



Statement of Voluntary Application of the Code of Practice for Statistics and ESS' approach to Errors and Corrections

March 2026

ENVIRONMENTAL
Standards Scotland
Ìrean Àrainneachdail na h-Alba

Glossary

CPD – Continuous Professional Development

DPA – Data Protection Act

ESS – Environmental Standards Scotland

GSS – Government Statistical Service

OSR – Office for Statistical Regulation

QA – Quality Assurance

TVQ – Trust, Quality and Value

UKGDPR - UK General Data Protection Regulation

UKSA – United Kingdom Statistics Authority

1. Introduction

About Environmental Standards Scotland

1.1 [Environmental Standards Scotland \(ESS\)](#) is a public body set up to ensure the effectiveness of environmental law and prevent enforcement gaps arising from the UK leaving the European Union. We independently monitor and investigate the effectiveness of environmental law in Scotland, and public authorities' compliance with it.

1.2 Our vision is that by holding public authorities to account, we will ensure that Scotland's people and nature benefit from a high quality, healthy environment

1.3 through improved compliance with and better implementation of effective environmental law.

1.4 Our strategic objectives are:

- Securing compliance and improving effectiveness
- Analysing and investigating environmental concerns
- Monitoring and scrutinising environmental performance
- Engaging and communicating effectively
- Being an efficient and effective organisation

1.5 To achieve these objectives, it is essential that we

- use timely and accurate evidence to inform our work
- are open and transparent
- are independent and trusted
- are evidence driven

1.6 These principles drive all of our work, including our quantitative analysis. While we are not producers of official statistics, our use of data and statistics are compatible with the principles of trustworthiness, quality and value in the [Code of Practice for Statistics](#). For this reason, we are committed to [voluntarily applying the](#)

Code of Practice to signal the high-quality standards we apply to our quantitative work.

1.7 Our published reports containing quantitative analysis fall under three main categories:

- we undertake a range of monitoring and analytical work to ensure that we are well informed about environmental performance and identify issues of potential concern. Analytical reports and technical papers which result from this work are likely to include original quantitative analysis which is used to inform our conclusions. At times, we also publish letters to public bodies and responses to consultations, these are less likely to include original analysis
- we undertake investigations into public authorities' compliance with, and the effectiveness of, environmental law. These are initiated through representations from individuals or organisations and investigations can lead to informal resolution, compliance notices, improvement reports or potentially the application for a judicial review. Our investigations may rely on published quantitative evidence and/or may use original quantitative analysis to inform our conclusions
- our corporate services team publishes documents and records relating to our corporate and governance functions such as our Strategy and Business Plans, Annual Reports, corporate reporting, correspondence, freedom of information responses, Board meeting minutes, Audit and Risk Committee minutes and International Advisory Panel minutes. These reports generally do not include original quantitative analysis but where they do the commitments in this statement will apply

1.8 How we have committed to apply the principles of the Code of Practice of for Statistics to our work is outlined below. We will continue to use the code to guide our approach and will publish an updated statement on an annual basis to demonstrate our commitment to continuous improvement.

2. Our commitments to applying the principles of the Code of Practice for Statistics

2.1 The table below sets out how ESS are already applying the principles of the code of practice to quantitative work done by ESS under the Office for Statistics Regulation (OSR) and the UK Statistics Authority's core principles of [Trustworthiness, Quality and Value \(TVQ\)](#).

Principle	ESS commitment	Application
Trustworthiness		
1. Show Integrity	<p>We are impartial and professional in our assessment of the quantitative evidence to determine if environmental legislation is effective and being complied with by public bodies.</p> <p>All ESS staff are members of the UK Civil Service and follow the Civil Service Code of Conduct. Members of the ESS board are appointed by the Scottish Parliament and follow our Members Code of Conduct.</p> <p>The decisions on the work we decide to take forward will be impartial and based on the evidence. Further details on this are set out in our Investigation Operational Guidance and our Strategy and Analysis Operational Guidance.</p>	<p>ESS is an independent organisation, reporting to the Scottish Parliament.</p> <p>We will present the data and quantitative evidence in our reports objectively.</p> <p>ESS will accept and will consider any submitted concern about compliance or the effectiveness of environmental law. These representations will be assessed impartially according to criteria published on our website. Where appropriate existing quantitative evidence and/or original statistical analysis will be used to inform our assessment.</p> <p>In our analytical reports, we will outline what assumptions have been made in our analysis, where there could be alternative interpretations. If our conclusions differ from those of others, we will explain our understanding of why this is the case.</p> <p>If we identify any notable misuse of statistics during our work, we will raise concerns with OSR through their website.</p>

