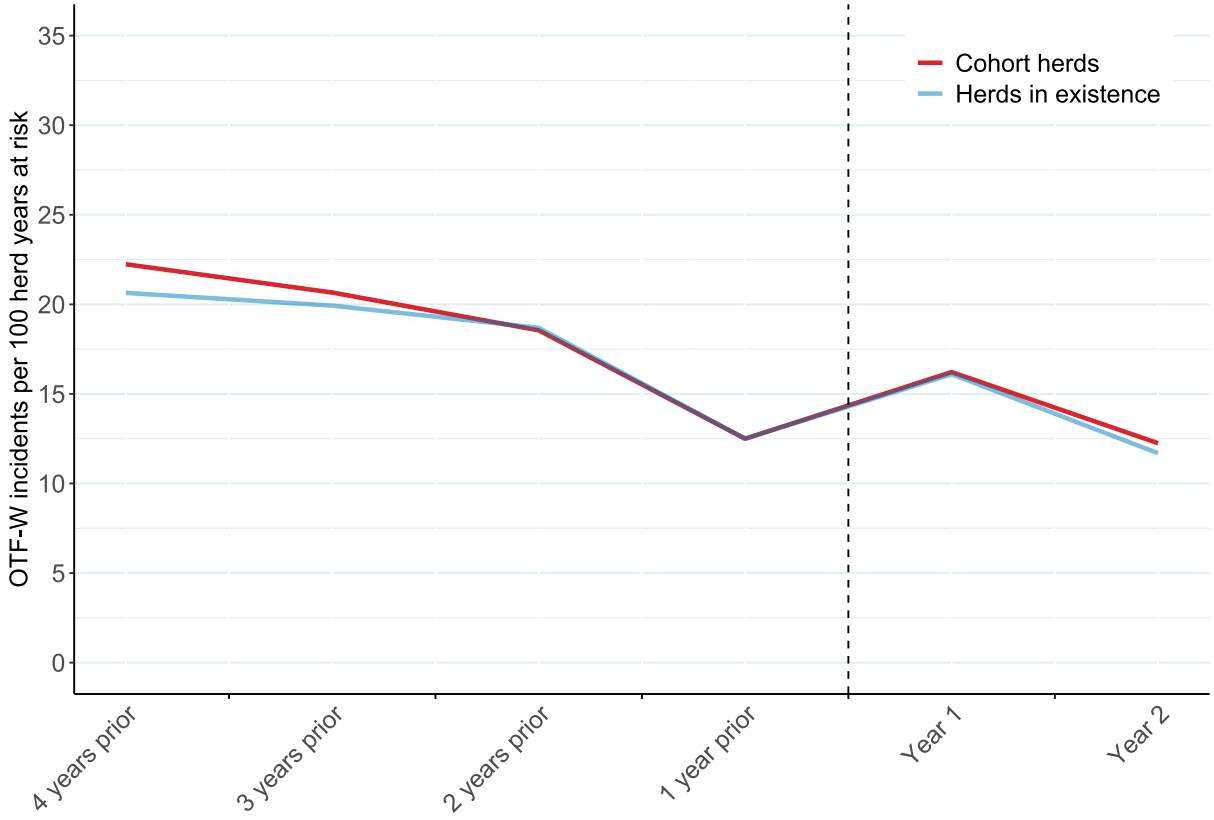

Figure 65 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 2 of intervention in Area 33, Avon central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 33 in 2019, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

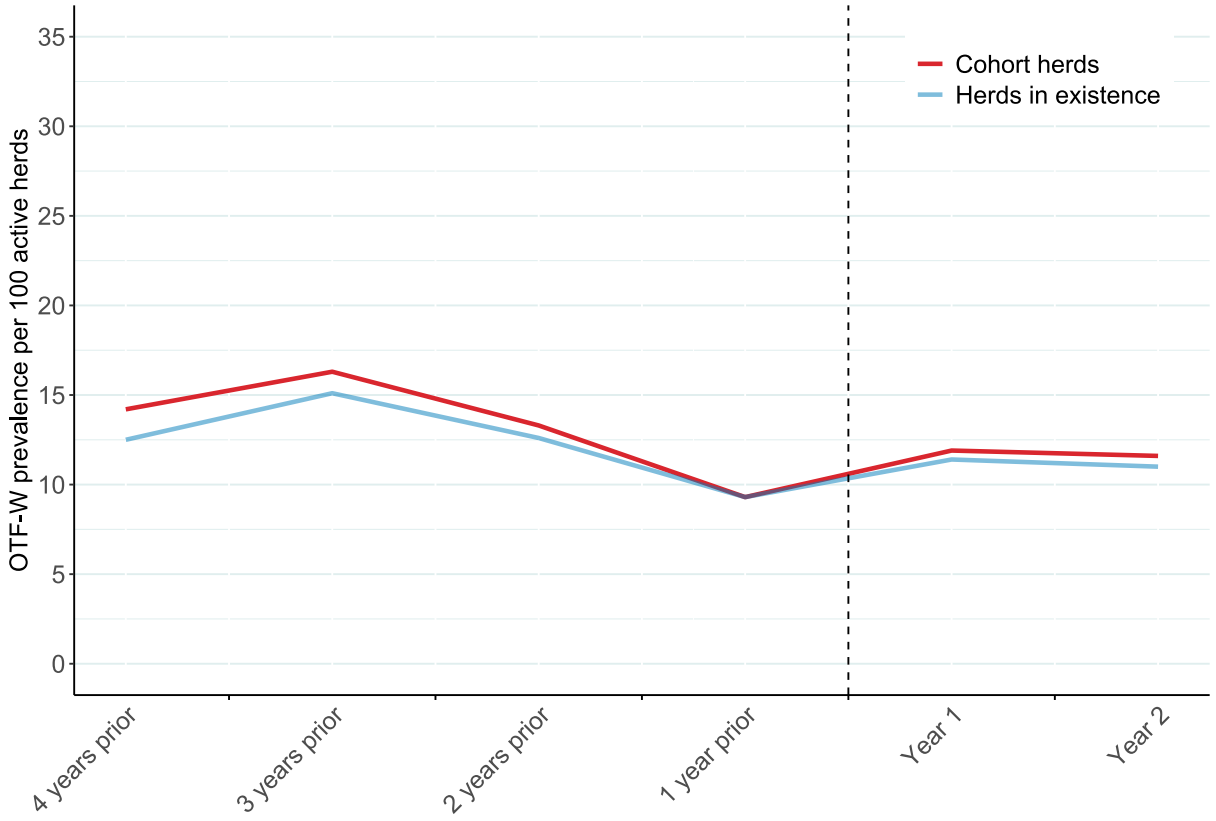

Figure 66 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 2 of intervention in Area 33, Avon central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 33 in 2019, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 34 – Cheshire central

Central area increased in size by 19.8% in August 2020.

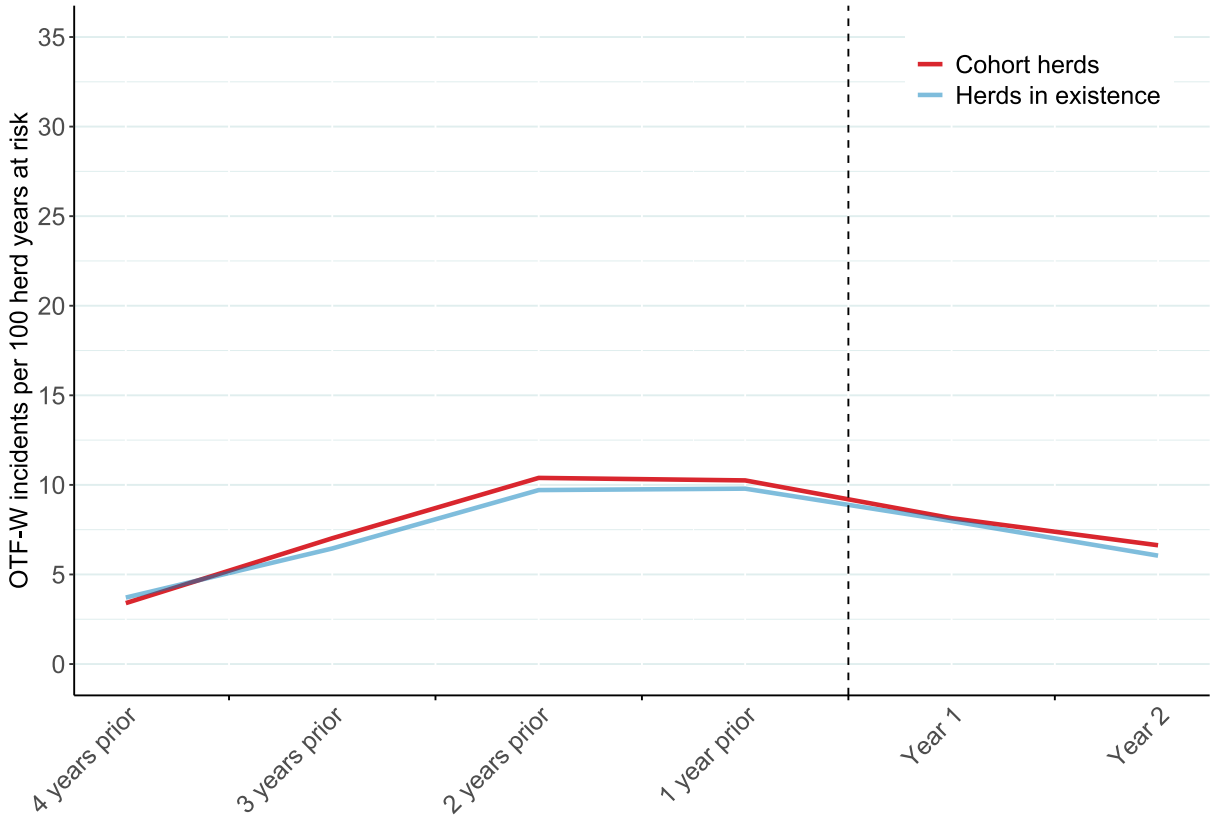

Figure 67 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 2 of intervention in Area 34, Cheshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 34 in 2019, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

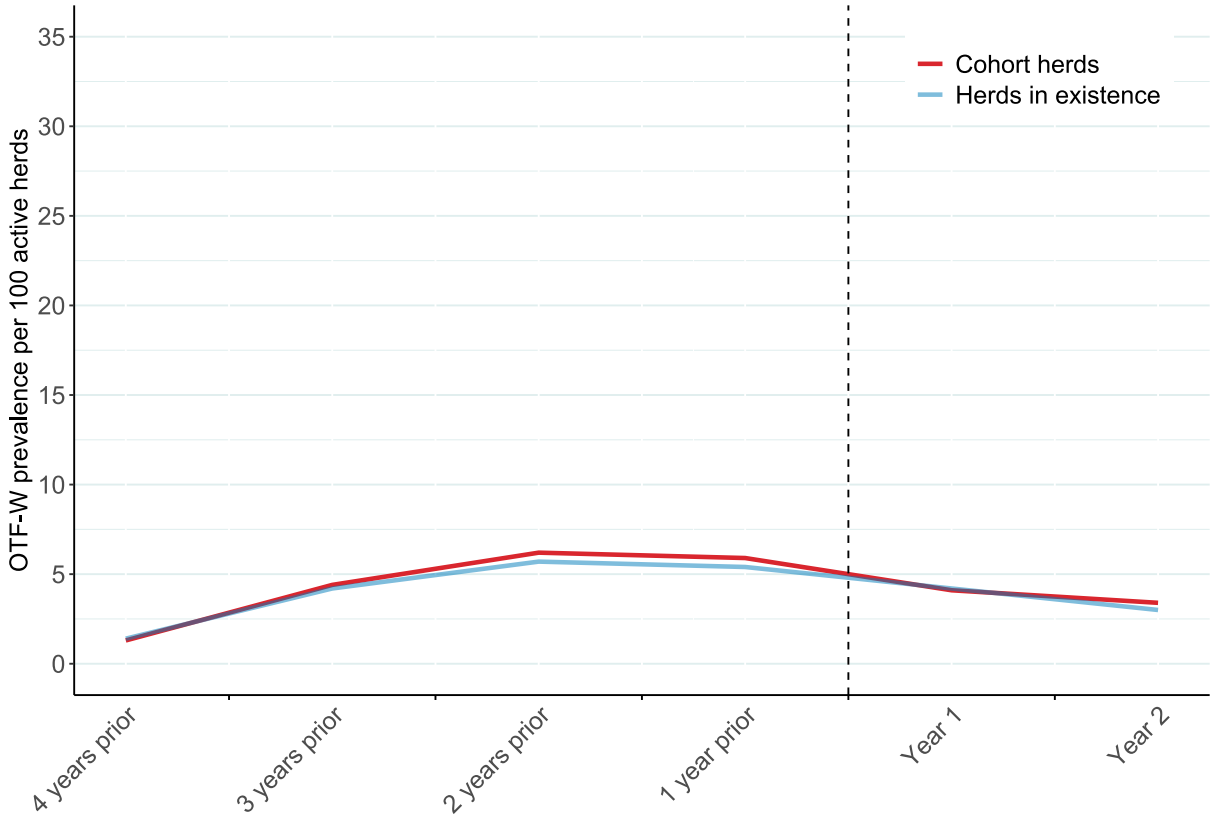

Figure 68 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 2 of intervention in Area 34, Cheshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 34 in 2019, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 35 – Cornwall central

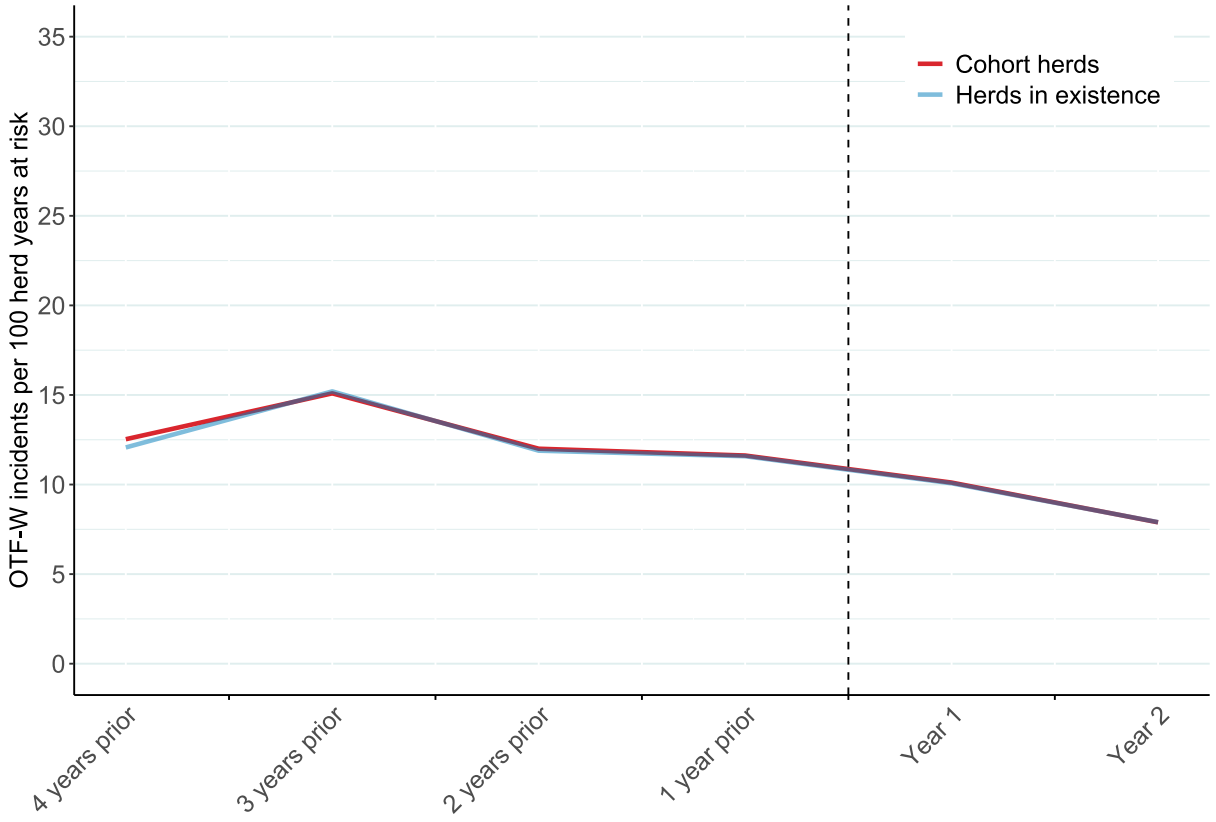

Figure 69 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 2 of intervention in Area 35, Cornwall central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 35 in 2019, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

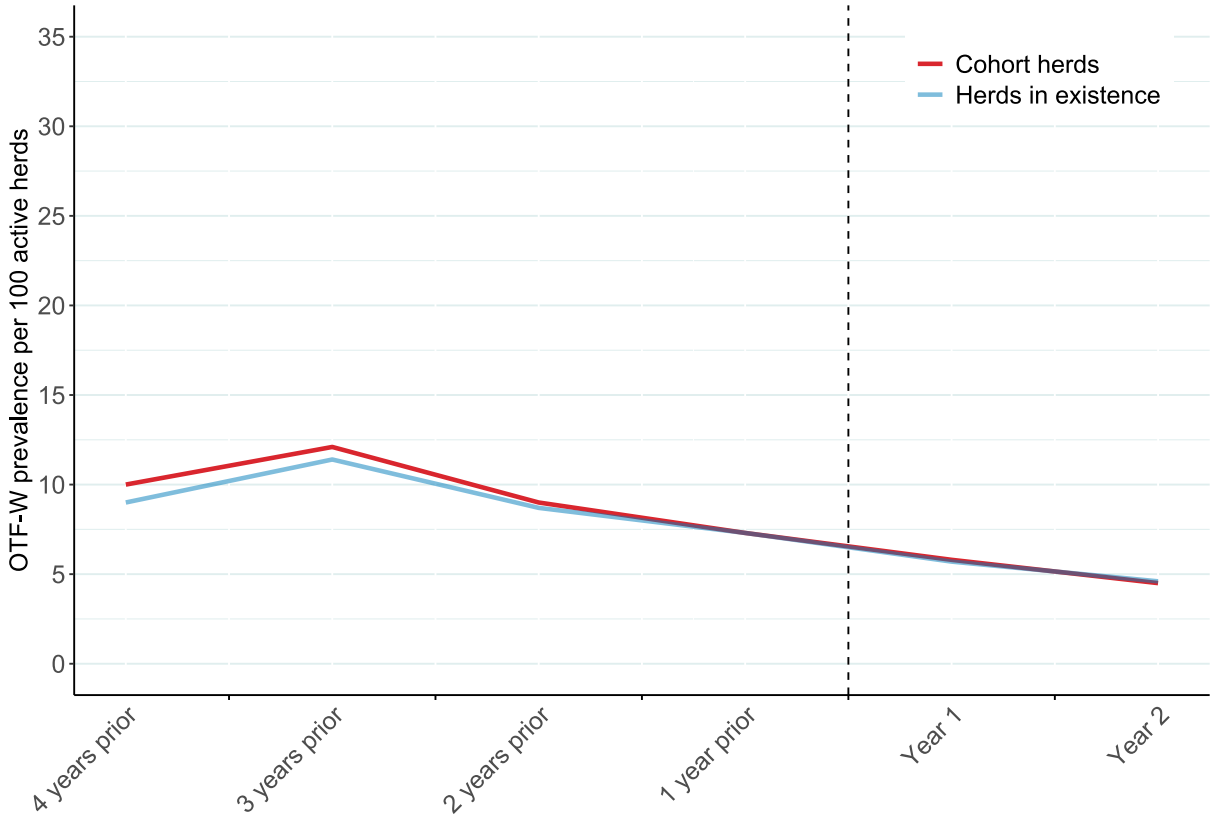

Figure 70 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 2 of intervention in Area 35, Cornwall central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 35 in 2019, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 36 – Staffordshire central

