



BACKGROUND, DOCUMENT

National well-being indicators and milestones 2024: quality report

This document provides links to where further information can be found in relation to the quality of the data used in the national indicators published in the Well-being of Wales report.

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Introduction

The links provide details such as coverage, and strength and limitations of the data, and also the processes used to produce and publish the datasets behind the indicators. This document also provides information on the methods used to assess progress with the national milestones.

National milestones

In December 2021, the Welsh Government published the first wave of Wales's national milestones, with the second wave set in November 2022. There are 17 national milestones in total, covering 16 national indicators. The milestones are generational targets which describe the pace and scale of change needed in key areas under the seven well-being goals.

We have assessed the progress of each of the national milestones. Change is assessed since 2015, as this was the year of the Well-being of Future Generations Act, although the milestones themselves were not set until later. Where data is not available for 2015, the nearest possible year has been used.

Some of the 17 milestones have multiple parts to them, so in total there are 21 assessments of progress. We assign each measure as either improved, deteriorated, no change or not assessed. We have not considered whether the milestones are on course to be met, simply the direction of change. Where possible confidence intervals are used to assess if the change is statistically

significant. For some of the indicators that are not based on survey data, confidence intervals are not available. In those cases, change over time has been assessed based on guidance from the data expert.

National indicators

As the data for the indicators have been sourced from a variety of datasets, the level of quality information available will differ in each case. For indicators that are taken from data designated by the Office for Statistics Regulation (OSR) as Accredited OfficialStatistics, quality reports will be available elsewhere providing detail of the methodology used and also covering data quality issues. Therefore, where this is the case, we have provided links to those quality reports. For indicators where the data are Official Statistics, rather than designated as Accredited Official Statistics, there may not be a quality report available. However, quality information will be available in the statistical release, if one is published. Therefore, in these cases we have linked to the relevant statistical release.

For some indicators where the data are not published as Official Statistics, there is likely to be less information about quality already published and therefore we have included greater detail about quality within this document.

Indicator 1: Percentage of live single births with a birth weight of under 2,500g

Information in relation to data quality can be found in the **Quality Report** that accompanies the annual release **Maternity and birth statistics**.

Indicator 2: Healthy life expectancy at birth, including the gap between most and least deprived

Healthy life expectancy at birth, including technical information about the measures, is published by the Public Health Wales Observatory (PHW). The Office for National Statistics (ONS) also publish a comprehensive Quality and Methodology Information document, an excel template for calculating healthy life expectancy (ONS) as well as healthy life expectancy statistics (ONS). The time series coverage published for Wales by ONS is not as complete as that published by PHW, therefore PHW is currently the main source cited for this indicator.

Indicator 3: Percentage of adults who have two or more healthy lifestyle behaviours

The data are from the **National Survey for Wales** (NSW). Health-related behaviours can be a complex area to measure and there may be some differences between what people report and what they do. However, survey data

still provides a reliable means of comparing patterns between different groups and over time. This indicator combines information about five different lifestyle behaviours. Results from 2020-21 onwards should not be compared with previous years. For further information, see the results on **adult lifestyle** and the **NSW quality report**.

Indicator 4: Levels of Nitrogen Dioxide (NO₂) pollution in the air

Each year the UK Government's Pollution Climate Mapping (PCM) model calculates average pollutant concentrations for each square kilometre of the UK. The model is calibrated against measurements taken from the UK's national air quality monitoring network.

The Welsh Government has used this published data to assign a concentration of NO₂, PM_{2.5} and PM₁₀ to each residential dwelling in Wales based on which square kilometre of Wales it sits in.

For each census output area (statistical geographic units comprising around 150 households), the pollutant concentrations associated with each dwelling within it were averaged to give an average NO₂, PM_{2.5} and PM₁₀ concentration across the census output area.

For each local authority and local health board, a population-weighted average over its constituent census output areas were calculated to give an average NO₂, PM_{2.5} and PM₁₀ concentration based on where people live in those local authorities and health boards. The same calculation was also repeated over all

census output areas, to give a comparable figure for the whole of Wales.

For the 2022 update of the air quality national indicators, a methodological improvement was implemented to the way in which the dwelling weights are calculated, as the original process used for estimating the air quality national indicators (prior to 2022) was not calculating the weights in the way intended. An assessment of the impact on the historic data has been undertaken and the impact is small. Given that the air pollution data is modelled and the population estimates are subject to rebasing following the Census, there is existing uncertainty associated with these estimates. Due to this uncertainty, the lack of detailed historic dwelling data and the small impact of the methodological change, the historic data has not been revised.

Indicator 5: Percentage of children who have two or more healthy lifestyle behaviours

Data are based on the School Health Research Network (SHRN) Student Health and Well-being Survey.