<p>2. Lead Responsibly</p>	<p>We will use evidence-based decision making based on strong, professional analytical skills.</p> <p>We will look for and highlight any bias within the evidence base we consider.</p>	<p>The head of data and quantitative analysis will act as the lead official. The lead official will be responsible for engaging with OSR and ensuring that the commitments in this statement are met.</p> <p>If there are concerns, the lead official will raise these with department heads and if not resolved concerns will be escalated to the chief executive and ultimately the board.</p> <p>ESS staff are recruited from a range of professional backgrounds including government, academia and other regulatory bodies.</p> <p>All new quantitative analysis will be undertaken and/or quality assured by members of the data team, who are badged GSS statisticians.</p> <p>This applies to any quantitative analysis which results in figures which are included in ESS publications, or that inform decisions on whether a piece of work is prioritised or inform a recommendation, which are not available elsewhere. Any figures replicated from published sources will be referenced.</p> <p>Members of the data team will undertake at least 30 hours a year of statistical CPD.</p> <p>The head of data and quantitative analysis has run training on the Code of Practice and our commitment to TVQ principles for all ESS staff in February 2026. Training will be made available to all staff joining after this date as part of their induction.</p> <p>Members of the Science and Policy team will adhere to the best practices for their professions and promote this best practice across the organisation.</p>
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		When quantitative evidence is submitted to support a representation, this will be impartially examined for bias.
3. Be Transparent	We will be open about how we will release data and statistics.	<p>Analytical reports will be published on our website as soon as possible after they have been quality assured and approved by the board (if board sign off required according to internal procedures).</p> <p>Pre-publication access to analytical reports will be limited to those who are involved in production, quality assurance and communication of our reports. This may include:</p> <ul style="list-style-type: none"> • ESS staff and board members • individuals in public bodies who are asked to fact check our reports • where relevant, external, independent experts will be involved in peer review <p>Access to final analytical reports may be made available to the public bodies who we are making recommendations to. This will occur a maximum of 48 hours prior to publication and for information purposes only.</p> <p>If errors are identified in our publications, we will correct these as soon as possible. If the correction results in a substantial change in interpretation of results we will publish a statement to explain the correction on our website and contact stakeholders to inform them.</p> <p>Our Approach to Errors and Corrections is included alongside this statement.</p>
4. Manage Data Responsibly	We will collect, use and share data in line with all relevant legal obligations and ethical principles.	<p>Our analytical work will rely on published, open access data wherever possible.</p> <p>Where data is shared with us by a public body, it will be stored securely in a</p>

		<p>limited access network folder until no longer needed.</p> <p>Our Data Protection Policy sets out how we meet our legal obligations and requirements under the UK General Data Protection Regulation (UKGDPR) and the Data Protection Act (DPA) 2018. This is reviewed annually.</p> <p>All data analysed or stored by ESS, which is not available publicly, will be recorded on our information asset register.</p>
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Quality

5. Prioritise Quality	<p>We will promote and take a proactive approach to quality and continuous improvement, learning constructively from both mistakes and good practice.</p>	<p>We will welcome and investigate any suggestions of inaccuracy in our publications and issue corrections if necessary.</p> <p>All published reports will undergo a robust QA process which will include at least one member of staff not involved in production.</p> <p>Our approach to quality assurance (QA) is proportionate to the novelty and complexity of the statistics presented.</p> <ul style="list-style-type: none"> • when reproducing figures published elsewhere these will undergo colleague review to check accuracy and referencing • simple calculations or interpretation of published statistics may be conducted by any member of ESS staff but will undergo rapid review by a member of the data team • original analysis and scoping of quantitative evidence will be conducted by a member of the data team and undergo QA by a different data team member • when using new or complex methodology we will, in addition to
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		<p>internal QA processes, seek peer review from external experts such as academics to ensure the quality of our analysis and judgements. Where peer review is sought, we will publish a summary of comments alongside the final report to help readers make informed judgements about quality</p> <p>Following QA monitoring and analytical reports will be signed off by each of the three analytical function leads (Principal Scientific Advisor, Head of Data and Quantitative Analysis, and Head of Policy Analysis) as per our operational guidance.</p> <p>Members of the data team are badged GSS statisticians and are connected to professional networks to keep up to date with updates and share good practice.</p> <p>The Head of Data and Quantitative Analysis provided training to all ESS staff on our approach to QA and being transparent about quality in February 2026 and will monitor the application of guidance and provide refresher training as required.</p>
6. Be Rigorous	We will use suitable data sources and sound methods to meet intended uses, applying recognised professional standards.	<p>Publicly available datasets used in our analysis are clearly referenced in our publications. ESS considers the quality of these datasets before use and comments on their strengths and limitations when used in any analysis.</p> <p>Where possible we will use data from official statistics in our analysis.</p> <p>All new statistical analysis included in ESS publications will be undertaken and/or quality assured by members of the data team, who are badged GSS statisticians and will apply professional standards.</p>