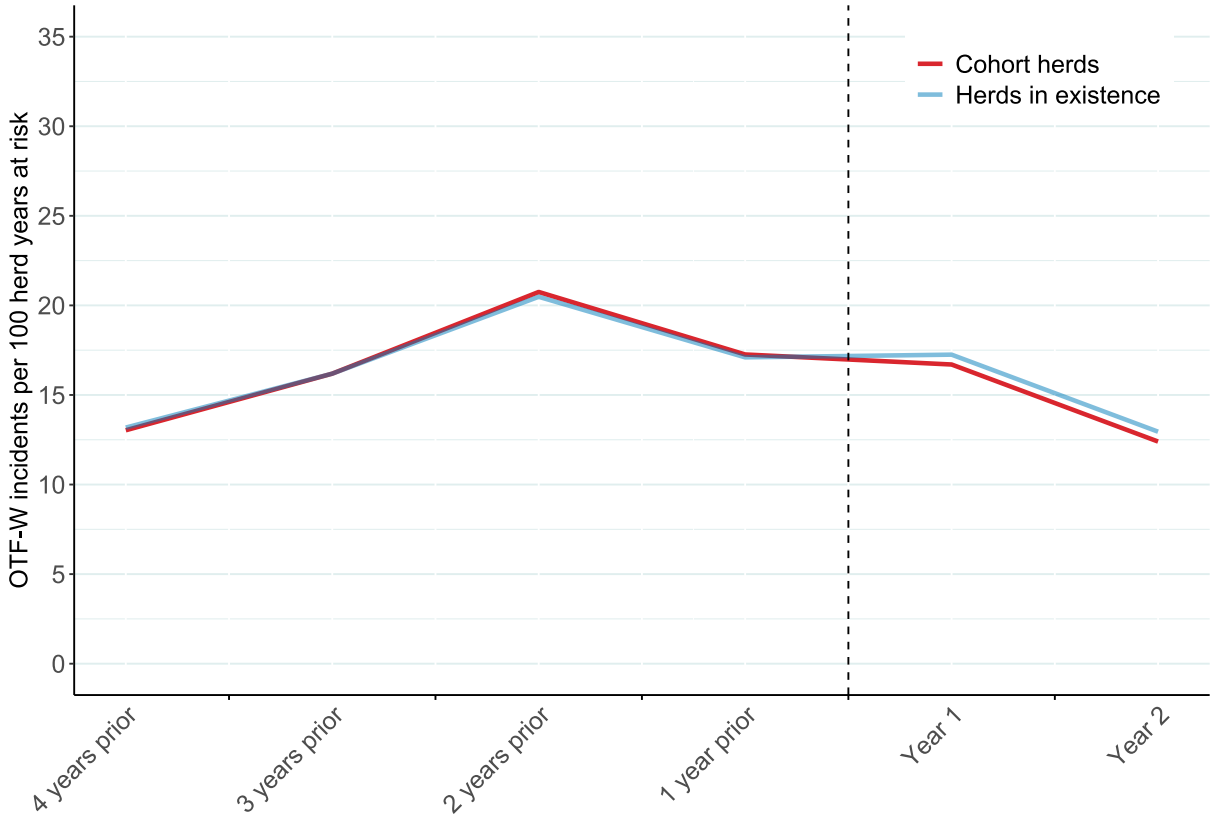

Figure 71 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 2 of intervention in Area 36, Staffordshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 36 in 2019, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

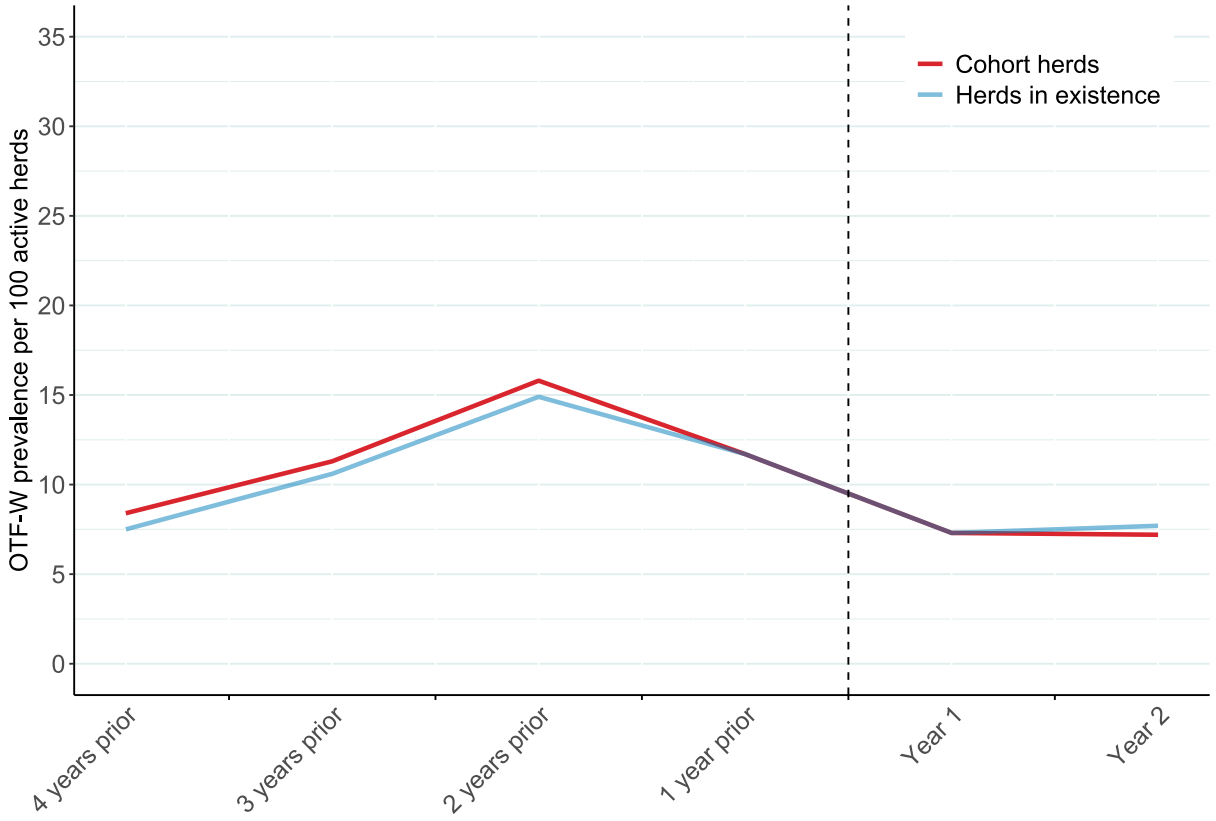

Figure 72 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 2 of intervention in Area 36, Staffordshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 36 in 2019, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 37 – Devon central

Central area increased in size by 0.3% in August 2020.

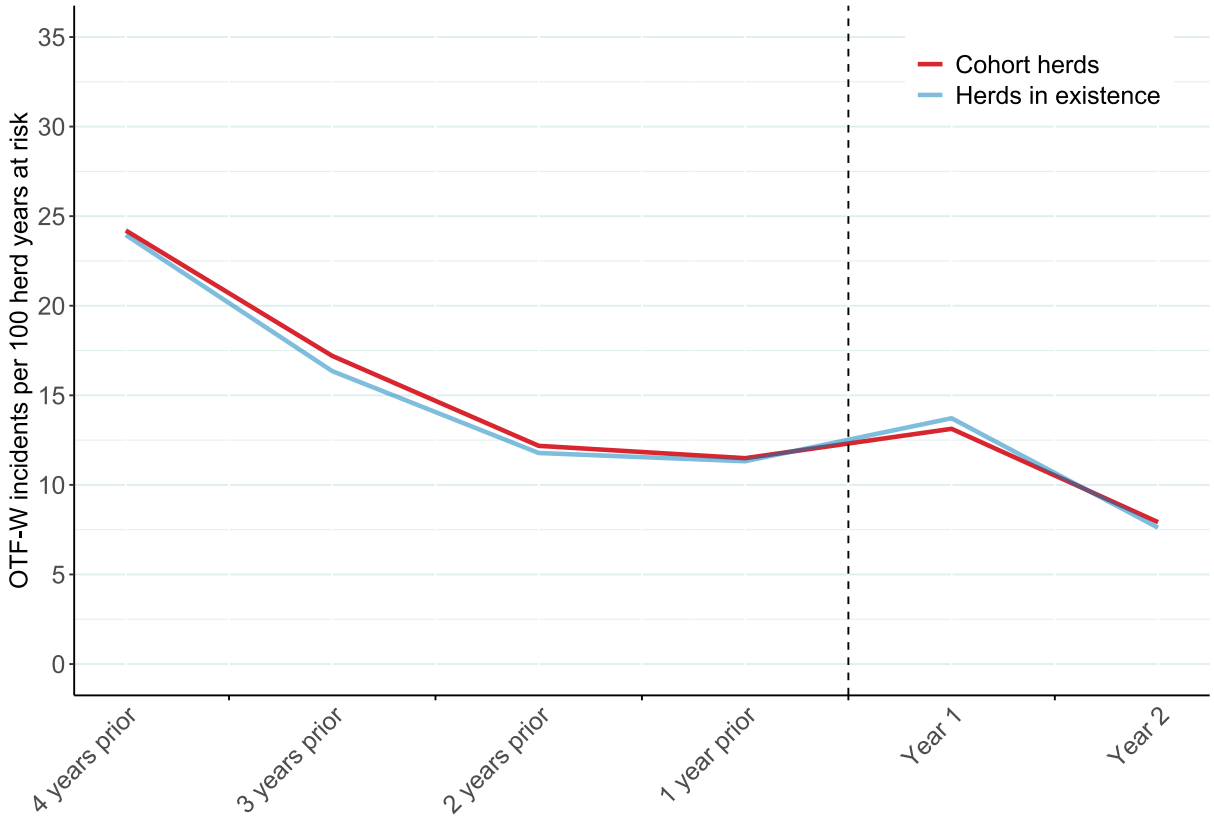

Figure 73 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 2 of intervention in Area 37, Devon central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 37 in 2019, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

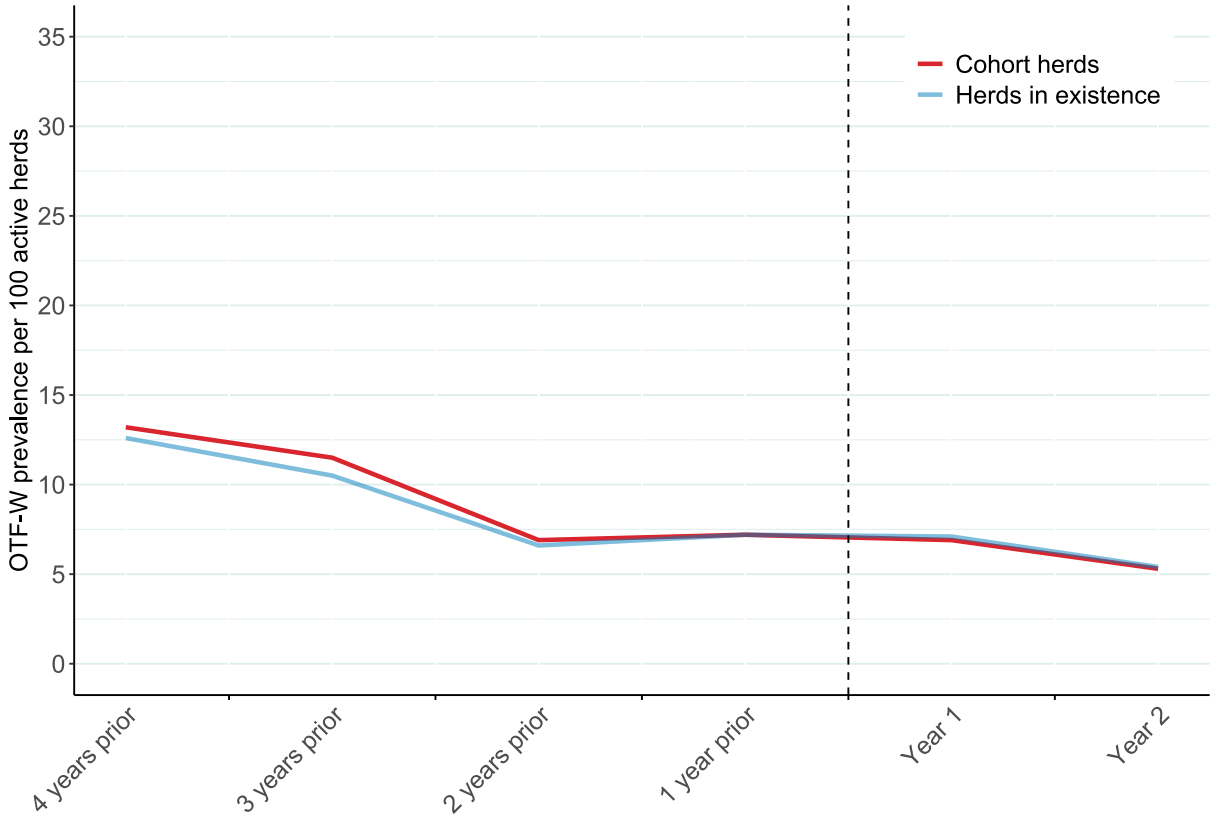

Figure 74 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 2 of intervention in Area 37, Devon central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 37 in 2019, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 38 – Devon central

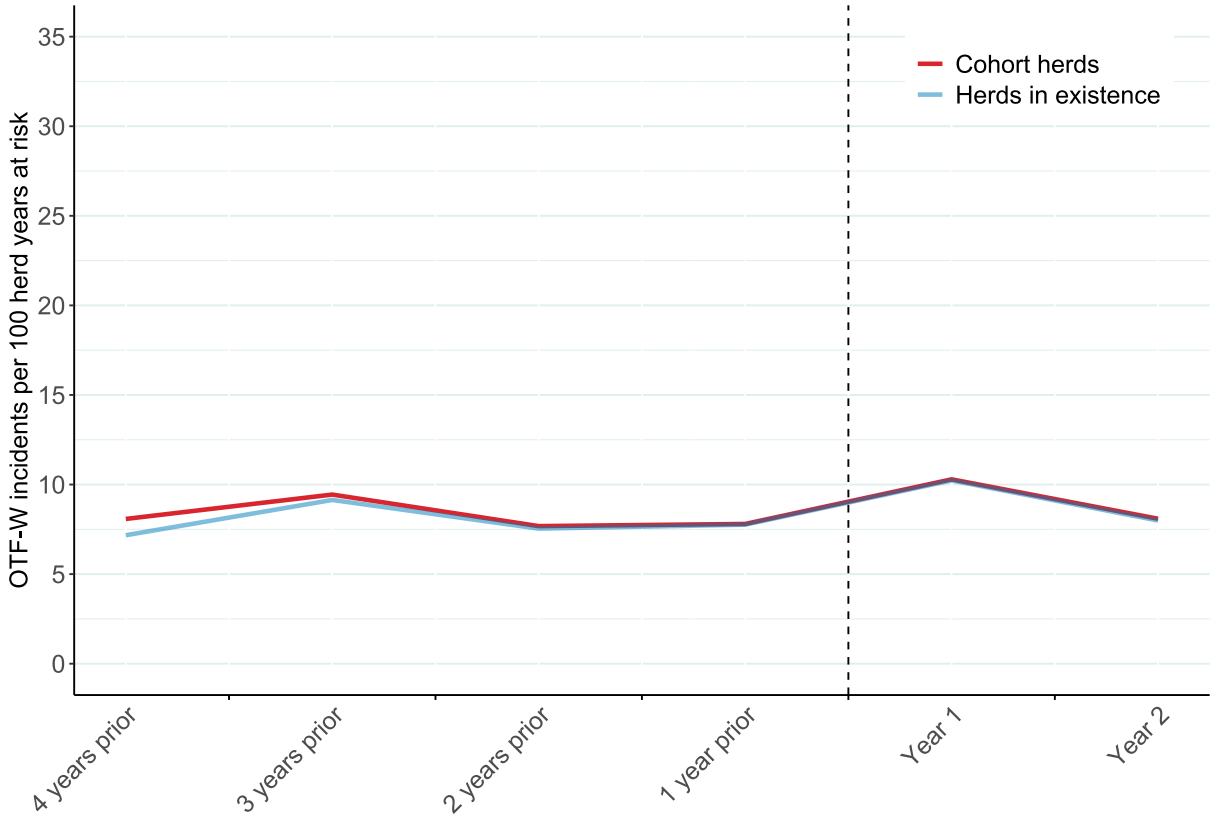

Figure 75 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 2 of intervention in Area 38, Devon central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 38 in 2019, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