The survey is carried out by the School Health Research Network (SHRN), which is led by the Centre for Development, Evaluation, Complexity and Implementation in Public Health Improvement (DECIPHer) at Cardiff University in partnership with Welsh Government; PHW; Cancer Research UK; and the Wales Institute of Social and Economic Research, Data and Methods (WISERD). The survey is undertaken every two years, and provides a regular snapshot of the health behaviours of 11 to 16 year olds in Wales. The survey is completed online in the classroom setting. In 2021/22, almost 125,000 students

across 202 schools took part in the survey.

Please see the "Methods" section of the national reports for further quality and methodology information.

Indicator 6: Measurement of development of young children

Please see the Foundation Phase baseline assessments section in the statistical release for Academic achievement of pupils in Foundation Phase baseline assessment and at Key Stage 3, 2022. Due to the rollout of the new National Curriculum for Wales the baseline assessment data is no longer recorded by schools. This 2022 release in the last data set for baseline assessments.

Indicator 7: Average capped 9 points score of pupils, including the gap between those who are eligible or are not eligible for free school meals

Due to the disruption to schools as a result of the Coronavirus (COVID-19) pandemic, the Minister for Education confirmed that the Welsh Government would not calculate or publish performance measures in 2021/22 for both Year 11 and sixth form cohorts. This continued the arrangements from 2019/20 and 2020/21.

The 2022 examination period was a transitionary year, where relevant qualifications sat by Welsh pupils returned to written examination. This was not a

complete return to pre-pandemic examinations. To compensate for any disruption to the school timetable, pupils who sat exams in 2022 were given a wider choice of questions from the syllabus, with Qualifications Wales setting results broadly midway between 2019 (the last time examinations were sat) and 2021 outcomes. The 2022/23 school year, which saw a further transition back to pre-pandemic assessment arrangements (whilst keeping some support in place for learners). This support was in the form of advance information and a supportive approach to grading. In 2022/23 Qualifications Wales set the results at a national level broadly midway between 2018/19 and 2021/22 outcomes.

Pupils that were awarded a qualification during the 2020 and 2021 summer periods were awarded grades based on a centre determined or centre assessed grade model. Grades were determined by schools and colleges, based on their assessment of learners' work, using a range of evidence (including non-examination assessments, mock exams, and classwork).

These data are published as Accredited Official Statistics. Please see the Key Quality Information section of the **annual statistical release Examination Results**.

Indicator 8: Percentage of adults with qualifications at the different levels of the National Qualifications Framework

Please see the quality section of the statistical release Levels of highest qualification held by working age adults.

Indicator 9: Gross Value Added (GVA) per hour worked, index (UK = 100)

These data are published by the ONS. Further information can be found on the Labour productivity Quality and Methodology Information webpage (ONS).

Indicator 10: Gross Disposable Household Income per head

These data are published by the ONS. Further information can be found in their regional gross disposable household income quality and methodology information paper (ONS).

Indicator 11: Percentage of businesses which are innovation-activeUK Innovation Survey

The UK Innovation Survey is conducted by the ONS on behalf of the Department for Business, Energy and Industrial Strategy (BEIS). The UK Innovation Survey is the main data source for business innovation in the UK. The survey is based on a core questionnaire developed by the European Commission (Eurostat) and Member States. Approximately 14 thousand UK enterprises responded to the 2021 UK Innovation Survey, a response rate of 42.6%. The survey was voluntary and conducted primarily through an electronic questionnaire. Businesses that did not complete an electronic response were contacted for a

telephone interview. The survey covered enterprises with 10 or more employees in sections C-K of the Standard Industrial Classification (SIC) 2007. The sample is drawn from the ONS Inter-Departmental Business Register.

Frequency of publication

Every two years

Data reference periods

2008/10 to 2018/20.

Users, uses and context

The data feeds into the economic analyses and other policy related work. It provides both a periodic snapshot of innovation behaviour and has the additional benefit of the panel dataset which facilitates longitudinal studies and evaluations of innovation policy.

Statistical quality

The results are sample-based estimates and therefore subject to differing degrees of sampling variability, i.e. the true value for any measure lies in a range about the estimated value. This range or sampling variability increases as the detail in the data increases, for example individual local authority data are

subject to higher variability than Wales data.

For further information see **UK innovation survey 2021 (BEIS)**.

These data show the percentage of businesses that are innovation active. The UK definition of innovation is based on an Organisation for Economic Cooperation and Development (OECD) definition, outlined in the Oslo Manual 2018. Businesses are considered to be innovation active if they:

- introduced a new or significantly improved product (goods or service) or process
- engaged in innovation projects not yet complete or abandoned
- acquired new and significantly improved forms of organisation, business structures or practices and marketing concepts or strategies

Although each rate is available for the two population bases, as well as for several other age groups, there is an official standard population base used for each of the rates, as follows:

- percentage of population of working age
- · economic activity
- employment
- economic inactivity (including or excluding students)
- percentage of economically active population aged 16 and over
- ILO unemployment

Indicator 12: Capacity in megawatts (MW) of renewable

energy equipment installed

The indicator is sourced from the **Energy Generation in Wales** study. Regen was commissioned by the Welsh Government to produce a database of energy generation projects in Wales; identify the extent to which projects are owned by Welsh individuals, organisations and communities; and analyse the data to produce a report on progress.

