

Information topic	Details
Indicator name	<b>Number and density of livestock</b>
Domain and topic	Recreational Water: Agricultural activity
Indicator definition and units	<p>Number and density (in number of animals per square kilometre of farmland) of livestock (by type: sheep, dairy, cattle, beef cattle and deer), by region</p> <p>Note: Pigs and horses have not been included in the total counts as their environmental impact and population size is significantly less than other types of livestock. These animals are contained in their enclosures and cannot roam freely through a vast area of farmland, thus are unlikely to contaminate water sources.</p>
Data source	<p>Statistics New Zealand. Agricultural Production Statistics (2023) &amp; Agricultural Production Census (2023). Available from <a href="#">Agricultural production statistics: Year to June 2022 (final)   Stats NZ</a></p> <p>Ministry for the Environment (MfE). Land use data (2021). Available from <a href="#">Browse GIS data   MfE Data Service</a></p>
Numerator	(for livestock density) Number of livestock, by type, and by region
Denominator	(for livestock density) Area of farmland (in km <sup>2</sup> ), by region
Methodology	<p>Information on area (in km<sup>2</sup>) of regions is taken from annual boundary files (i.e. ESRI geodatabase from Statistics New Zealand)</p> <p>Area of farmland is taken from the 2022 Agricultural production census.</p>
Time period and time scale	<ul style="list-style-type: none"> <li>- Annual Agricultural Production Survey: year to 30 June; from 2002 onwards</li> <li>- Agricultural Census: 5-yearly; from 2002 onwards</li> <li>- The 2022 survey was part of the current programme of agricultural production statistics that started in 2002. Previous censuses were held in 2002, 2007, 2012, and 2017, with annual sample surveys in 2003–06, 2008–11, 2013–16, and 2018-2021.</li> </ul>
Spatial Coverage	National.
Measures of frequency	<ul style="list-style-type: none"> <li>- Number of livestock by type (sheep, dairy cattle, beef cattle, deer and total of these)</li> <li>- Livestock density by type, national average</li> <li>- Livestock density by type and by region</li> </ul>

## Metadata: Number and Density of Livestock

<p>Limitations of indicator</p>	<ul style="list-style-type: none"> <li>- Farmland area data (used to calculate livestock density) is not supplied based on livestock type and therefore denominator is limited in analysis.</li> </ul>
<p>Limitations of data source</p>	<ul style="list-style-type: none"> <li>- Data based on the agricultural production survey can be subject to sample bias and sample error.</li> <li>- Deer figures for 2004 onwards are not directly comparable with 2002 and 2003 figures as improvements have been made to the survey questions about deer in 2004 and 2005.</li> <li>- The agricultural production surveys include all units identified on Statistics NZ's Business Register as having agricultural activity. The Business Register is a list of businesses in New Zealand, based on their registration for goods and services tax (GST) with Inland Revenue. <ul style="list-style-type: none"> <li>o The compulsory registration level for GST is \$60,000, so there is a partial and unquantifiable coverage of units below this level.</li> </ul> </li> </ul>
<p>Created by</p>	<p>Statistics New Zealand</p>
<p>Related indicators</p>	<p><a href="#">Water-borne diseases related to recreational water</a></p> <p><a href="#">Agricultural land use</a></p> <p><a href="#">Leptospirosis notifications</a></p> <p><a href="#">Drought and rainfall</a></p>
<p>For more information</p>	<p>Statistics New Zealand, Agriculture  <a href="https://www.stats.govt.nz/topics/agriculture">https://www.stats.govt.nz/topics/agriculture</a></p>
<p>References</p>	<p>Statistics New Zealand. Agricultural Production Statistics (2022) &amp; Agricultural Production Census (2022). Available from <a href="#">Agricultural production statistics: Year to June 2022 (final)   Stats NZ</a></p>