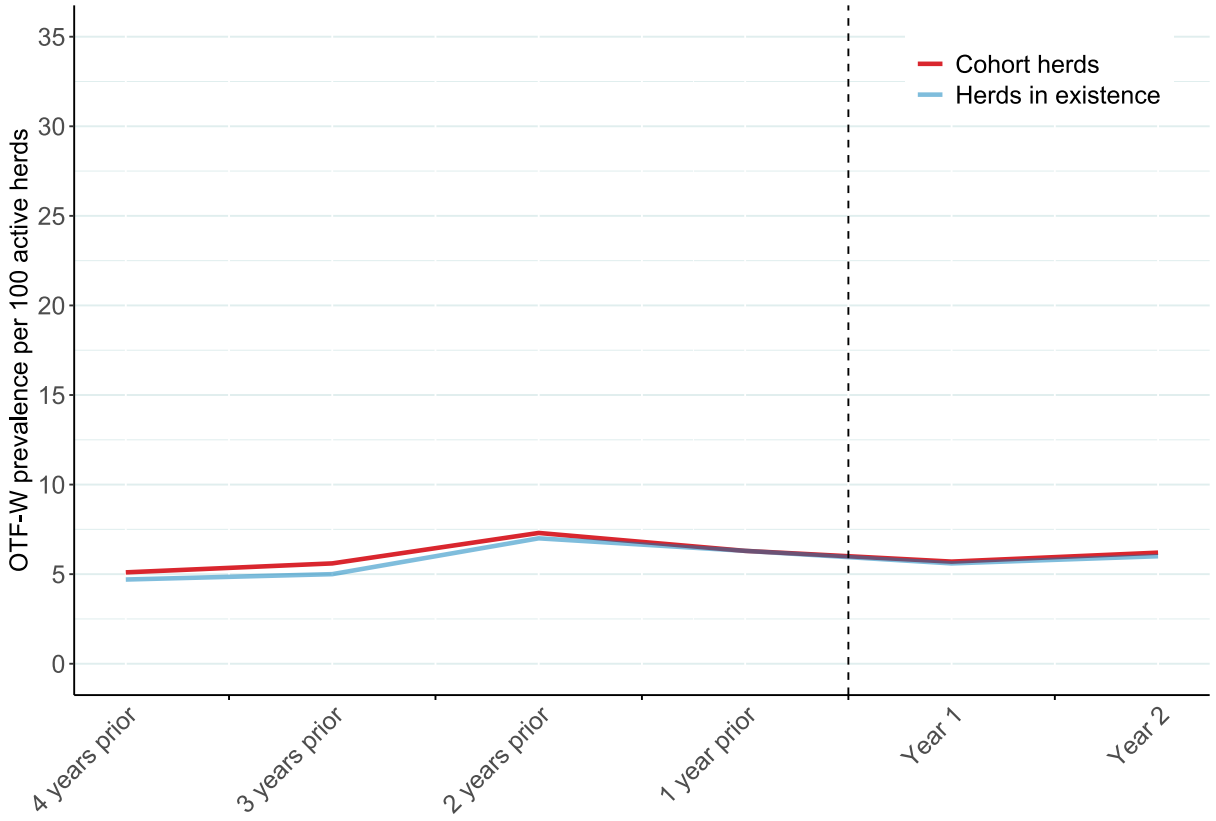

Figure 76 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 2 of intervention in Area 38, Devon central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 38 in 2019, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 39 – Dorset central

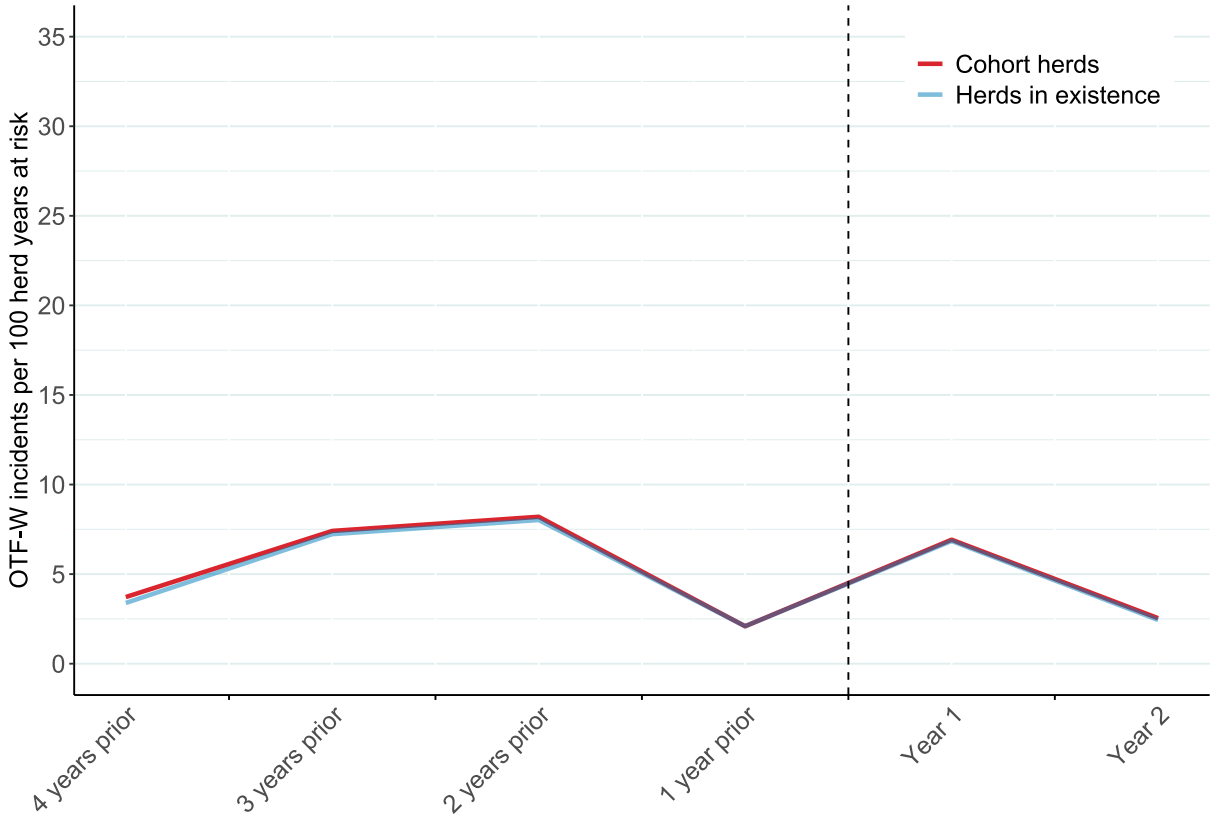

Figure 77 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 2 of intervention in Area 39, Dorset central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 39 in 2019, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

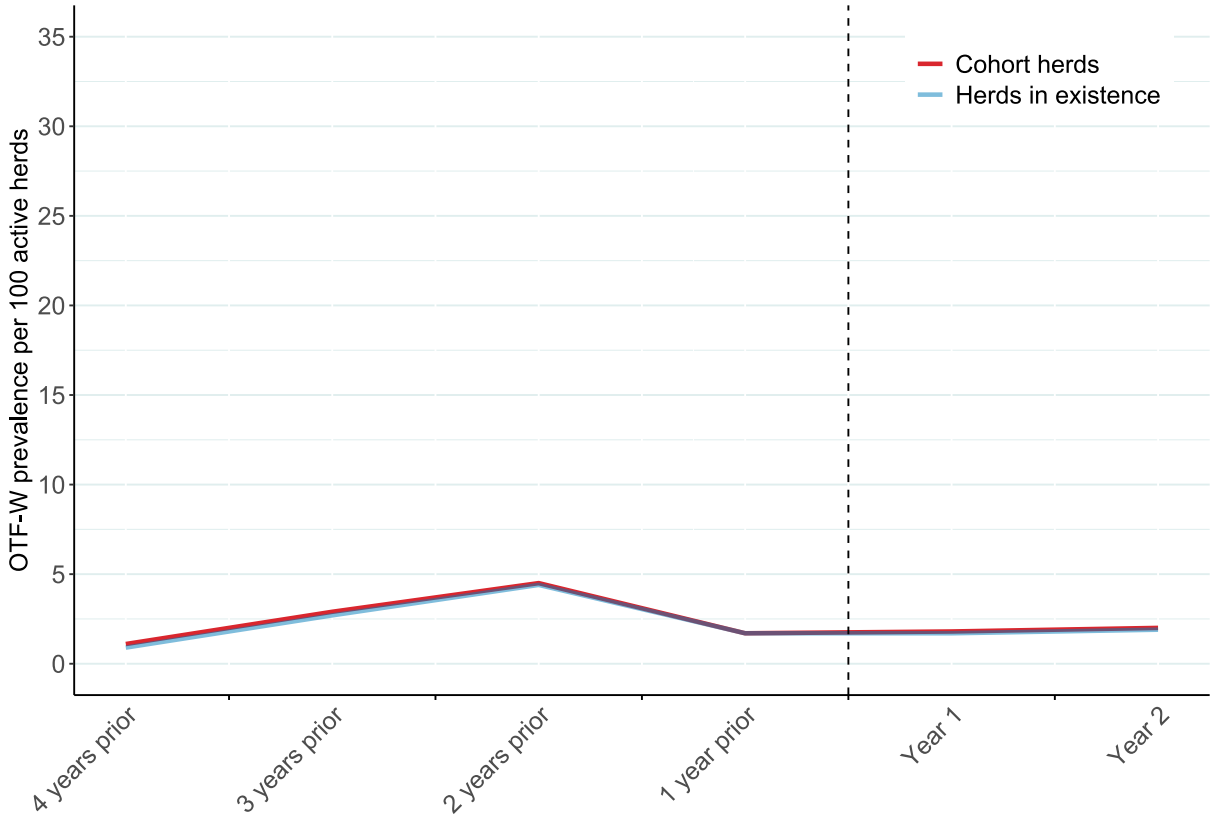

Figure 78 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 2 of intervention in Area 39, Dorset central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 39 in 2019, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 40 – Herefordshire central

Central area increased in size by 0.3% in August 2020.

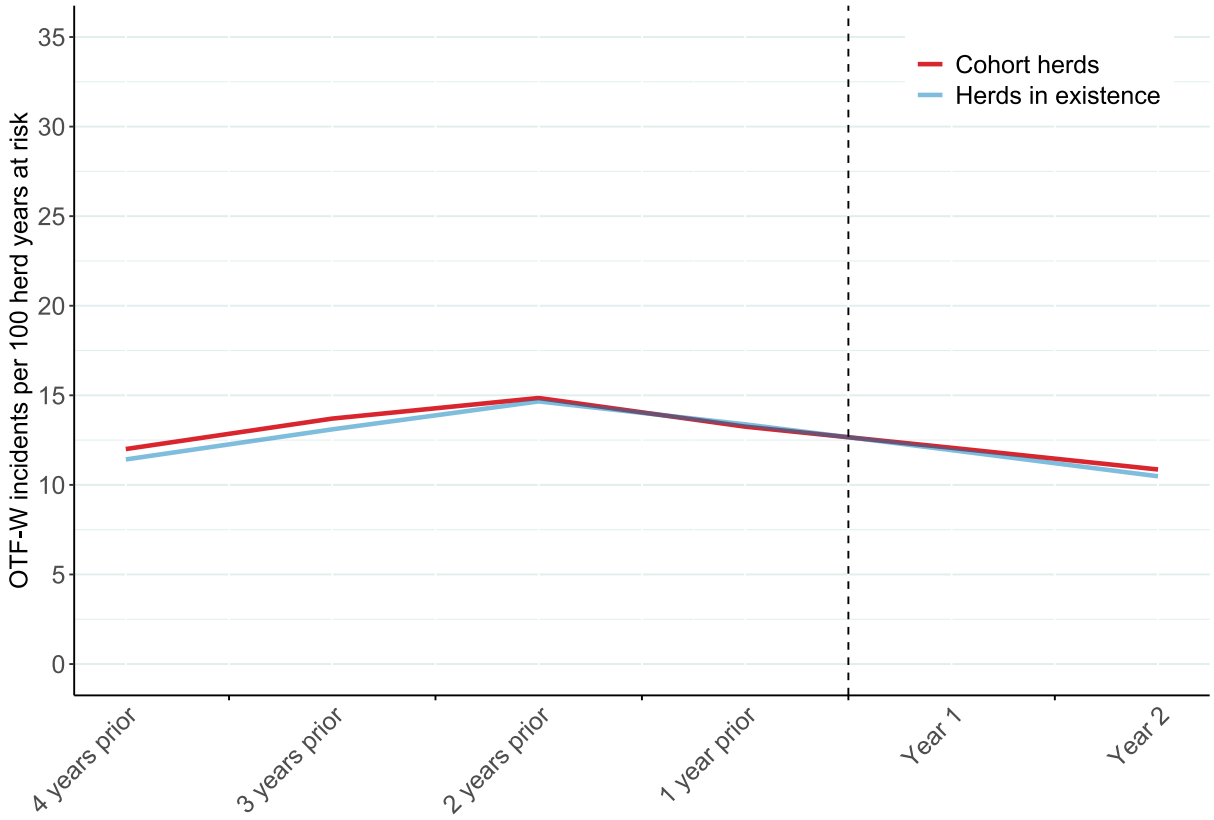

Figure 79 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 2 of intervention in Area 40, Herefordshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 40 in 2019, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

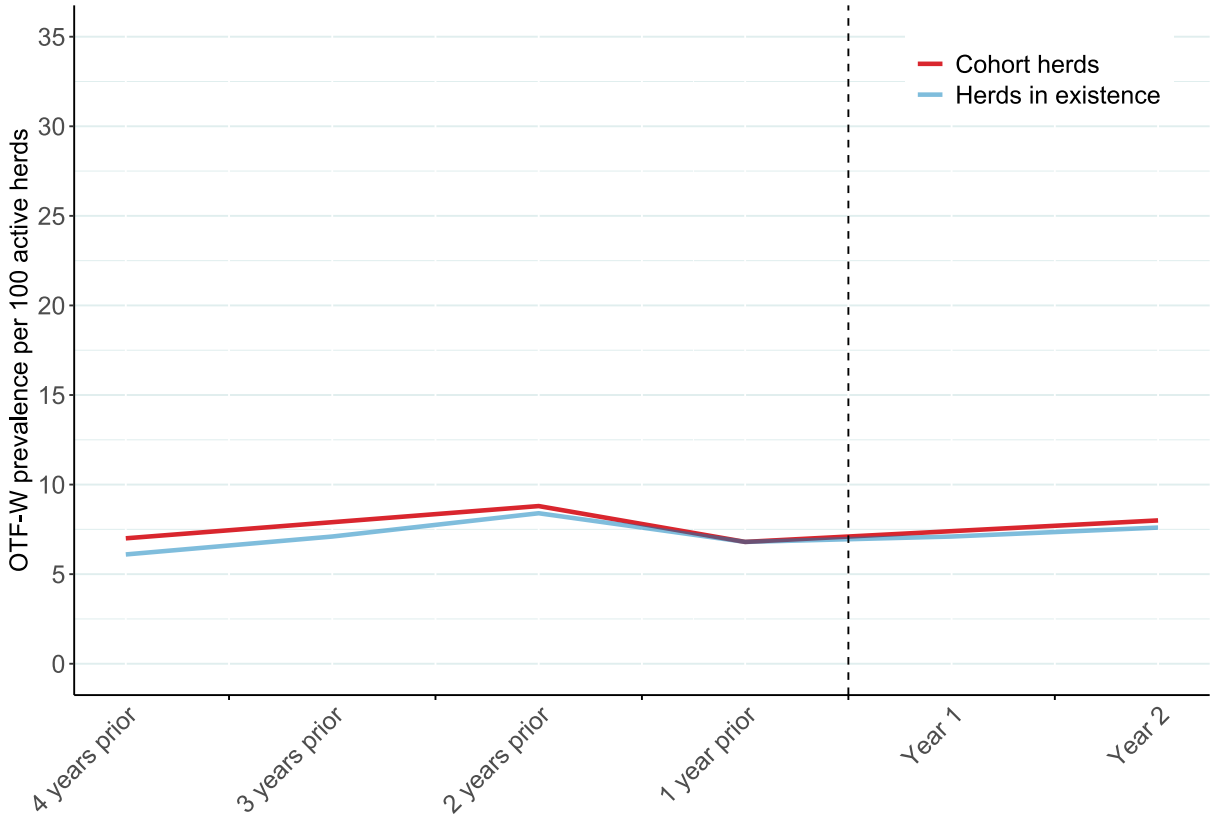

Figure 80 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 2 of intervention in Area 40, Herefordshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 40 in 2019, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 41 – Staffordshire central

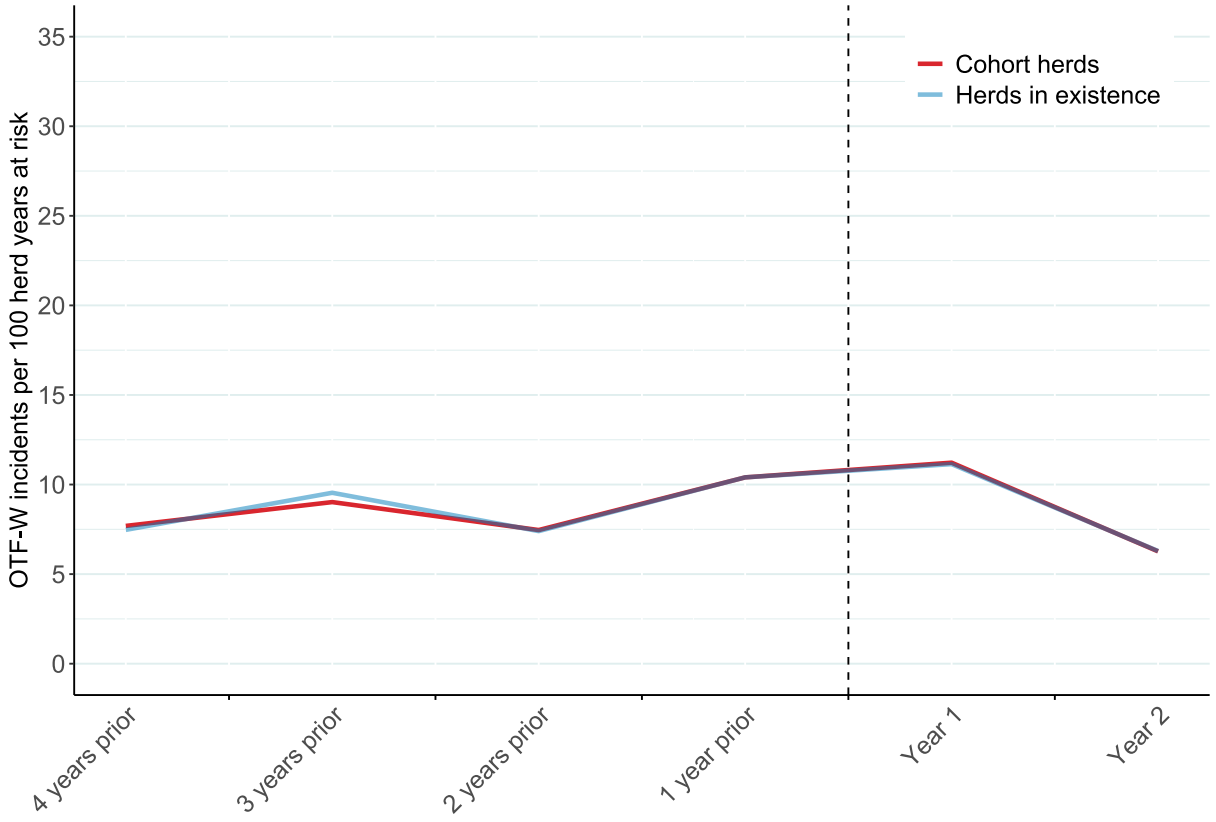

Figure 81 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 2 of intervention in Area 41, Staffordshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 41 in 2019, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