The research method developed by Regen to produce a detailed picture of energy generation across Wales includes:

- identifying, collating, cleansing and cross-referencing records from existing datasets;
- verifying and analysing the data to ensure a robust national overview and locally specific data where available;
- · verifying the data with stakeholders and industry where appropriate;
- researching ownership details, including referencing to Companies House to identify projects with local ownership.

Main sources of data used in the study

- · Anaerobic Digestion & Bioresources Association data
- Contact with utilities, installers and industry organisations
- DESNZ Digest of UK Energy Statistics
- EMR Capacity Market
- Low Carbon Contracts Company Contracts for Difference data

- MCS installations data
- National Grid Electricity Distribution Embedded Capacity Register
- National Grid ESO Transmission Entry Capacity register
- · National Non-Food Crops Centre data
- Ofgem Feed-in Tariff data
- Renewable Energy Guarantees of Origin data
- Renewable Energy Planning Database
- Renewable Heat Incentive and Renewable Heat Premium Payment data
- Renewables Obligation register
- SP Energy Networks Embedded Capacity Register

Indicator 13: Concentration of carbon and organic matter in soil

Measured from soil samples using the loss-on-ignition methodology to determine the soil carbon concentration in the top 0 to 15 cm. The Glastir Monitoring and Evaluation Programme collected evidence for all six intended outcomes from the Glastir scheme; climate change mitigation, improvement to soil and water quality, a halt in the decline of biodiversity, improved woodland management and greater access to the Welsh landscape and condition of historic features. Much of this was achieved through a field survey of 300 1km squares across Wales, half of which were focussed on areas prioritised for advanced payments. The 1km squares were selected at random from 26 land classes, ensuring good coverage of the Welsh landscape. The survey excluded densely developed city areas and therefore it should not be considered as an inventory for brownfield sites.

The Environment and Rural Affairs Monitoring and Modelling Programme (ERAMMP) National Field Survey (NFS) re-surveyed 224 of the original 300 1km squares between 2021 and 2023. A total of 150 squares represented the wider Welsh landscape and 74 squares were re-surveyed to target the impact of Glastir. Both surveys, GMEP and ERAMMP, were spread across multiple years to reduce data bias introduced by single year's weather extremes. The area of 'Glastir land' within each 1km square varied and this is considered during analysis.

Carbon concentration status and change was assessed using repeat survey data from the GMEP and ERAMMP field survey programs. This differed to previous reporting, where change was assessed by statistically linking carbon concentration in GMEP to earlier monitoring from the Countryside Survey, which used a compatible sampling approach but contained fewer monitoring sites. The current method, made possible by the ERAMMP NFS, is considered to give a more robust and representative value for Wales.

Information about the GMEP survey and the ERAMMP NFS

GMEP survey

About GMEP (GMEP)

ERAMMP NFS

Informing, Monitoring and Evaluating Sustainable Land Management

(ERAMMP)

Indicator 14: The global footprint of Wales

A global footprint for Wales has recently been calculated by JNCC using the Ecological Footprint methodology. This is part of a wider project to improve understanding of the global environmental footprint and impacts of commodities that are consumed within Wales, but that may be produced anywhere in the world.

Information about the methodology can be found in the report **Understanding** the Global Environmental Footprint and Impacts of Welsh Consumption (JNCC).

Indicator 15: Amount of waste generated that is not recycled, per person

This indicator is calculated from three separate elements – household waste, Construction & Demolition Waste and Industrial & Commercial Waste.

Household waste

This element is based on residual (i.e. not recycled) household waste collected. This data does not take into consideration any waste generated as residual that is subsequently recycled, or waste generated in recycling streams that is

subsequently rejected for disposal. The source for this data is Waste Data Flow, which collects local authority municipal waste data on a regular basis. Data are based on financial year. Additional information is available in the statistical release: Local authority municipal waste management.

Construction and demolition waste

This element is based on the EU Waste Framework Construction and Demolition recovery target definition. This excludes hazardous waste and naturally occurring soils and stones. It includes backfilling activities. The source for this data is the 2019 Construction and Demolition waste survey where data was collected from 508 business sites of differing sectors and sizes throughout Wales between April 2021 and September 2021. Additional methodological information available in Section 2 of the report Construction and demolition waste survey (National Resources Wales).

Industrial and commercial waste

The source for this data is the 2018 Industrial and Commercial waste survey, where data was collected from 1,755 business sites of differing sectors and sizes throughout Wales between April 2019 and October 2019. Additional methodological information available in Section 2 of the report: Survey of industrial & commercial waste generated in Wales 2018 (NRW).

Indicator 16: Percentage of people who are on permanent

contracts (or on temporary contracts, and not seeking permanent employment) who earn at least the real living wage

This indicator is calculated from the Annual Population Survey (APS). This indicator measures the percentage of people in employment, who are on permanent contracts (or on temporary contracts, and not seeking permanent employment) and who earn at least the real living wage.