<p>7. Be Open About Quality</p>	<p>We will clearly describe the quality of data and statistics, including uncertainty and bias in estimates.</p>	<p>ESS does not collect original data, so our quantitative analysis is based on either publicly available datasets or, occasionally, data that is provided with us directly by public bodies (generally through an Information Notice).</p> <p>When scoping data for our analytical projects, our preference will be to use accredited official statistics if available and appropriate for our intended purpose.</p> <p>If the most relevant evidence is from administrative data members of the data team will assess the data for quality and bias. In doing this, we will draw on the Administrative Data Quality Assurance Toolkit. We will consider:</p> <ul style="list-style-type: none"> • any information that is available on QA processes from the producer • potential sources of bias, including reason for data collection • any safeguards that producers list which minimise risk • completeness of the dataset • comparison to other data sources or wider evidence on the same topic and comparisons to related datasets (e.g. data from the rest of the UK or Europe) <p>Where data is provided to us by public bodies or by those making a representation to us, we will encourage them to also make this public to allow our analysis to be repeatable by others.</p> <p>In all cases the sources of the data used in our analysis will be referenced in our publications, alongside our assessment of the quality of data, including uncertainty and bias in estimates and impacts on appropriate interpretation and use. Where we have any concerns about bias or uncertainty in the</p>
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		<p>underlying data, we will provide details of this alongside figures.</p> <p>We will clearly outline the methods and assumptions that have been made in our analysis including any caveats on their use or interpretation. This will increase the transparency of our quantitative analysis and allow us to increase the value of our work by allowing other organisations to replicate our analysis.</p> <p>Wherever possible we will perform our analysis using open-source software and publish our code on our GITHUB page.</p> <p>As outlined under Principle 5, our approach to QA is proportionate to the novelty and complexity of the statistics presented. Where analysis uses new or complex methodologies external peer review will be sought. If external review is sought, a summary of reviewers' comments will be published alongside the final report to aid readers to make informed judgements about uncertainty.</p>
Value		
8. Be Relevant	We will judge what is needed by listening and responding promptly to user feedback, explaining our choices about what can be reasonably progressed.	<p>Environmental law exists to protect and improve the environment and human health. ESS ensures that public authorities comply with this law and that it is implemented effectively.</p> <p>At a high level, our approach to prioritisation is set out in our strategic plan, which is publicly consulted on, revised in response to feedback and then submitted to Parliament for approval. Our strategy for 2026-2031 sets out how we will consider impact, character and scope, neglect and added value in deciding what analytical work to do.</p> <p>Any individual or organisation can raise an environmental concern with us.</p>

		<p>These representations will be assessed based on our published criteria to examine compliance with or effectiveness of environmental legislation.</p> <p>Members of the data team will be active members of analyst networks and will seek peer review and feedback wherever appropriate to ensure the data and methods we are using are up to date and appropriate.</p>
9. Be Clear	We will ensure that data and statistics are easy to use and understandable and tailored to our audience's needs.	<p>All publications will adhere to our ESS style guide. Technical staff will work with ESS Communication team to ensure clear and accessible messaging.</p> <p>We will follow the principles in our published communication and engagement strategy.</p> <p>All published reports will be quality assured by a team member not actively involved in the analysis to check for clarity.</p> <p>We adhere to best practice guidance, including Government Analysis Function guidance on communicating statistics.</p>
10. Be Accessible	We will ensure easy access for all when publishing data, statistics and supporting material and we will meet legal accessibility standards.	<p>All our reports are published on the ESS website. These are in an accessible format to ensure they reach a wide audience. Accessibility is included as a requirement when procuring external publication services.</p> <p>We adhere to best practice guidance, including Government Analysis Function guidance on communicating statistics.</p> <p>Our colour palette for visualisations is in line with UK and Scottish Government best practice guidance.</p>

Table 2-1 ESS' commitments and practical application of these commitments mapped against the ten principles in the Code of Practice for Statistics.