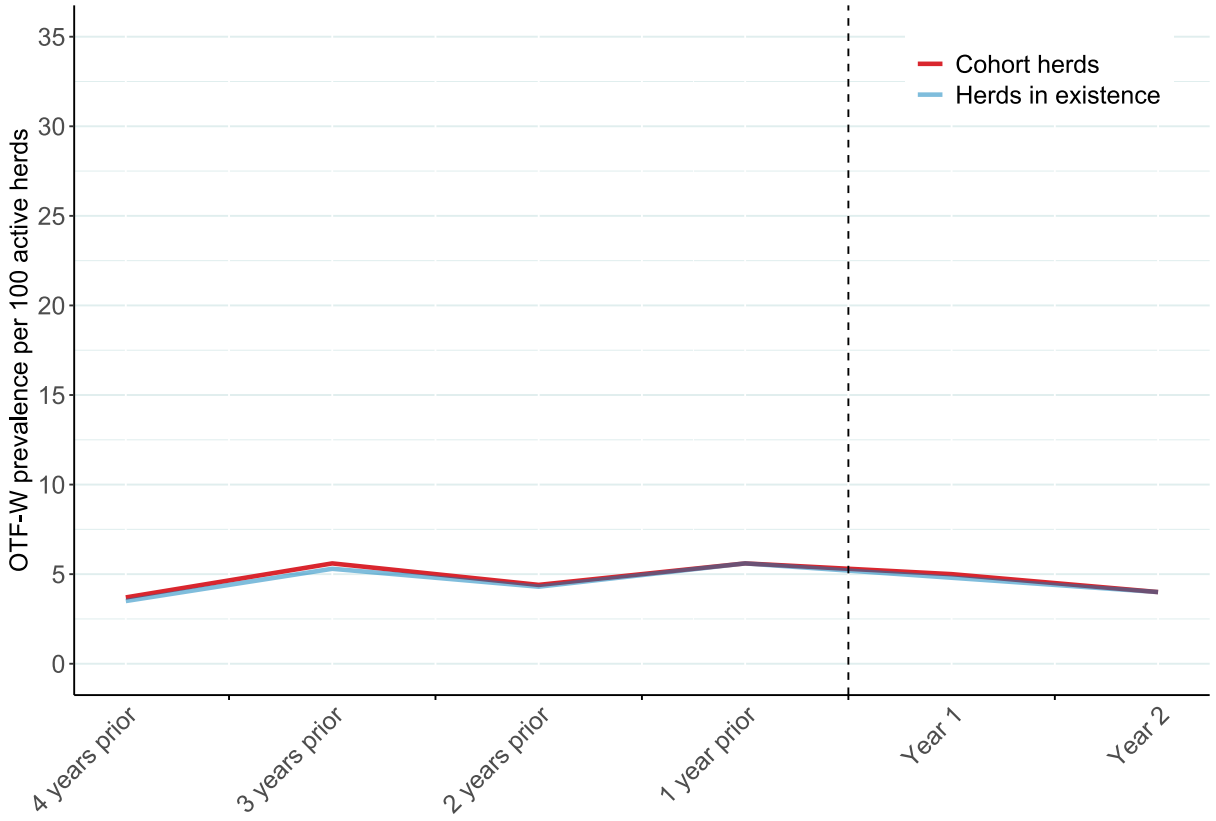

Figure 82 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 2 of intervention in Area 41, Staffordshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 41 in 2019, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 42 – Wiltshire central

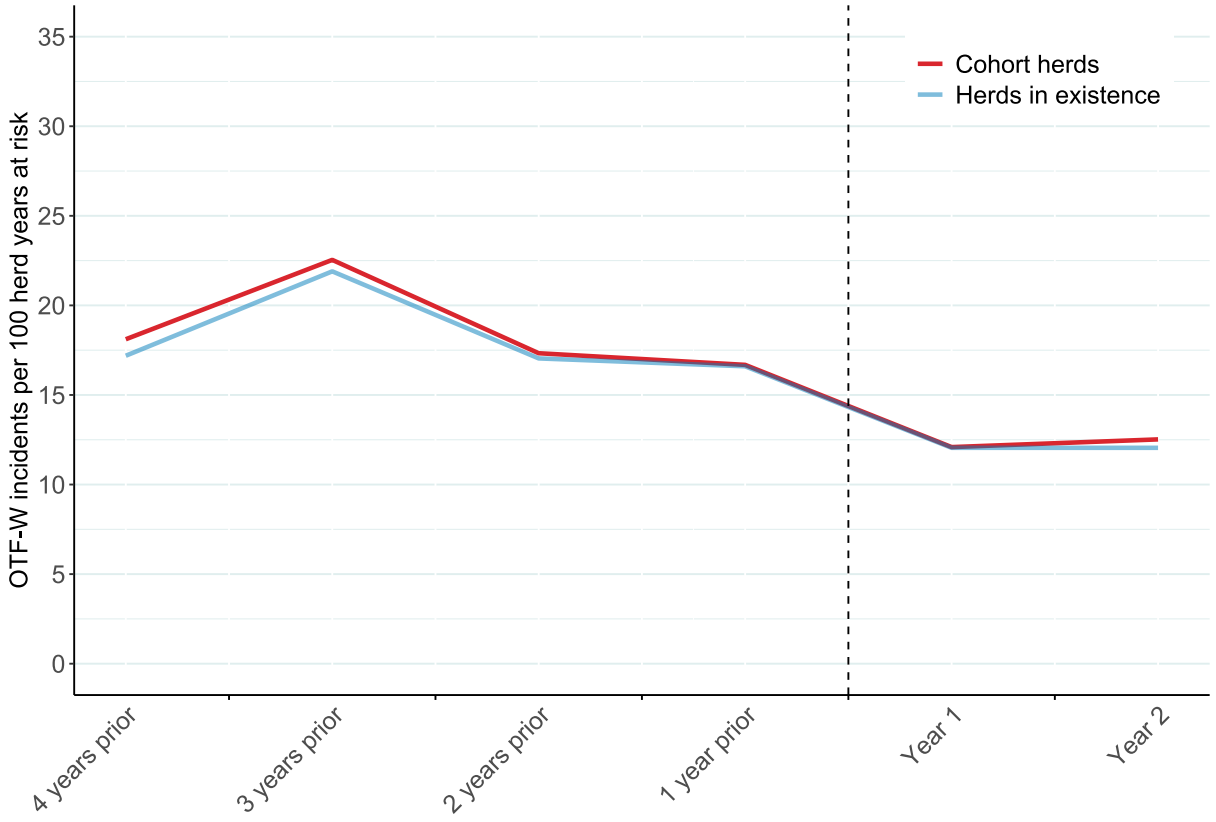

Figure 83 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 2 of intervention in Area 42, Wiltshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 42 in 2019, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

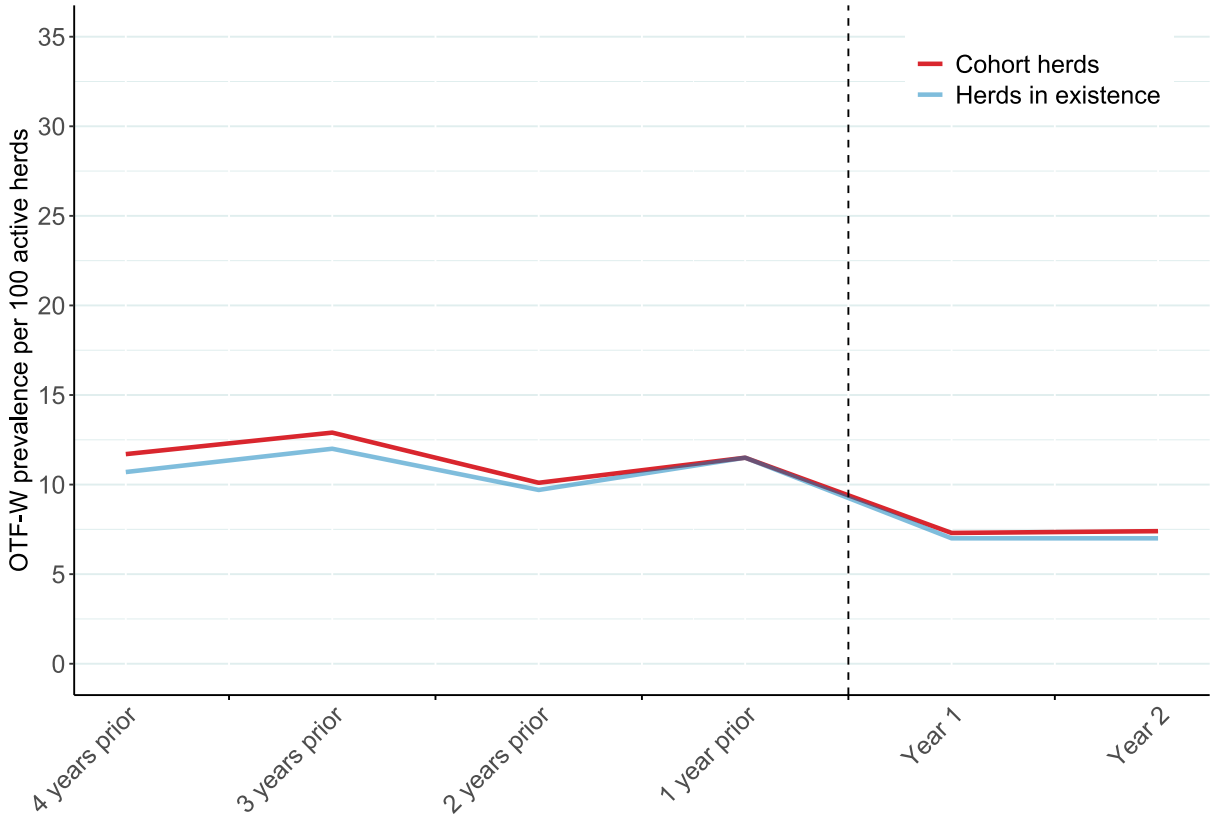

Figure 84 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 2 of intervention in Area 42, Wiltshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 42 in 2019, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 43 – Wiltshire central

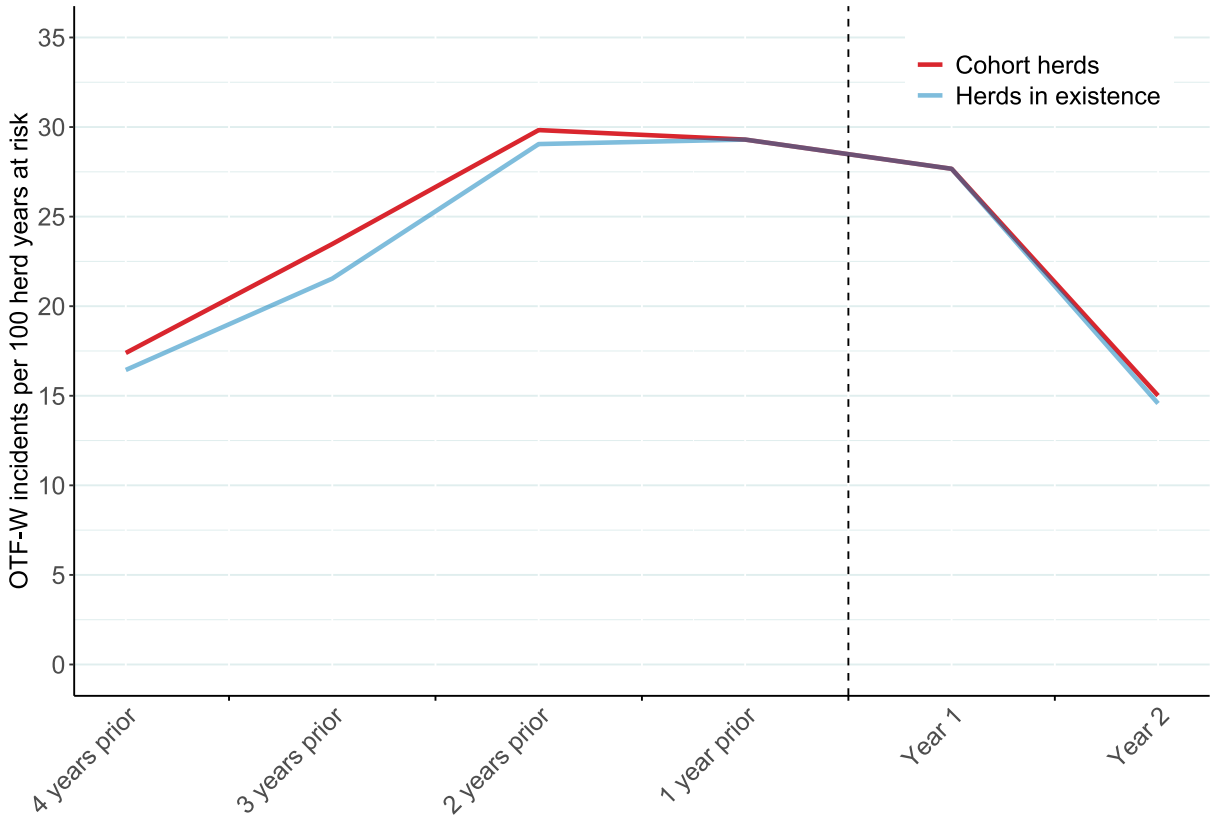

Figure 85 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 2 of intervention in Area 43, Wiltshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 43 in 2019, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

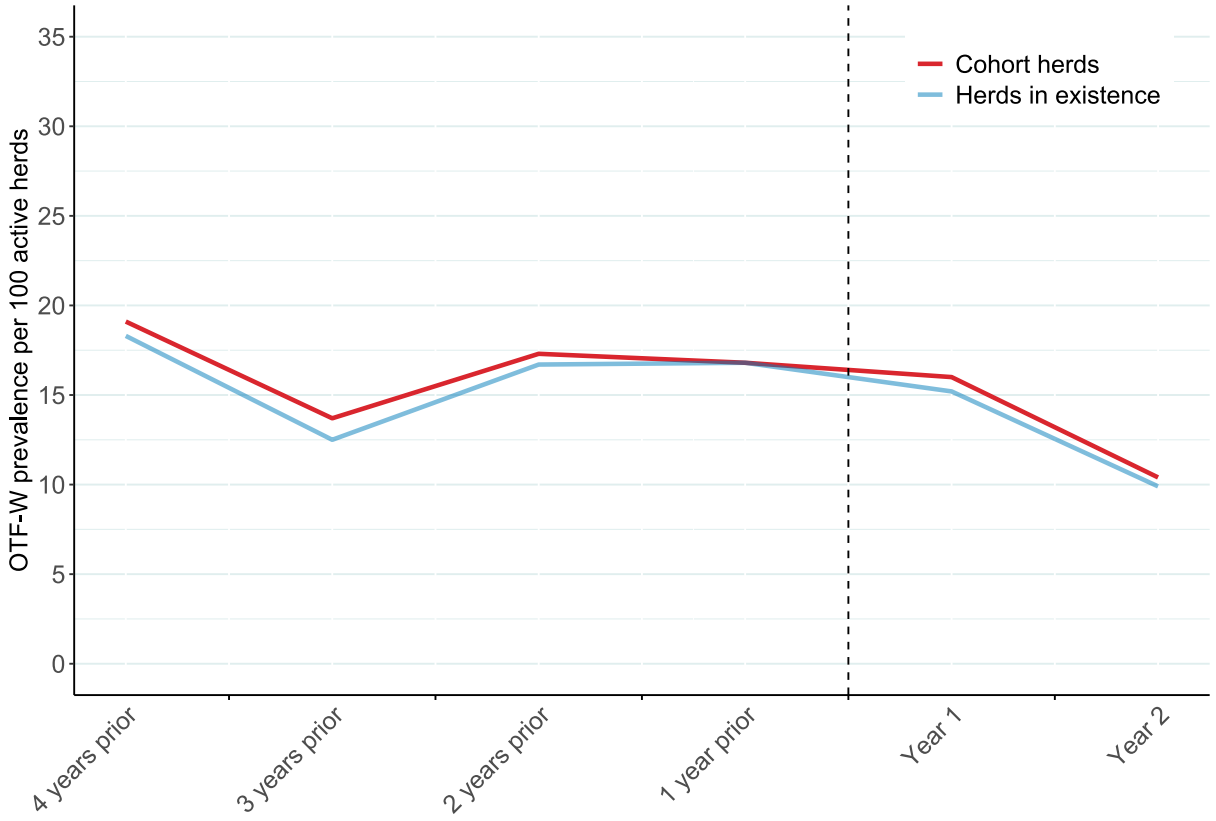

Figure 86 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 2 of intervention in Area 43, Wiltshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 43 in 2019, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Areas where the cull commenced in 2020