Please see Annual population survey (APS) QMI (ONS).

Indicator 17: Pay difference for gender, disability and ethnicity

Gender pay difference information is calculated from the Annual Survey of Hours and Earnings (ASHE) and published by ONS. It is based on median hourly full-time earnings. Disability and Ethnicity pay difference information is calculated from the APS.

Disability pay differences are calculated by dividing the difference in hourly pay between disabled and non-disabled employees by the hourly pay for non-disabled employees. Ethnicity pay differences are calculated by dividing the difference in hourly pay between White and Black, Asian and Minority Ethnic employees by the hourly pay for White employees. Disability and ethnicity pay differences are based on median hourly earnings for all employees

Please see ASHE, Low pay and Annual Survey of Hours and Earnings pension results Quality and Methodology Information; APS Quality and Methodology Information; and the ethnicity and disability pay difference data and information: Median hourly pay and pay difference between hourly earnings of employees by disability status and ethnicity, Wales, 2014 - 2022

Indicator 18: Percentage of people living in households in income poverty relative to the UK median, measured for all people, children, working age adults and those of pension age

These data are published by the Department for Work and Pensions. Information on methodology and quality can be found on the **Households** below average income (HBAI) statistics website.

The Welsh Government also carry out extra analysis of the HBAI datasets to consider economic status, housing tenure, family, ethnicity and disability characteristics. These data and summary analyses can be found on the Welsh Government's **Poverty Statistics webpages**. Information on **methodology** and **data interpretation** can also be found on these pages.

Estimates for periods which span the financial year ending (FYE) 2021 do not include the data collected during FYE 2021 in calculations. For the latest two periods shown, estimates formerly calculated as 3 to 5 year rolling averages are based on 2 to 4 year rolling averages that omit the FYE 2021 survey data. FYE

2021 estimates are unreliable as they are based on data collected during the first year of the coronavirus (COVID-19) pandemic, when lockdown rules severely disrupted the data collection.

Data collection during the financial year ending (FYE) 2022 was via telephone interviewing as opposed to the established face to face method used prior to the coronavirus (COVID-19) pandemic. Although we have assessed the FYE 2022 data quality to be robust enough for publication, there remains some residual bias in the survey sample resulting from the change in survey mode. More information on data quality is available in the DWP technical report.

Indicator 19: Percentage of people living in households in material deprivation

The questions included in the National Survey for Wales were taken from the Family Resources Survey (FRS), and the methodology used to classify people uses a similar, but not identical method (the FRS also uses income and some questions in the National Survey were only asked of those who were classed as 'borderline' deprived).

Non-pensioner adults were asked whether they had things such as 'a holiday away from home for at least a week a year', 'enough money to keep their home in a decent state of decoration', or could 'make regular savings of £10 a month or more'. The questions focussed on whether they could afford these items.

Pensioners were asked slightly different questions such as whether their 'home was kept adequately warm', whether they had 'access to a car or taxi, when

needed' or whether they had their hair done or cut regularly'. These questions also asked whether they could afford them, but also focussed on not being able to have these items for other reasons, such as poor health, or no one to help them etc.

People who did not have the items asked about were given a score, such that if they didn't have any item on the list they would have a score of 100, and if they had all items they had a score of 0. Non-pensioners with a score of 25 or more were classed as deprived and pensioners with a score of 20 or more were classed as deprived. Non-pensioners and pensioners have been grouped together for this indicator.

Please see the **NSW quality report** for further information on the strengths and limitations of the survey.

Indicator 20: Proportion of employees whose pay is set by collective bargaining

The results for this indicator are obtained from the ASHE, published by ONS. This indicator measures employee jobs for those aged 16 and over, whose pay is set with reference to a collective agreement in April of the shown years.

Please see ASHE, Low Pay and Annual Survey of Hours and Earnings Pension Results Quality and Methodology Information.

Indicator 21: Percentage of the population aged 16-64 in

work in Wales

These data are published by the ONS. Please see their **APS Quality and Methodology web page**.

Indicator 22: Percentage of people in education, employment or training, measured for different age groups

Please see the quality section of the statistical release **Participation of young people in education and the labour market** and the statistical bulletin for **Young people not in education, employment or training (NEET)**.

Further detail is available in the **methodology note** for the derivation of estimates of the participation of young people in education and the labour market and the **guide to the different sources of NEET statistics in Wales**.

Indicator 23: Percentage of people who feel able to influence decisions affecting their local area

The indicator uses the percentage of people who 'strongly agree' or 'tend to agree' with the statement "I can influence decisions affecting my local area". The questions concerning the indicator were not asked as part of the 2022-23 NSW.

More in-depth analysis is available in the statistical report "Influencing

decisions in local area". Please see the **NSW quality report** for further information on the strengths and limitations of the survey.

Indicator 24: Percentage of people satisfied with their ability to get to/ access the facilities and services they need

This indicator measures the percentage of people aged 16 or over who report feeling 'very' or 'fairly' satisfied with their ability to get to/access the facilities and services they need, within a 15 to 20 minute walk from their home. The question was not asked as part of the 2022-23 NSW.