3. Our approach to errors and corrections

3.1 We have robust quality assurance processes in place to minimise the risk of errors occurring. All analytical publications will undergo rigorous internal quality assurance and will be signed off by each of the three analytical function leads (Principal Scientific Advisor, Head of Data and Quantitative Analysis, and Head of Policy Analysis) as per our operational guidance. All quantitative analysis is quality assured by a member of the data team not responsible for the analysis. However, even with these processes in place, occasional errors are still inevitable. Our error corrections policy sets out how we will handle errors in a timely, transparent, and consistent manner.

3.2 There are two possible reasons why an error could appear in one of our publications;

- Errors in the outputs of our quantitative analysis. Errors may be from not carrying out the calculations correctly e.g. due to an error in our analysis code, or where we have identified that a method we have applied was incorrect. We may also find that we need to correct our statistics because there were undetected errors in the input data used to calculate the statistics.
- Publication errors. When a figure is incorrectly included in a publication table or summary which is not picked up by pre-publication QA.

3.3 In addition to these, there may also be new data or scientific evidence that changes our conclusions post publication. This will be picked up and addressed by our post publication monitoring.

3.4 How we respond to identification of an error in our quantitative analysis or a publication error will depend on the likely impact. When assessing the impact of any error we will consider the following criteria:

- The size of the error e.g. does the error materially change the interpretation of the data?
- The importance of the figure for our conclusions. Does the error impact our key findings in a publication?

- Does a recommendation to a public body depend on the analysis where the error occurred and would that recommendation have been the same without the error?

3.5 If the answer to any of the above is yes, then the correction will be classified as substantial, and we will issue a revision to the publication on our website. If there is an impact on the key finding or a recommendation, we will also contact the public bodies to which our recommendations were made. This will be completed as soon as possible. In the rare case that this it is not possible to provide a corrected figure within two months (e.g. due to complexity of re-analysis) a holding response will be published explaining the error and our plan for correction.

3.6 If the answer to all three questions is no, then we will correct the analysis and code internally to ensure the error is not carried forward into any future publications. If the figures appear in future publications, we will make the correction at this point and highlight this correction in the accompanying narrative.

4. Planned improvements we are working towards

4.1 We are committed to continuous improvement in applying the principles of TVQ to our work. We will continue to use the code to guide our approach and will publish an updated statement on an annual basis.

Principle	Improvement we are working towards
Lead responsibly	<p>Guidance materials will be referenced across all our internal procedures as relevant. The head of data and quantitative analysis will continue to monitor our application of these principles, providing training and support wherever needed.</p> <p>The head of data and quantitative analysis will ensure training on quality assurance procedures is provided to all new staff as part of their induction and will provide regular refresher sessions for existing staff.</p>
Be transparent	We will work towards providing advance notice on our website of upcoming publications wherever possible.
Prioritise quality	<p>We will continue to build networks and relationships with regular data suppliers to inform our understanding of source data quality. Where we identify gaps or limitations in available data, we will discuss these with data providers.</p> <p>The Head of Data and Quantitative Analysis will work with the head of investigations to build effective cross team QA of figures into the operational guidance for investigations.</p>
Be open about quality	We will actively monitor the quality of published statistics relating to our priority areas of work. The data team will assess uncertainty and bias in these statistics and will communicate this clearly to teams across ESS. Where this evidence is then used in ESS publications, or to inform decisions on whether a piece of work is prioritised or inform a recommendation, we will include a clear description of our assessment.
Be relevant	Our communication and engagement plan will be published alongside this statement. The head of data and quantitative analysis will work with our corporate team to agree the approach for gathering user feedback on the quantitative analysis in our reports.

Be clear	The head of data and quantitative analysis will work with the Head of Communications to consider how we can improve the clarity and accessibility of our analytical outputs.
Be accessible	We have started making processed datasets underlying our reports available on our website wherever possible. If this is not possible due to use of data which has been shared with us confidentially, we will be open about the reasons for this. We have also published the code for some of our analysis on our GITHUB page . Over the next year we plan to expand this approach to increase the transparency of our quantitative analysis and increase the value of our work by allowing other organisations to replicate our analysis.

Table 4-1 Improvements ESS are planning over 2026-2027 to further our application of the principles in the Code of Practice for Statistics.

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