Area 44 – Avon central

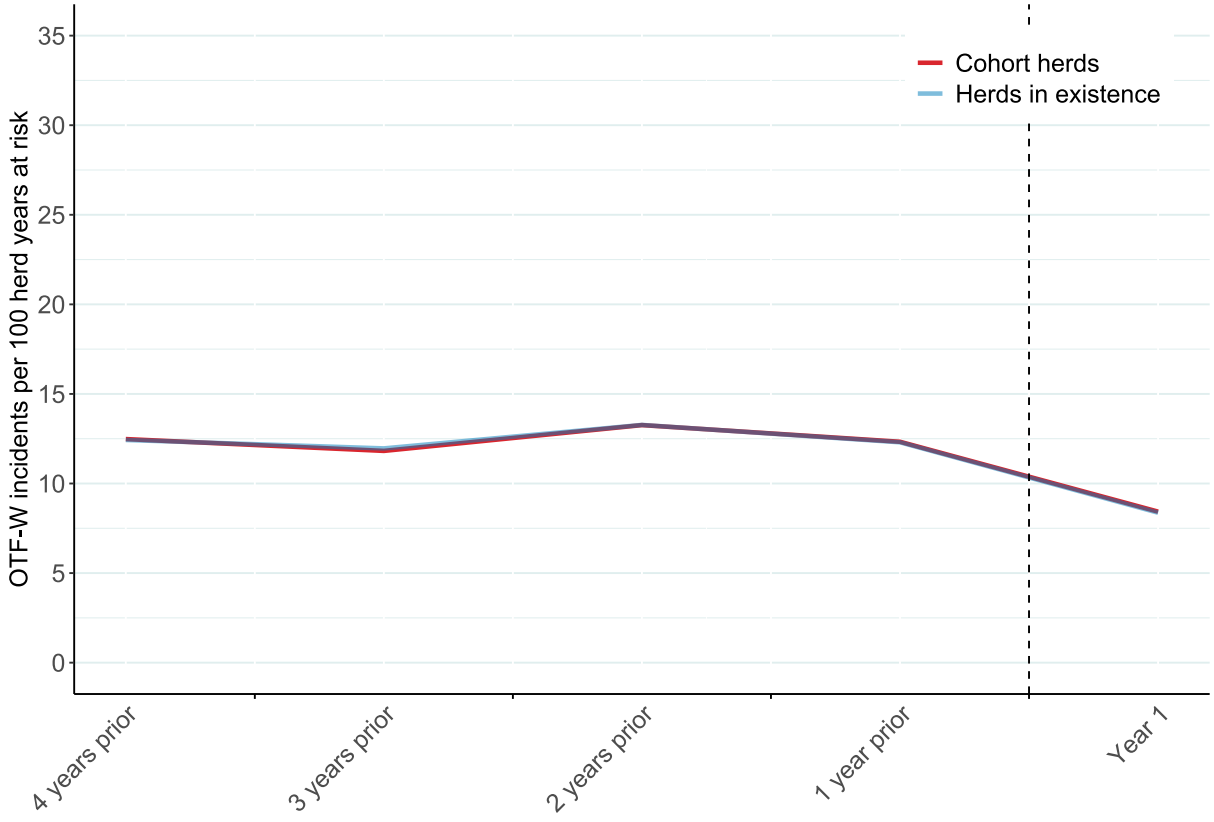

Figure 87 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 1 of intervention in Area 44, Avon central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 44 in 2020, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

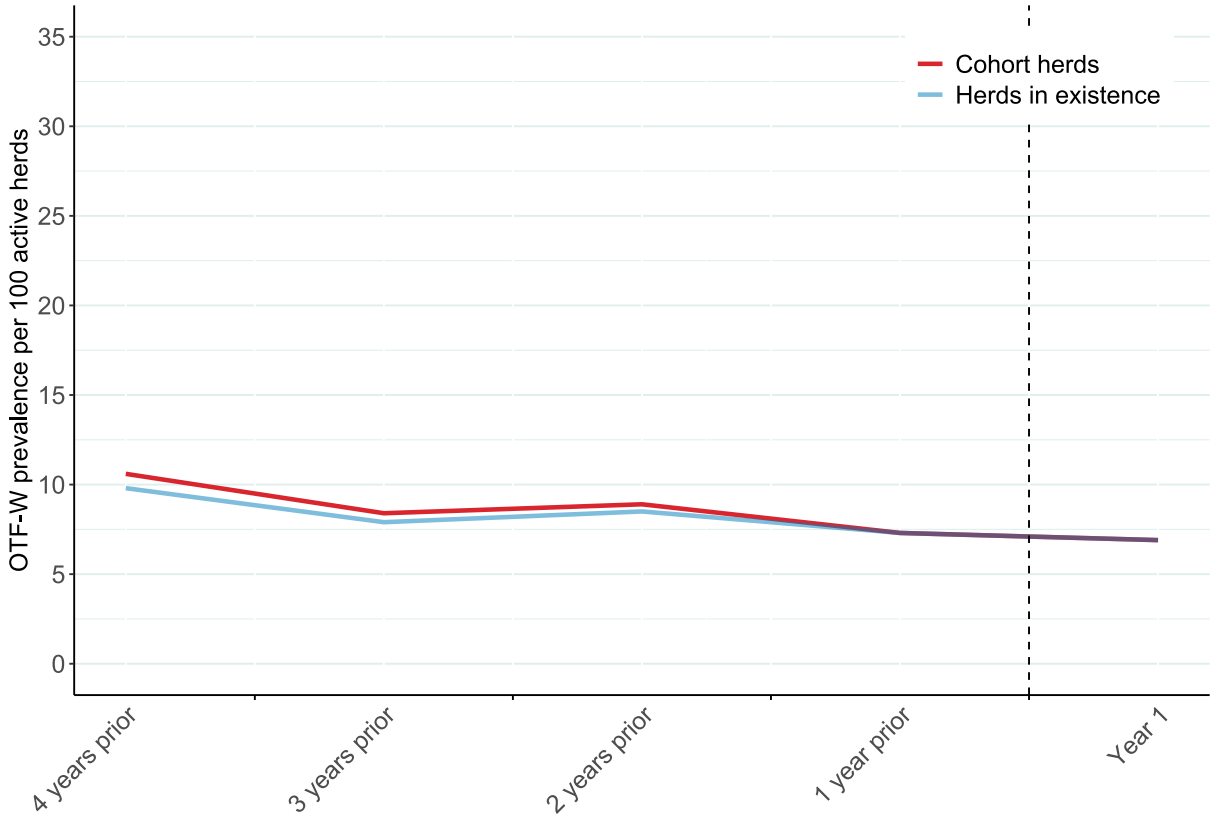

Figure 88 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 1 of intervention in Area 44, Avon central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 44 in 2020, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 45 – Derbyshire central

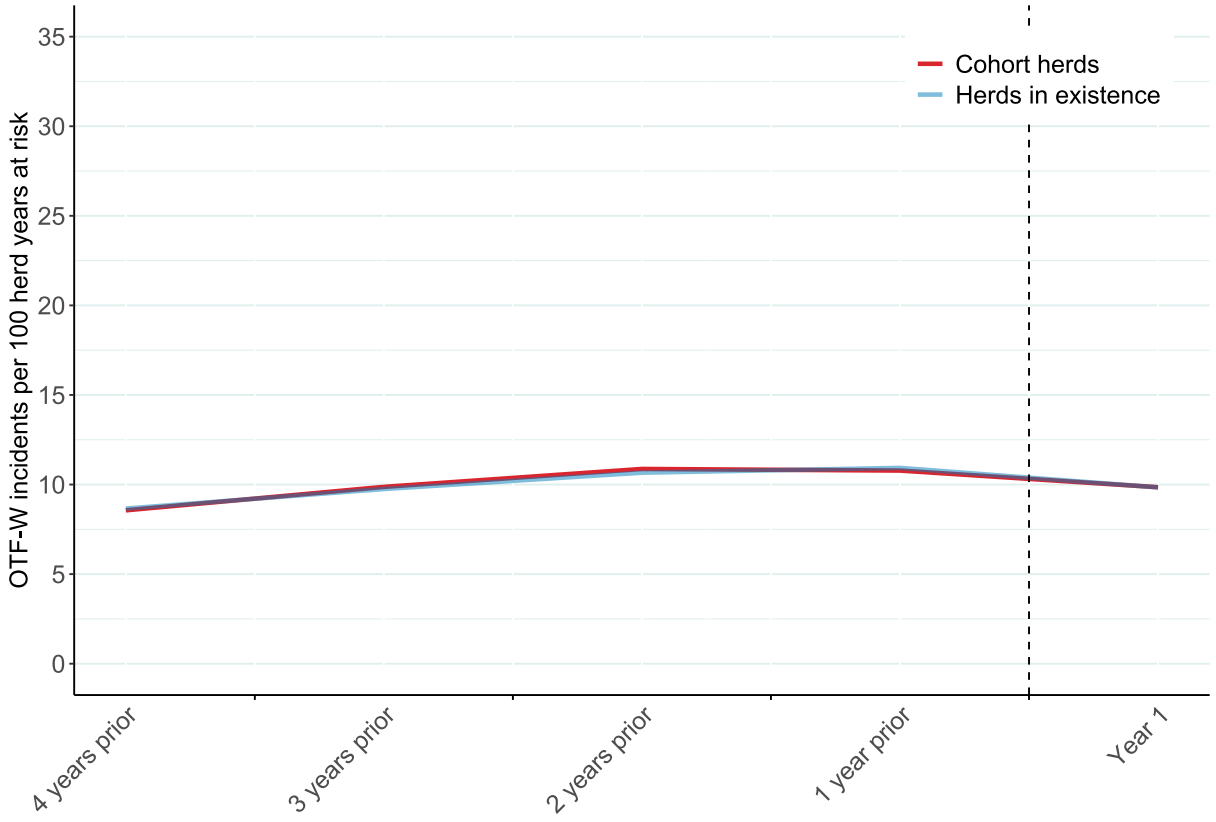

Figure 89 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 1 of intervention in Area 45, Derbyshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 45 in 2020, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

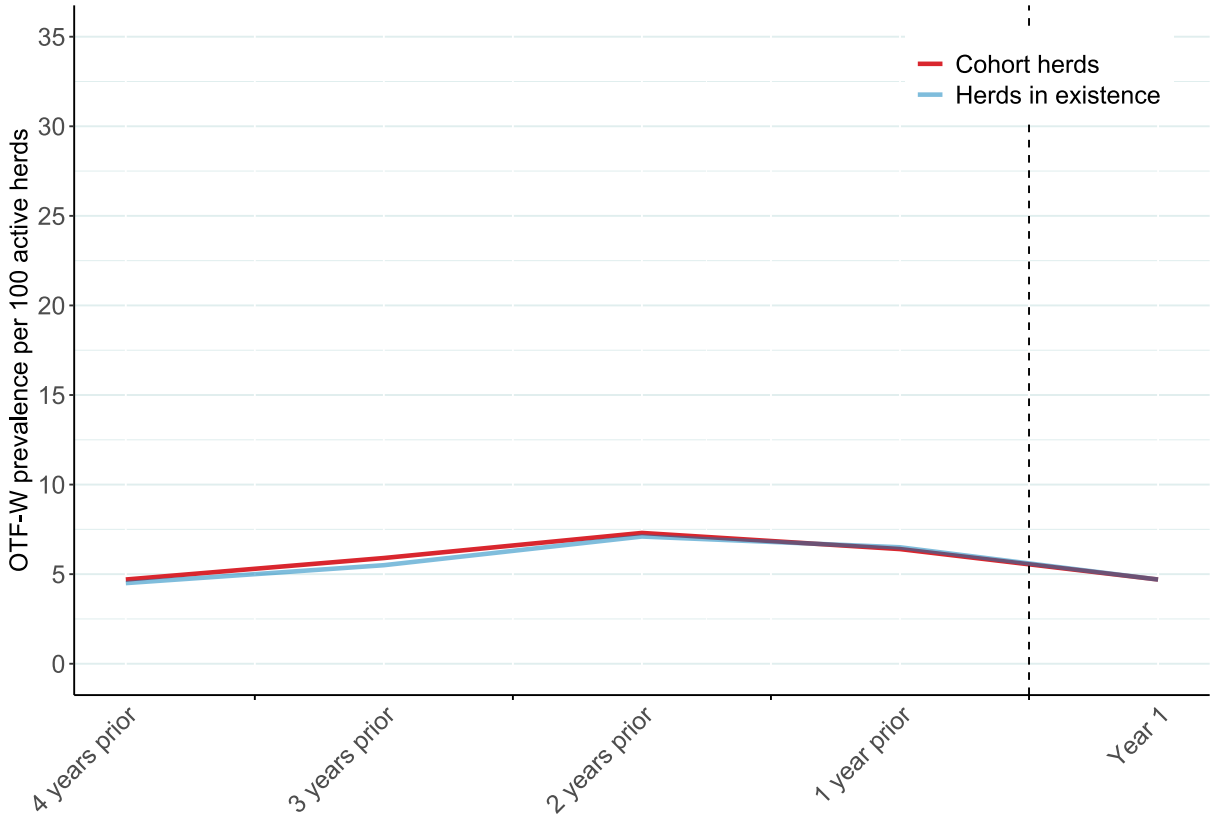

Figure 90 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 1 of intervention in Area 45, Derbyshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 45 in 2020, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 46 – Gloucestershire central

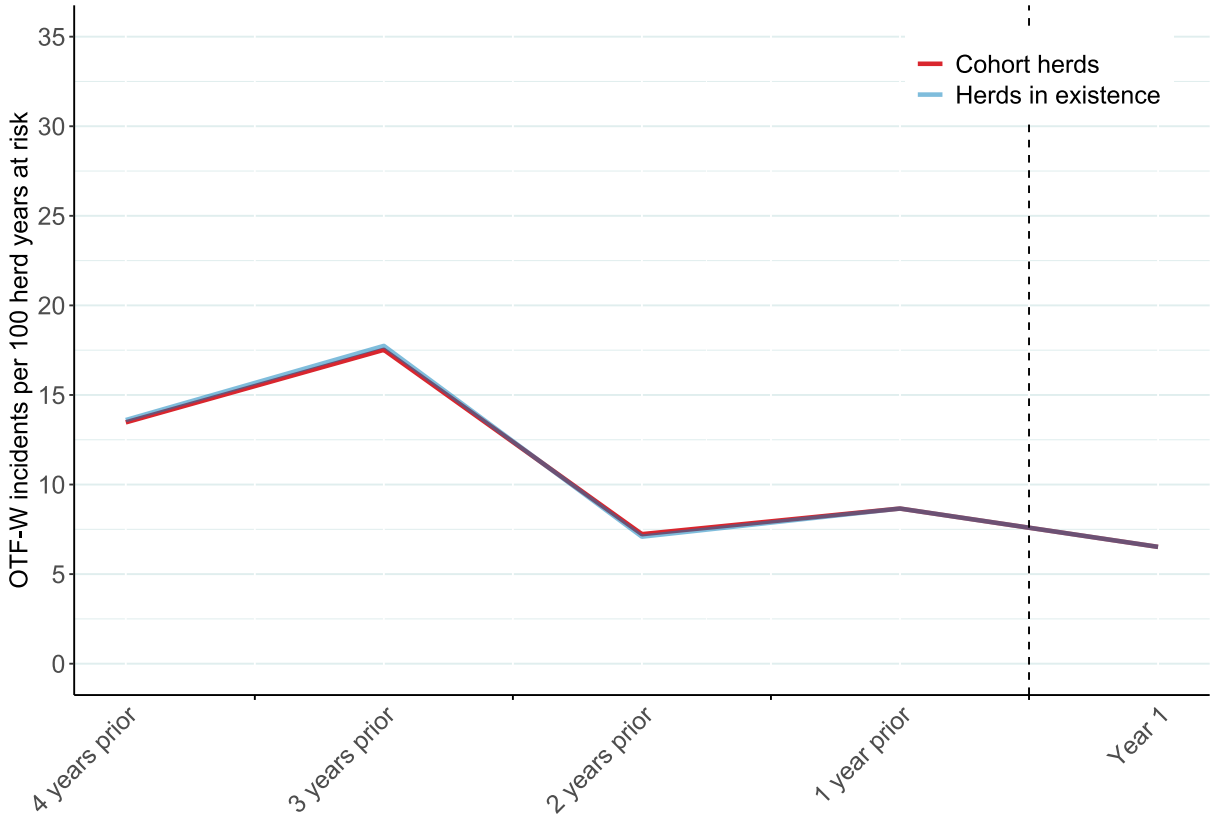

Figure 91 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 1 of intervention in Area 46, Gloucestershire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 46 in 2020, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

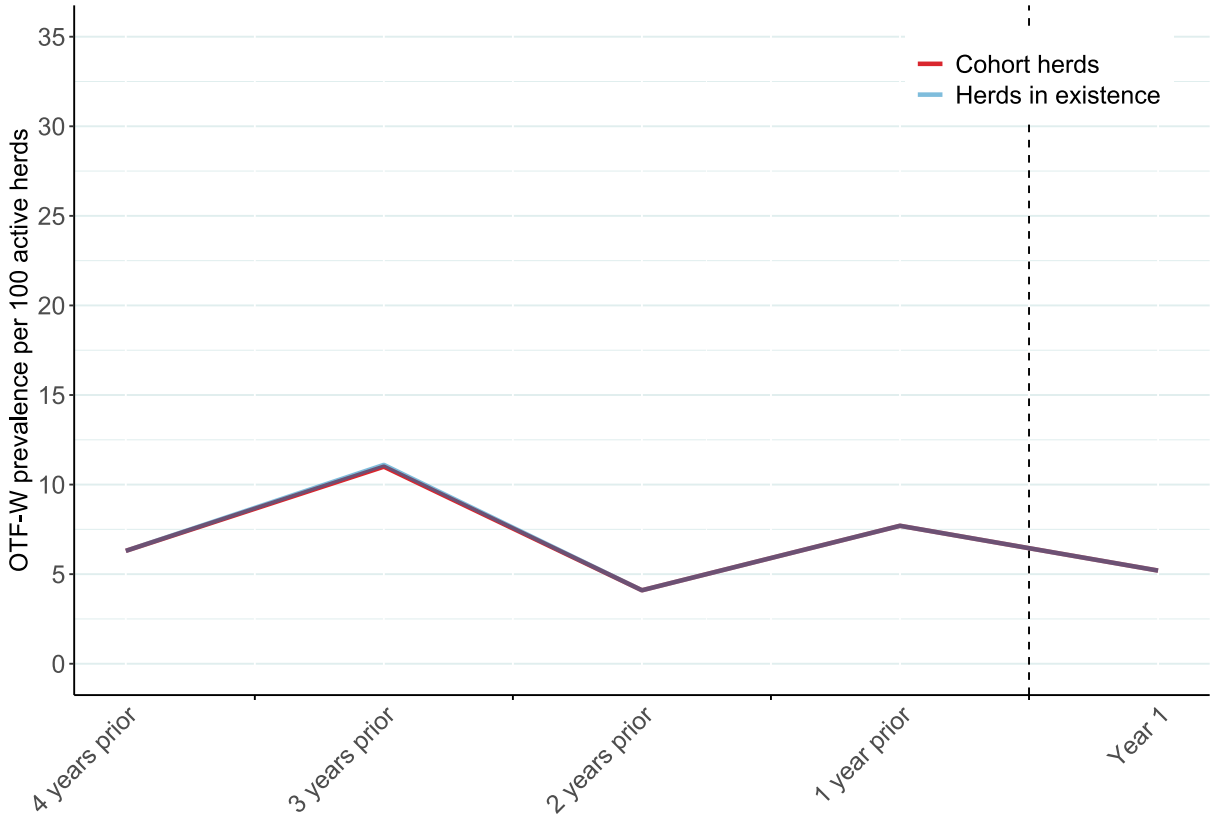

Figure 92 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 1 of intervention in Area 46, Gloucestershire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 46 in 2020, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 47 – Herefordshire central