Please see the **NSW quality report** for further information on the strengths and limitations of the survey.

Indicator 25: Percentage of people who feel safe at home, walking in the local area, and when travelling

This is based on four separate questions last asked in 2021-22 as part of the NSW and uses the percentage of people who report feeling 'very safe' or 'fairly safe' in all of the following situations after dark:

- at home
- walking alone
- travelling by public transport
- · travelling by car

More in-depth analysis is available in the statistical report "Feeling safe in the local area".

Please see the **NSW quality report** for further information on the strengths and limitations of the survey.

Indicator 26: Percentage of people satisfied with their local area as a place to live

This indicator measures the percentage of people aged 16 or over who report being 'very' or 'fairly' satisfied with their local area as a place to live. The question was last asked as part of the 2021-22 NSW.

Please see the **NSW quality report** for further information and the research report "Satisfied with local area".

Indicator 27: Percentage of people agreeing that they belong to the area, that people from different backgrounds get on well together, and that people treat each other with respect

This indicator is based on three separate questions asked as part of the NSW in 2021-22, and uses the proportion of people who strongly agree or tend to agree that:

they belong to their local area

the local area is a place where people from different backgrounds get on well together

that people in the local area treat each other with respect and consideration

Please see the **NSW quality report** for further information on the strengths and limitations of the survey and the research report "**Sense of community**".

Indicator 28: Percentage of people who volunteer

The indicator uses the percentage of adults who give their time for free to help clubs or organisations. The data presented does not include people who provide care for someone.

See the **NSW quality report** for further information on the strengths and limitations of the survey.

Indicator 29: Mean mental well-being score for people

Adults

The mean mental well-being score is calculated according to the Warwick-Edinburgh Mental Well-being Scale (WEMWBS). To assesses mental well-being on the WEMWBS scale, respondents were given 14 statements such as "I've been feeling relaxed" and "I've been thinking clearly" and were asked how often they felt this way on a five point scale, where 1 was 'none of the time' and 5 'all of the time'. A score from 14 to 70 was calculated based on these responses, with higher scores indicating better well-being. For further information, see the **release including mental wellbeing**.

In 2022-23, due to the sensitive nature of the topic, the WEMWBS questions were asked in the online part of the survey.

Results from 2021-22 onwards should not be compared with previous years. See the **NSW quality report** for more details on strengths and limitations of the NSW.

Children

The mean mental well-being score is calculated using the Short Warwick-Edinburgh Mental Well-being Scale (SWEMWBS). Data are based on the SHRN **Student Health and Well-being Survey**.

The survey is carried out by the SHRN, which is led by the Centre for Development, Evaluation, Complexity and Implementation in Public Health Improvement (DECIPHer) at Cardiff University in partnership with Welsh Government; PHW; Cancer Research UK; and WISERD. The survey is undertaken every two years, and provides a regular snapshot of the health behaviours of 11 to 16 year olds in Wales. The survey is completed online in the classroom setting. In 2021/22, almost 125,000 students across 202 schools took part in the survey. Please see the "Methods" section of the national reports for further quality and methodology information.

Indicator 30: Percentage of people who are lonely

This is the percentage of adults who are lonely according to the De Jong Gierveld loneliness scale.

For this scale, respondents were shown a series of 6 statements and asked to indicate, the extent to which each statement applied to the way they felt. There were 3 statements about 'emotional loneliness (EL)' and 3 about 'social loneliness (SL)'.

- 1. I experience a general sense of emptiness (EL)
- 2. I miss having people around me (EL)
- 3. I often feel rejected (EL)
- 4. There are plenty of people I can rely on when I have problems (SL)
- 5. There are many people I can trust completely (SL)
- 6. There are enough people I feel close to (SL)

The scale uses three response categories: Yes / More or less / No - where the neutral and positive answers are scored as "1" on the negatively worded questions (in this instance, questions 1 to 3). On the positively worded items (questions 4 to 6), the neutral and negative answers are scored as "1". This means that an answer of 'more or less' is given the same score as 'yes' or 'no', depending on the question.

The scores for each individual question are added together to provide an overall loneliness measure. This gives a possible range of scores from 0 to 6, where 0 is least lonely and 6 is most lonely. For reporting purposes we have considered

people who have a score of 4 to 6 as being lonely. In 2021-22, due to the sensitive nature of some of the questions the loneliness module was included within an online section of the survey. After completing the telephone section respondents were asked to go online and self-complete the final section. 90% of people who completed the telephone survey went on to complete the online section.

In 2022-23, the loneliness module was asked in the telephone section of the survey.

See the **NSW quality report** for more details on strengths and limitations of the NSW.

Indicator 31: Percentage of dwellings which are free from hazards

The Welsh Housing Conditions Survey 2017-18 measured the percentage of dwellings which were free from category 1 hazards based on the Housing Health and Safety Rating System (HHSRS). More information on the measuring and modelling of these hazards can be found in the **Welsh Housing Conditions**Survey headline results and technical report.