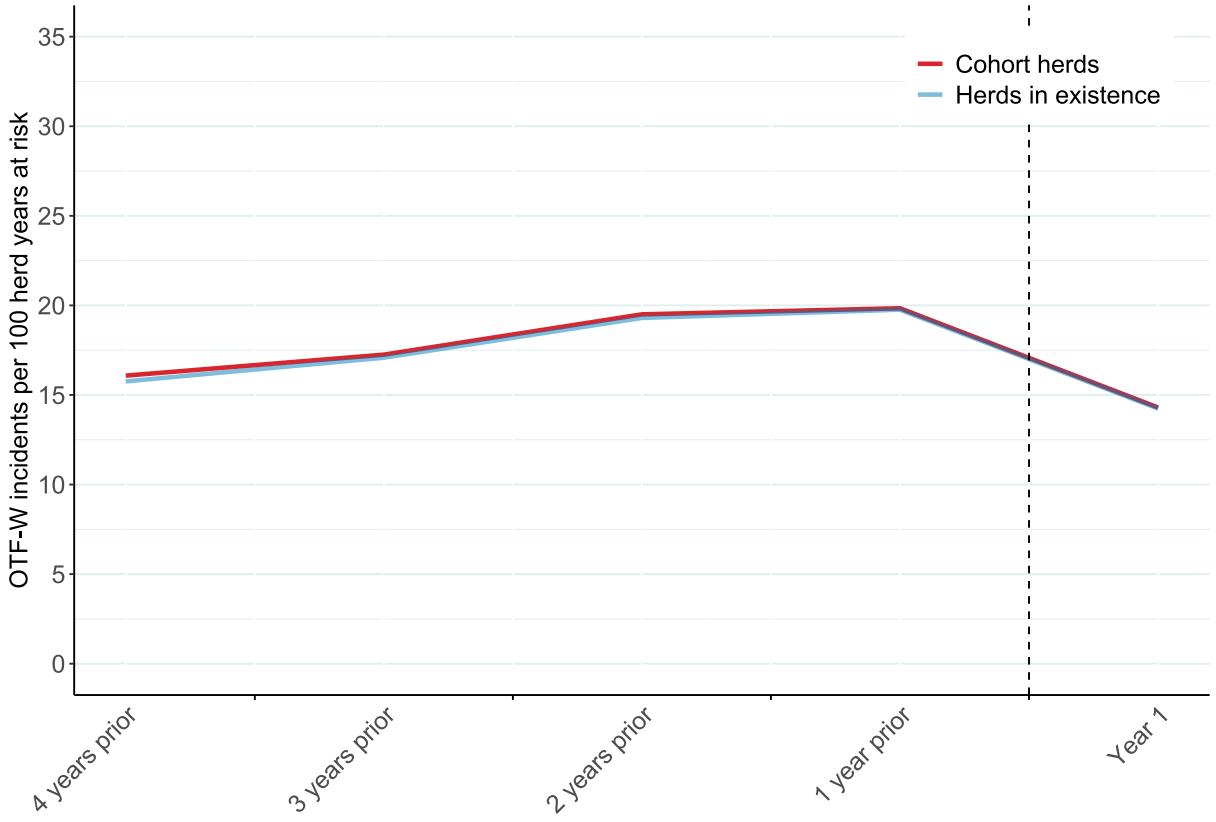

Figure 93 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 1 of intervention in Area 47, Herefordshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 47 in 2020, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

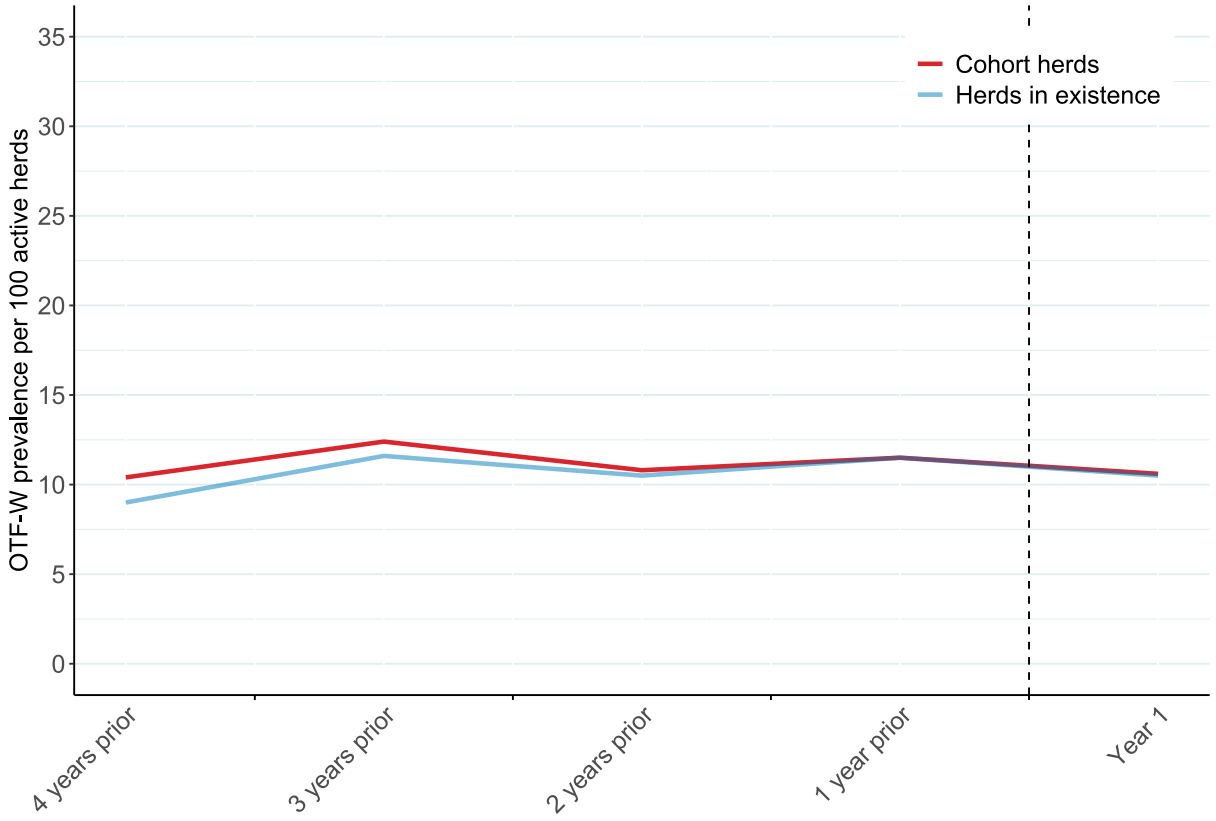

Figure 94 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 1 of intervention in Area 47, Herefordshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 47 in 2020, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 48 – Leicestershire central

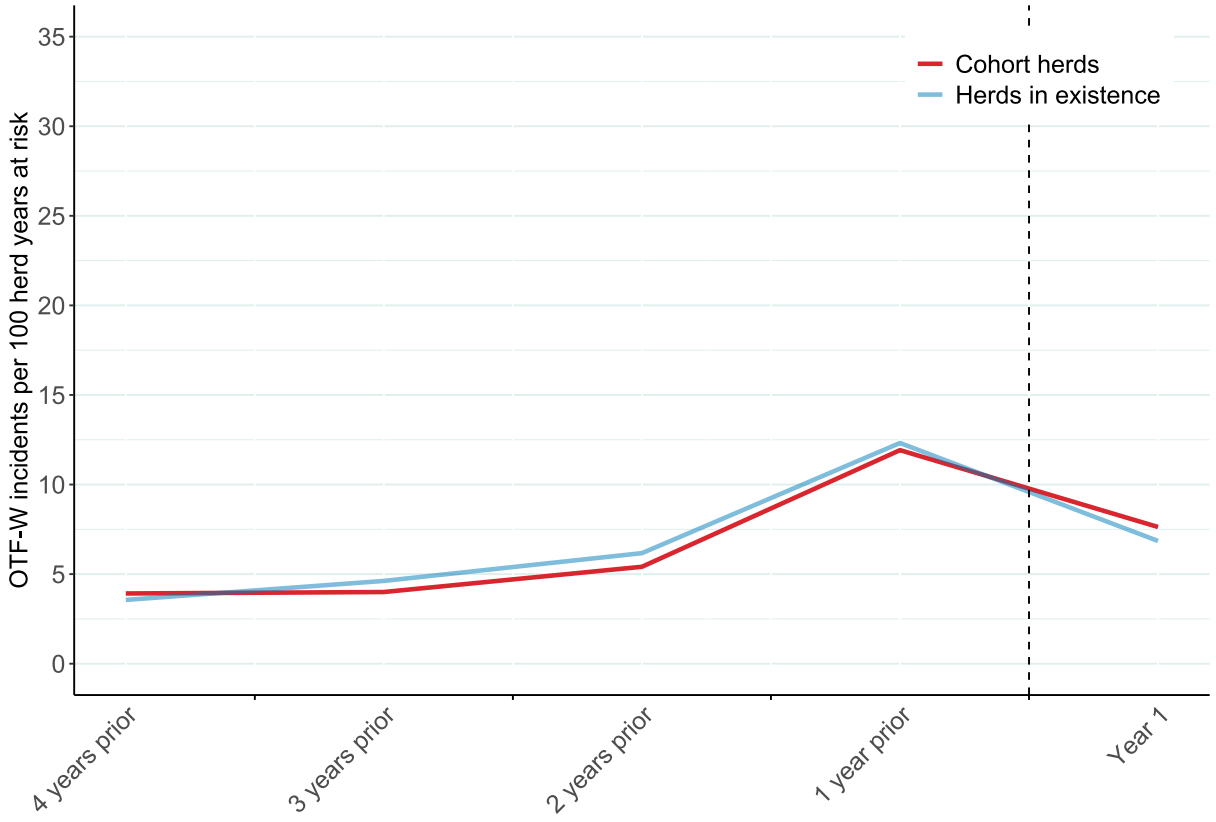

Figure 95 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 1 of intervention in Area 48, Leicestershire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 48 in 2020, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

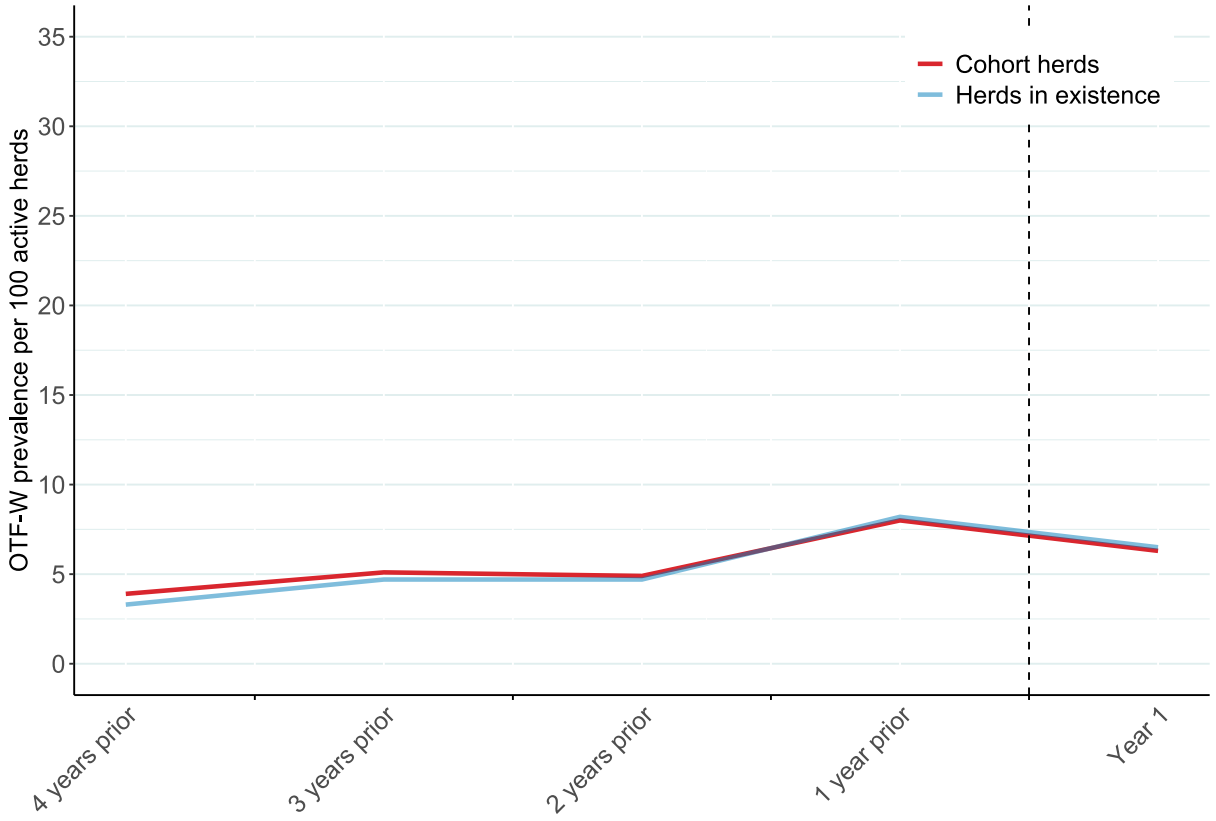

Figure 96 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 1 of intervention in Area 48, Leicestershire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 48 in 2020, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 49 – Oxfordshire central

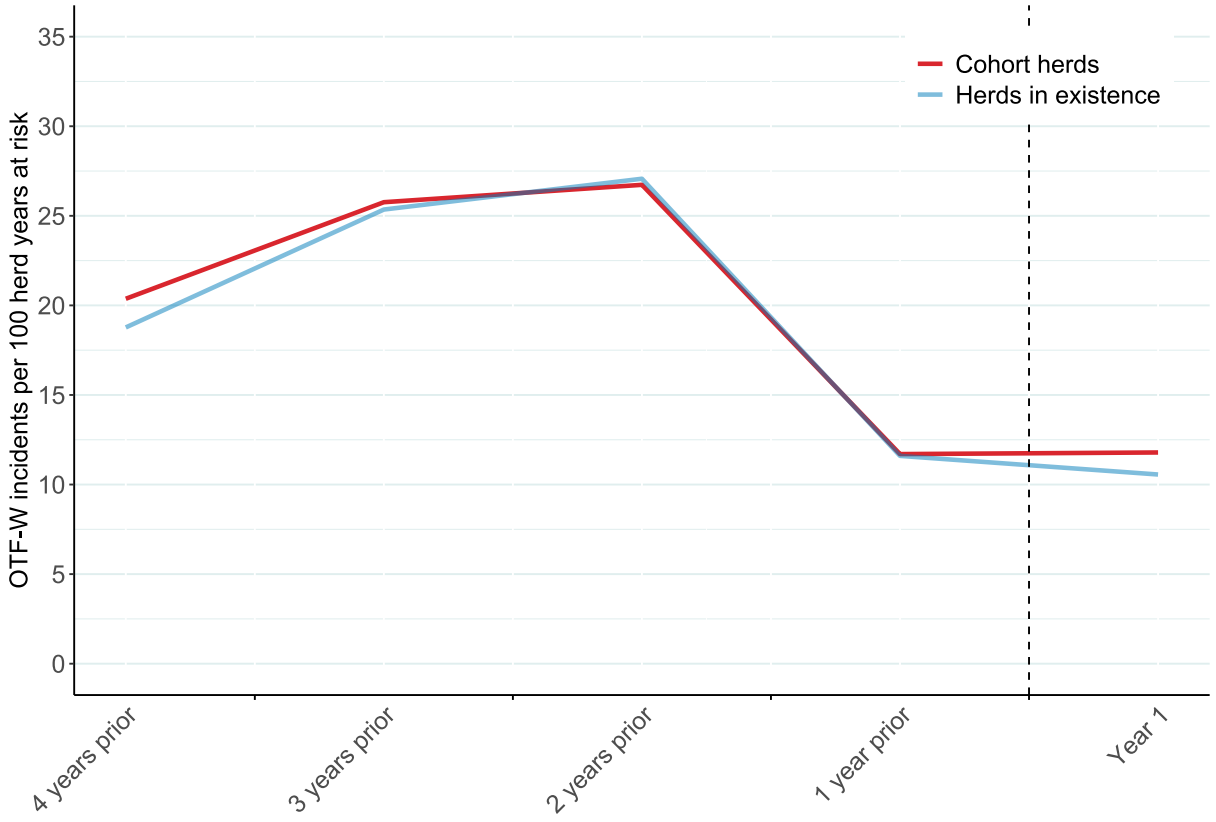

Figure 97 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 1 of intervention in Area 49, Oxfordshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 49 in 2020, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

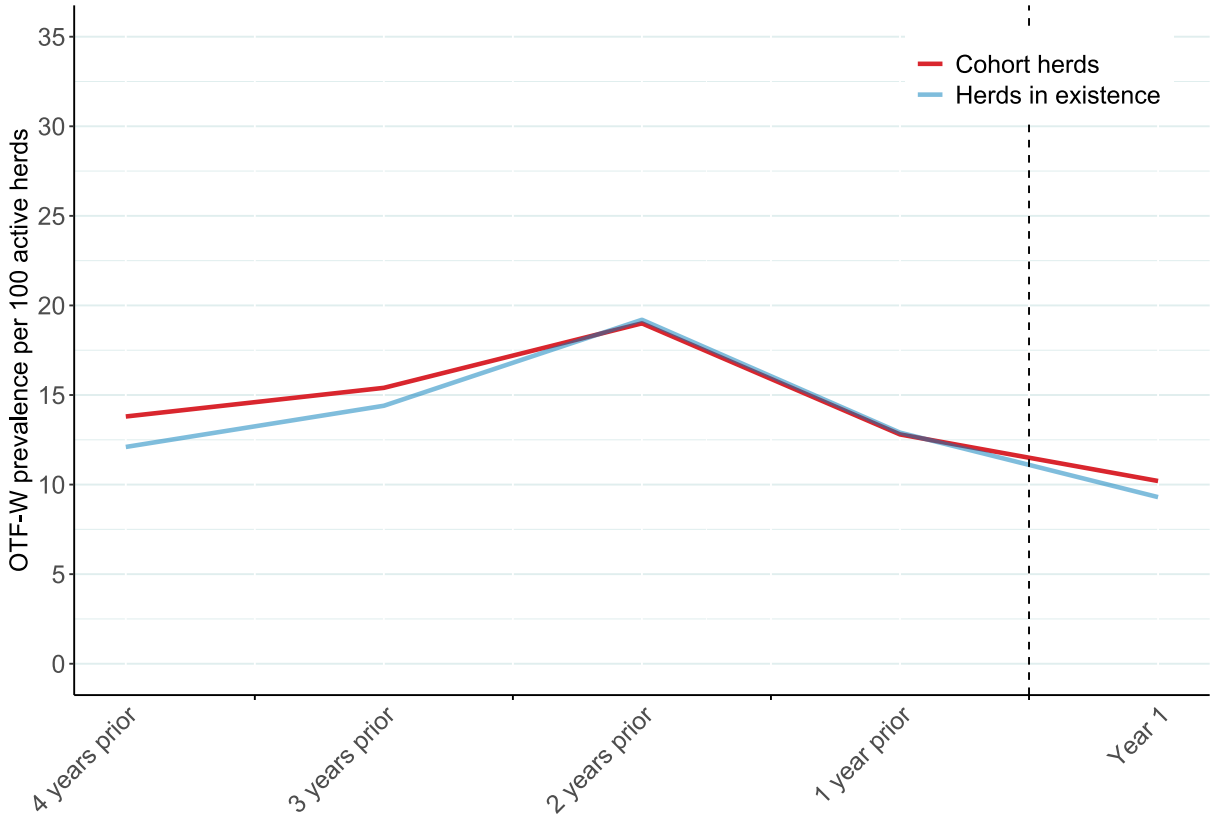

Figure 98 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 1 of intervention in Area 49, Oxfordshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 49 in 2020, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 50 – Shropshire central

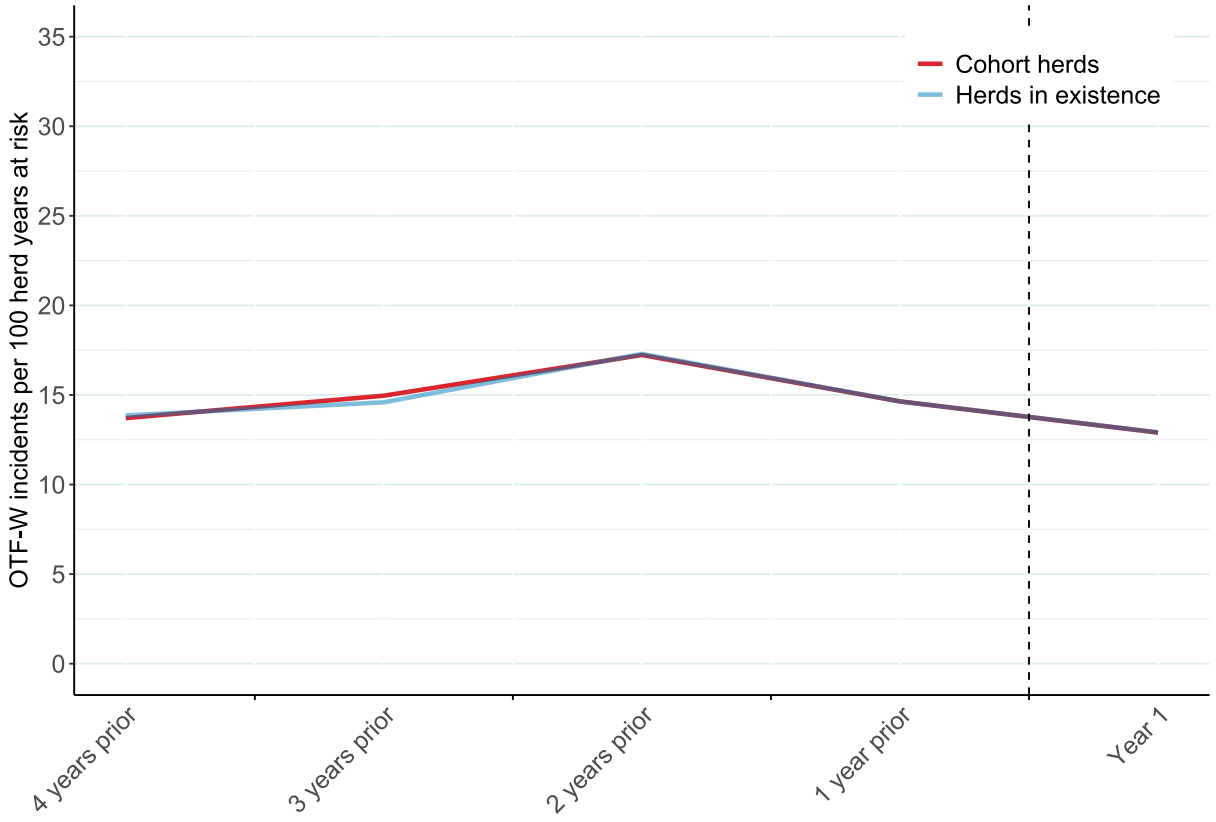

Figure 99 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 1 of intervention in Area 50, Shropshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 50 in 2020, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

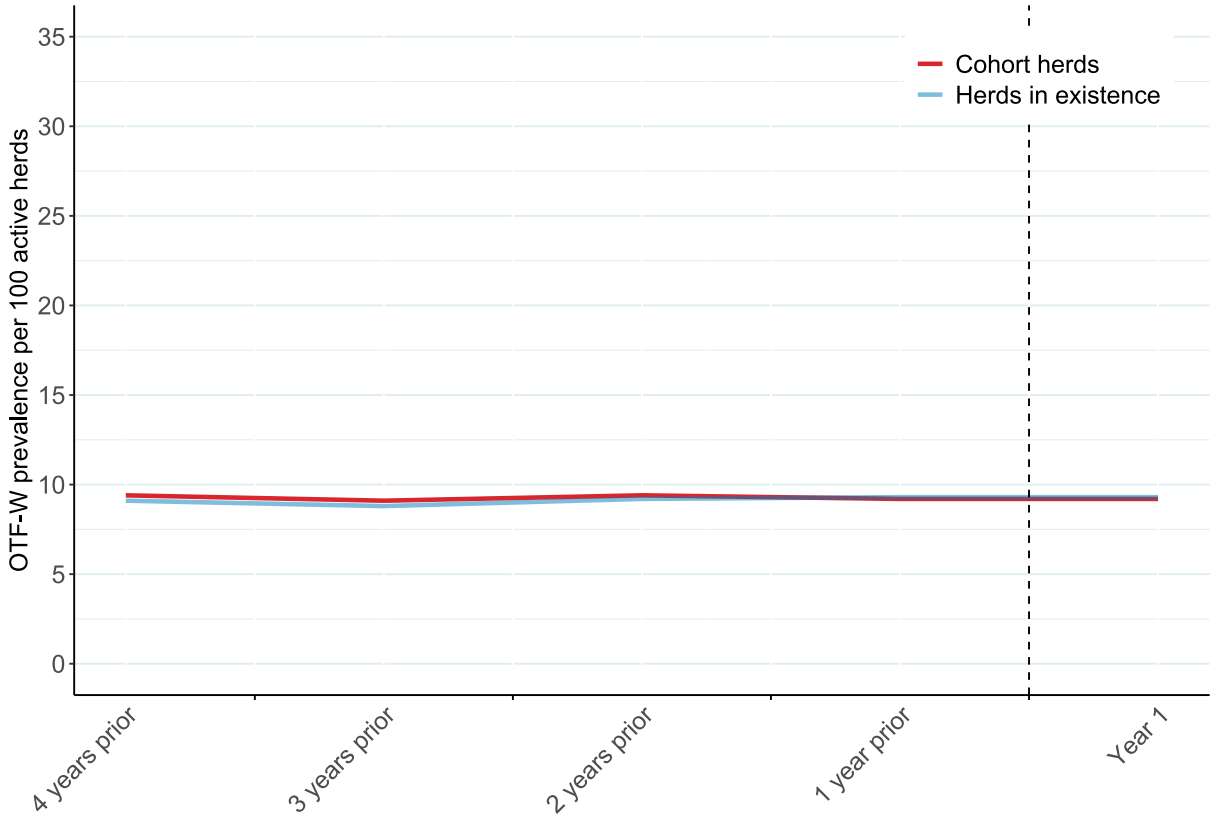

Figure 100 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 1 of intervention in Area 50, Shropshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 50 in 2020, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 51 – Somerset central

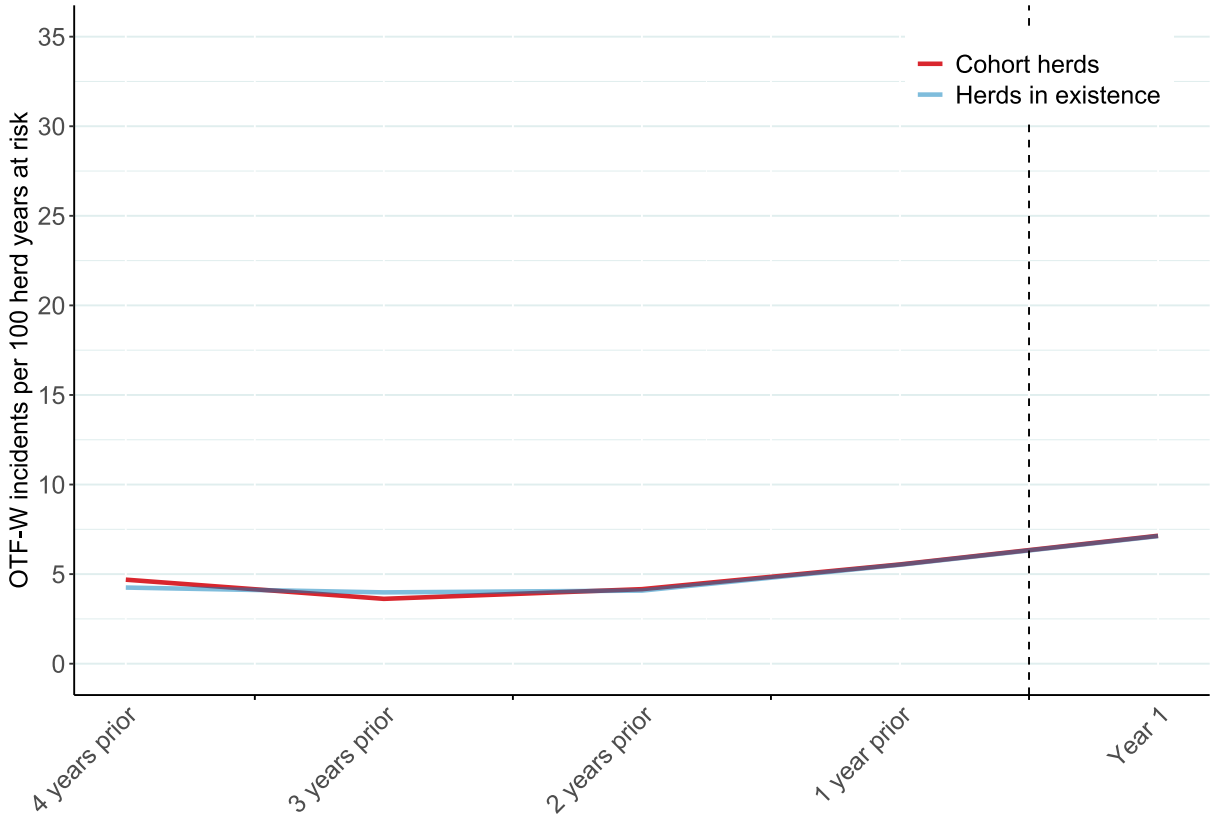

Figure 101 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 1 of intervention in Area 51, Somerset central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 51 in 2020, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

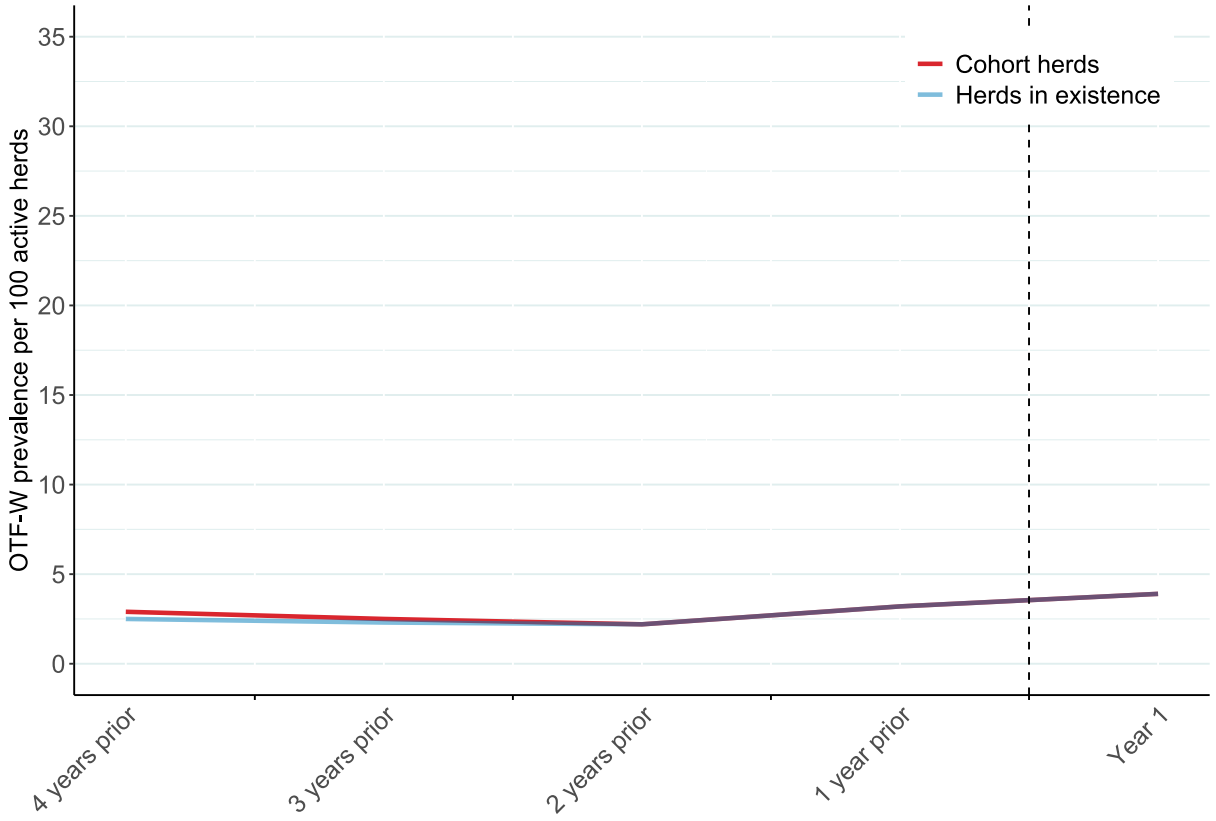

Figure 102 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 1 of intervention in Area 51, Somerset central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 51 in 2020, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 52 – Warwickshire central

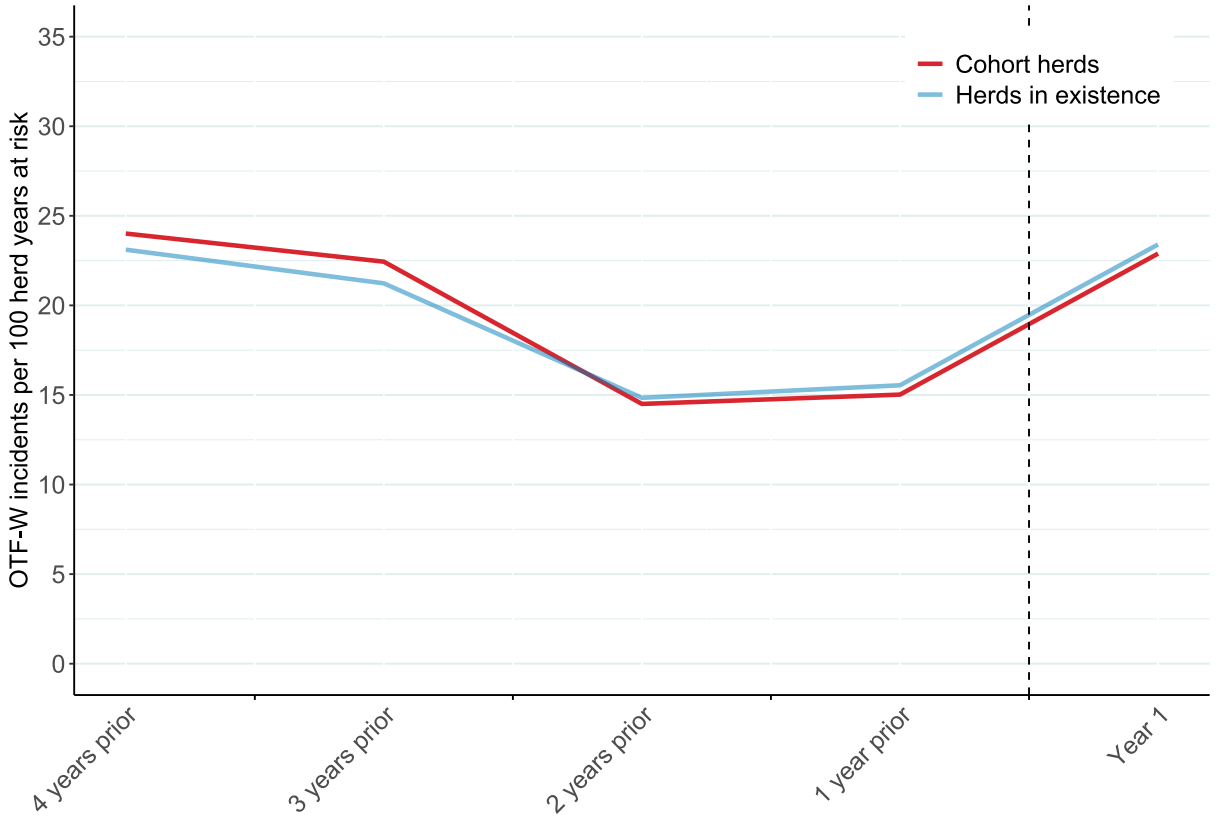

Figure 103 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 1 of intervention in Area 52, Warwickshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 52 in 2020, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