Indicator 32: Number of properties (homes and businesses) at medium or high risk of flooding from rivers and the sea

The Flood Risk Assessment (FRAW) modelling, together with the latest National Receptor Dataset 2023 (NRD 2023) are used to determine the number of properties (residential and non-residential) at risk of flooding from Rivers, the Sea and Surface Water and Small Watercourses in Wales. The information is for 2024 and includes both the presence and removal of flood defences within the modelling (defended and undefended scenarios).

The chance of flooding is set out in three risk categories:

- High Risk; Greater than or equal to 1 in 30 (3.3%) chance in any given year.
- Medium Risk; Less than 1 in 30 (3.3%) but greater than or equal to 1 in 100 (1%) chance in any given year for rivers and surface water flooding and less than 1 in 30 (3.3 per cent) but greater than or equal to 1 in 200 (0.5 per cent) for the sea.
- Low Risk; Less than 1 in 100 (1%) for rivers and surface water flooding and 1 in 200 (0.5 per cent) for the sea but greater than or equal to 1 in 1,000 (0.1%) chance in any given year.

FRAW typically includes flooding from rivers with a catchment size greater than 3 square kilometres, and flooding from the sea (both along the open coast and tidal estuaries). Smaller watercourses with a catchment size smaller than 3 square kilometres are represented in the FRAW Surface Water data and maps.

The assessment takes into account the location and standard of protection afforded by flood defences and adjusts the risk categorisation accordingly from an initial, 'undefended' scenario.

Further information is available on the **Flooding reports**, evidence and data pages of the NRW website. Indicator 33: Percentage of dwellings with adequate energy performance

Dwellings with adequate energy performance have a SAP (Standard Assessment Procedure) rating of 65 or above. The SAP ratings were measured by qualified surveyors as part of the Welsh Housing Conditions Survey 2017-18. More information can be found in the Welsh Housing Conditions Survey energy efficiency of dwellings report and technical report.

Indicator 34: Number of households successfully prevented from becoming homeless per 10,000 households

Information in relation to data quality can be found in the **quality report** that accompanies the **Homelessness** release.

Indicator 35: Percentage of people attending or participating in arts, culture or heritage activities at least 3 times a year

This indicator measures the percentage of people who say they have attended or participated in an arts, culture or heritage activity 3 or more times in the previous 12 months.

More in-depth analysis is available in the statistical report "Arts, heritage sites, libraries and museums". Please see the NSW quality report for further information on the strengths and limitations of the survey.

Indicator 36: Percentage of people who speak Welsh daily and can speak more than just a few words of Welsh

The results are based on both census data and Welsh Language Use Survey data.

In order to be consistent with national indicator 37, 'Number of people who can speak Welsh', this estimate is based on Census 2011 data as a baseline for the number of Welsh speakers, combined with data from the Welsh Language Use Survey 2019-20 for those who report being either 'fluent in Welsh', being able to 'speak a fair amount of Welsh', or those who could 'only speak a little Welsh'; and who also speak Welsh daily.

The Welsh Language Use Survey 2019-20 noted that 10% of people aged three

years or older spoke Welsh daily and could speak more than just a few words. This is the same percentage as in the Welsh Language Use Survey 2013-15.

The NSW provides annual data for people aged 16 years or older and suggests that this indicator has been stable over the past few years since Census 2011, at around 10-12%.

See the **Welsh Language Use Survey quality report**for more details on strengths and limitations of the survey.

Indicator 37: Number of people who can speak Welsh

This indicator uses the census of population.

We consider the census to be the key source of information about the number of people aged three or older able to speak Welsh in Wales. However, information is also available from sources such as the APS and NSW.

Differences in the estimates of Welsh language ability between the census and household surveys are longstanding, with household surveys typically providing us with higher estimates of Welsh-speaking ability. Both the ONS ('Differences in estimates of Welsh Language Skills') and the Welsh Government ('Welsh language data from the APS: 2001 to 2018') have explored possible reasons for some of these differences in the past. For example, the census is a statutory self-completion questionnaire while the APS is a voluntary survey, which uses face-to-face and telephone interviews.

Following the publication of Census 2021 data about the Welsh language, a workplan has been published which outlines the work that the ONS and the Welsh Government are planning to undertake during 2023-24 and beyond to improve our understanding of the main survey and administrative data sources used to produce statistics about the Welsh language. This workplan was accompanied by a blog post published by the Chief Statistician.

Further quality and methods information about the census is available on the ONS website.

Between censuses, the NSW is used to monitor trends in the proportion of adults who can speak Welsh. The indicator is based on adults aged 16 years or older who report that they can speak Welsh. The question allows people to answer yes, no, and also allows people to spontaneously report that they can't speak Welsh but that they have some Welsh-speaking ability. For the purpose of this indicator, people who can speak Welsh is defined as those who answer 'yes' to this question only.

Comparisons with results from previous years of the NSW (2012 to 2015) are possible.

See the **NSW quality report** for more details on strengths and limitations of the survey.