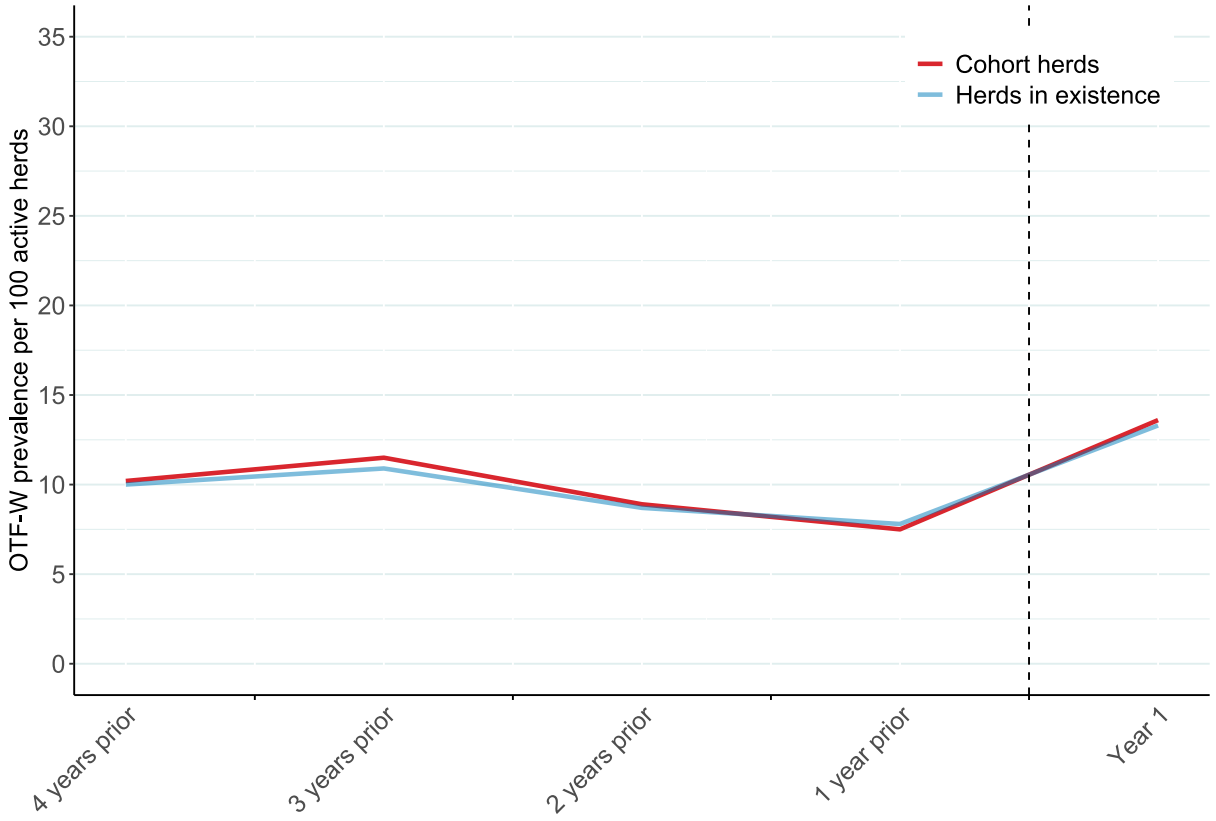

Figure 104 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 1 of intervention in Area 52, Warwickshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 52 in 2020, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 53 – Wiltshire central

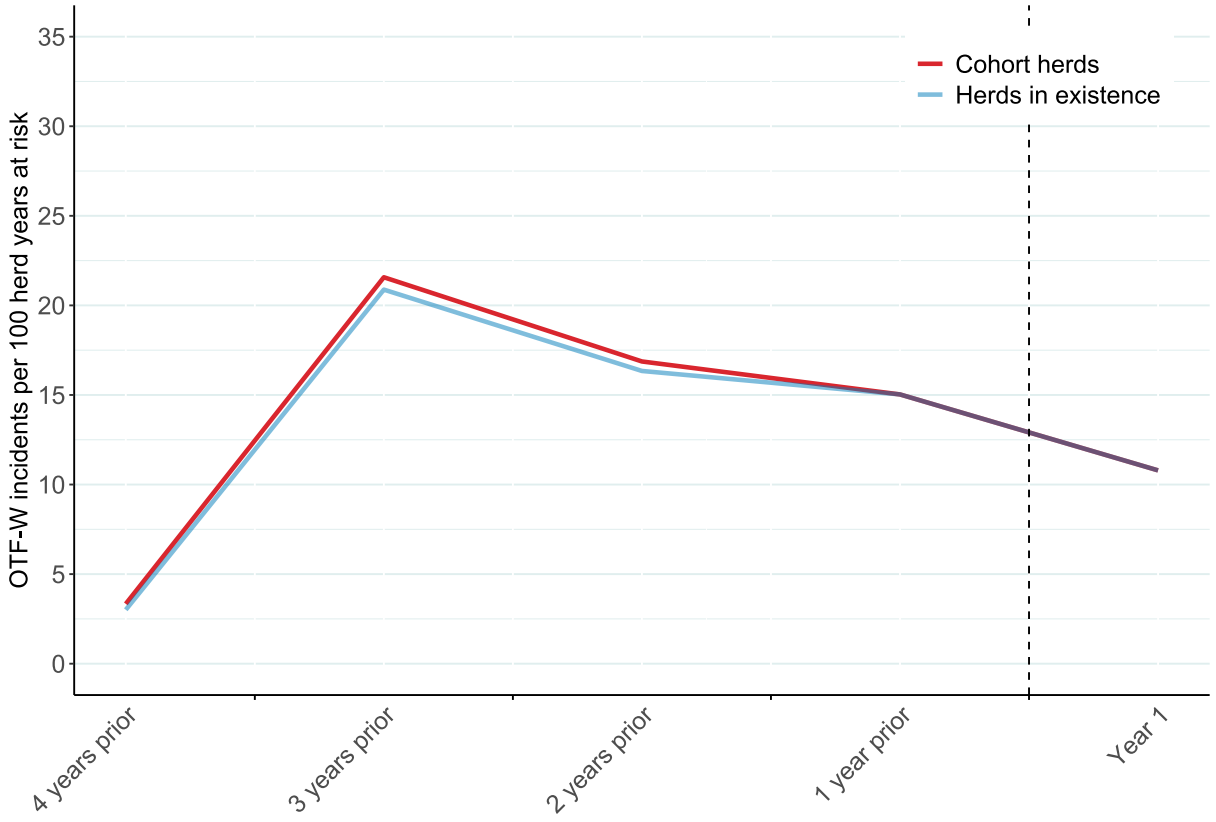

Figure 105 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 1 of intervention in Area 53, Wiltshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 53 in 2020, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

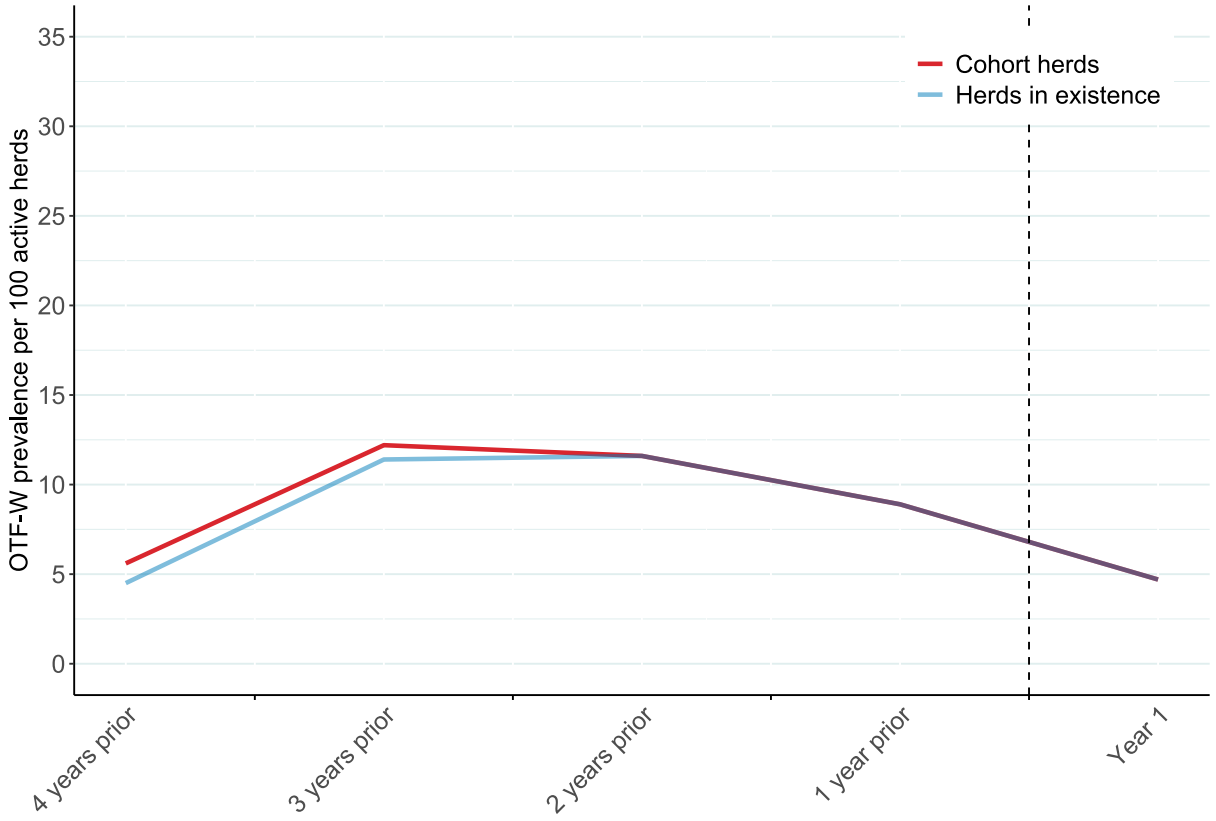

Figure 106 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 1 of intervention in Area 53, Wiltshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 53 in 2020, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

Area 54 – Lincolnshire central

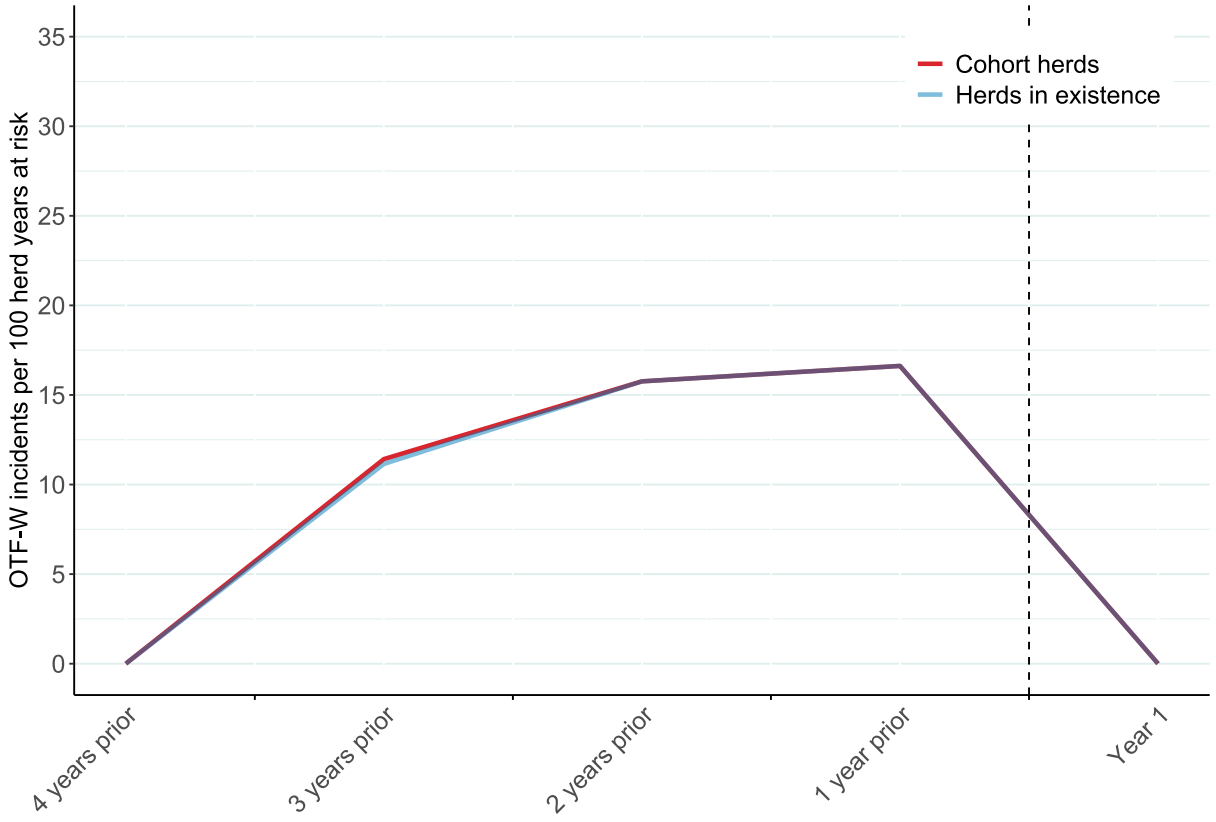

Figure 107 Line chart showing OTF-W incidents per 100 herd years at risk by year, from 4 years prior to year 1 of intervention in Area 54, Lincolnshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 54 in 2020, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

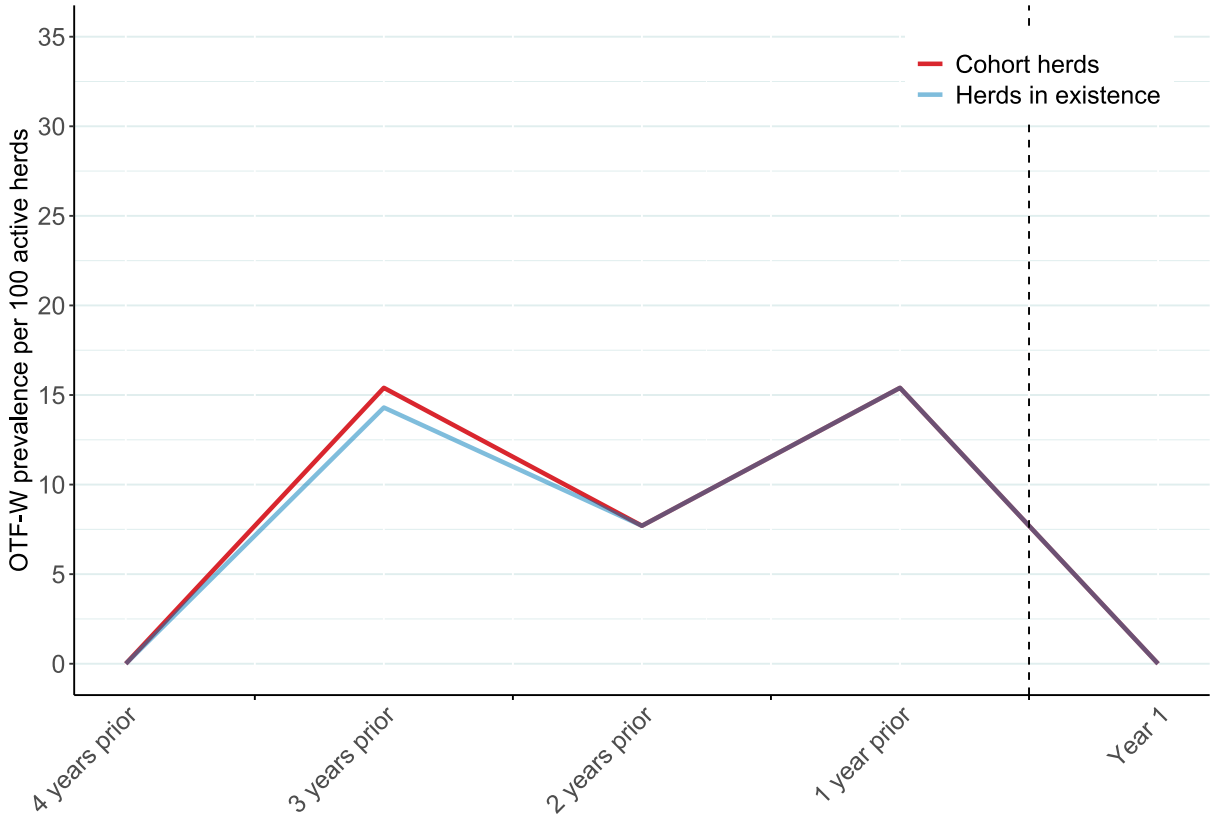

Figure 108 Line chart showing the prevalence of OTF-W incidents per 100 active herds by year, from 4 years prior to year 1 of intervention in Area 54, Lincolnshire central. Separate lines are shown for cohort herds (red) and herds in existence (blue). The cull started in Area 54 in 2020, indicated by the dashed line. The data are available in the accompanying OpenDocument Spreadsheets (ODS).

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