Indicator 38: Percentage of people participating in sporting activities three or more times a week

Adults

The questions asked were originally from the Active Adults Survey, now incorporated into the NSW, with some minor adaptation.

For this indicator respondents were shown a series of indoor and outdoor activities and asked whether they had participated in any of them. If they did, they were asked how many times they had participated in the activity over the previous 4 weeks.

Results from the Active Adults Survey and NSW are not directly comparable due to differences in survey design.

See the **NSW quality report** for more details on strengths and limitations of the survey.

Children

This information is published by Sport Wales. **The School Sport Survey** is an online survey of pupils' sports participation and school provision of physical education (PE) and sport. The latest School Sport Survey took place in 2022. Pupils complete a questionnaire on their participation and attitudes towards PE

and sport. In the 2022 survey, 116,000 year 3 to 11 pupils took part in the survey from 1,000 schools.

Indicator 39: Percentage of museums and archives holding archival/heritage collections meeting UK accreditation standards

The measure for museums shows the number of public institutions that have achieved the UK Museum Accreditation Standard. The baseline to be eligible for accreditation status is that the institution meets the Museums Association's 1998 definition of a museum: "Museums enable people to explore collections for inspiration, learning and enjoyment. They are institutions that collect, safeguard and make accessible artefacts and specimens, which they hold in trust for society"; be a physical site/space/building which is open to the public regularly; enables the public to see and engage with the institution's collections; has an appropriate constitution which supports the long-term purpose of a public museum. To gain Accreditation status, a museum must demonstrate they are governed and managed properly, manage their collections effectively and provide appropriate user experiences.

The measure for archives shows the number of archive-holding institutions that have achieved the UK Archive Service Accreditation Standard. The baseline definition of an archive service for inclusion in this measure is that the institution should be recognised by The National Archives as a Place of Deposit for locally held public records (and therefore required to meet the Accreditation Standard to keep this statutory designation), and also be a member of Archives and Records

Council Wales (ARCW).

Information on the accreditation process for both **museums and archives** is available on the Welsh Government website.

Indicator 40: Percentage of designated historic environment assets that are in stable or improved conditions

Scheduled monuments

Surveys of the condition of the scheduled monuments in Wales have been taking place since the mid-1980s and are carried out in-house by Cadw's team of Field Monument Wardens. Today this is through a rolling survey programme during which 10 per cent of assets are surveyed each year to a consistent assessment methodology. Seven overall condition categories are used, ranging from destroyed to greatly improved.

Most scheduled monuments are earthwork structures and unoccupied historic buildings, usually in ruined condition such as castles, medieval abbeys and abandoned industrial remains. Many are in remote and rural locations. The physical nature of the scheduled monuments means that in the absence of any specific interventions, the most likely condition assessment for the majority would be stable or demonstrating slight deterioration. Improvement to condition is almost without exception a consequence of active intervention such as positive land management and targeted conservation projects. The main threats

affecting monuments recorded as being at risk are significant weathering, storm and flood damage – all of which have links with the effects of climate change and excessive unchecked vegetation growth leading to accelerated natural decay – which is best controlled through positive land management practices.

Listed buildings

Surveys of the condition of listed buildings have been carried out in Wales since 1998. The review programmes cover a five-year rolling period, with approximately 20 per cent of listed buildings stock in Wales being surveyed per year. The programme of surveys will ensure that the condition of all 30,000 listed buildings in Wales during the survey programme period is assessed using consistent methodology. The proportion of listed buildings in a stable or improving condition is calculated using existing survey data and the most up-to-date data available from the 20 per cent of the building stock which has been resurveyed in the past year.

The figures presented for each year relate to the sample surveyed during the course of that year. Each year's sample is drawn from a small number of local authorities across different Welsh regions. Some year-on-year variation is to be expected.

Indicator 41: Emissions of greenhouse gases within Wales

The UK level data on greenhouse gas emissions is produced under contract for

the Department for Energy Security and Net Zero (DESNZ). The **report on this** dataset is published annually and provides information on the methodology, data sources and quality assurance (National Atmospheric Emissions Inventory).

The Welsh data on greenhouse gas emissions are based on the UK level data with Welsh specific data sources used where available. Where there is no Welsh level data a variety of methods are used to split out from the UK level data including splitting by proportion of population or economic activity. There is greater uncertainty when modelling complex systems such as agricultural emissions and land use. The data are quality assured by the producers of the statistics and key stakeholders including Welsh Government.

The sectors used when reporting on greenhouse gas emissions within Wales have changed, but this does not affect the estimate of the total amount of emissions. Territorial emissions in Wales were previously reported using National Communication (NC) sectors these have been replaced by Territorial Emissions Statistics' (TES) sectors to better meet user need. The TES sectors are similar to the previous NC sectors and the DESNZ has published a mapping between the two sector definitions (DESNZ).

Indicator 42: Emissions of greenhouse gases attributed to the consumption of global goods and services in Wales

Information on the quality of consumption emission statistics can be found in Annex A of the **Statement of Progress on Carbon Budget 1** in the methodology section (page 96)

Indicator 43: Area of healthy ecosystems in Wales

NRW have developed a new approach using satellite imagery to update our existing understanding of the distribution and extent of habitats across Wales. This will be capable of being updated in the coming years using consistent data sources and methodology.

The latest estimate using this new methodology should be considered as 'experimental' at this stage, as further work is intended to refine the approach and allow more detailed presentation of the results in future. The estimate of semi-natural habitat presented here includes land areas which are clearly semi-natural habitats, those which are bracken and some areas of land, here called 'candidate semi-natural' habitats which have the potential to function more like semi-natural habitats than habitats that have been subject to intensive agricultural improvement.

For further details see NRW Briefing: A new baseline of the area of seminatural habitat in Wales for Indicator 43 (NRW).

Indicator 44: Status of biological diversity in Wales

Work has been commissioned through the Welsh Government ERAMMP (Environment and Rural Affairs Monitoring & Modelling Programme) on developing the national indicator on Status of Biological Diversity in Wales. The focus of this work has been on combining annual estimates into a single indicator of change in the distribution of priority species over time.

Please see the **ERAMMP Report-78**: Interim Report on the Development of Indicator-44 (Status of Biological Diversity in Wales) for further information on methodology.

Indicator 45: Percentage of surface water bodies and groundwater bodies achieving good or high overall status

Water quality: Percentage of surface water bodies and groundwater bodies achieving good or high overall status under the Water Framework Directive. Surface water bodies in Wales are classified on their status by Natural Resources Wales as a requirement of the Water Framework Directive. Good status is defined as water that shows only a slight change from what would normally be expected under undisturbed conditions. Good overall status (Water Framework Directive) encompasses:

Surface water

- 'Good surface water status' is that achieved by a surface water body when both its 'ecological status' and its 'chemical status' are at least good.
- 'Ecological status' is an expression of the structure and functioning of aquatic ecosystems associated with surface waters. Such waters are classified as of 'good ecological status' when they meet Directive requirements.
- 'Good surface water chemical status' means that concentrations of chemicals in the water body do not exceed the environmental limit values specified in the Directive.

Ground water

- 'Good groundwater status' is that achieved by a groundwater body when both its quantitative status and chemical status are good.
- 'Quantitative status' is an expression of the degree to which a body of groundwater is affected by direct and indirect abstractions. If this complies with Directive requirements the status is good.
- 'Good chemical status' is ascribed to a groundwater when it meets Directive requirements for the maximum levels of defined chemicals.

Indicator 46: Active global citizenship in Wales

A new set of questions about participation in global affairs was introduced in 2021 and was included in the online section of the National Survey. The questions ask whether respondents have donated or raised money, volunteered or supported any activities related to global issues such as human rights, refugees, or global environmental issues.

Please see the **NSW quality report** for further information on the strengths and limitations of the survey.

Indicator 47: Percentage of people who have confidence in the justice system

To be measured using an appropriate social survey, such as the National

Survey for Wales. Further details on the measure for this indicator will be added as the detail of the indicator is developed.

Indicator 48: Percentage of journeys by walking, cycling or public transport

Until data is available from a National Travel Survey, this indicator is measured using data on the usual method of travel to work from the labour force survey. Please see the Labour Force Survey quality report (ONS) for further information.

Indicator 49: Percentage of households spending 30% or more of their income on housing costs

Percentage of households spending 30% or more of their income on housing costs derived from data from the Department for Work and Pensions' Family Resources Survey (FRS). Housing costs include rents, mortgage interest and capital repayments, water and sewerage rates, structural insurance cover, service charges and council tax (net of rebates). Domestic energy use such as gas and electric costs are not collected as part of this survey and are not included. Income is gross unequivalised household income for all members of the household and includes all benefits, pensions, investments and earnings. Data is presented for different housing tenures including: All tenures; owned outright; owned with a mortgage; private rented; and social housing rented (from local authority or Registered Social Landlord). Results are based on financial

years' data. Due to the small sample sizes for Wales in the Family Resources Survey data three financial years are combined.

Estimates for periods which span the financial year ending (FYE) 2021 do not include the data collected during FYE 2021 in calculations. For the latest two periods shown, estimates formerly calculated as 3 to 5 year rolling averages are based on 2 to 4 year rolling averages that omit the FYE 2021 survey data. FYE 2021 estimates are unreliable as they are based on data collected during the first year of the COVID-19 pandemic, when lockdown rules severely disrupted the data collection.

Data collection during the FYE 2022 was via telephone interviewing as opposed to the established face to face method used prior to the COVID-19 pandemic. Although we have assessed the FYE 2022 data quality to be robust enough for publication, there remains some residual bias in the survey sample resulting from the change in survey mode. More information on data quality is available in the DWP technical report.

Indicator 50: Status of digital inclusion

Currently under development, alongside the development of a minimum digital living standard. Further details on the measure for this indicator will be added as the indicator is developed.

