



Policies and Procedures

Evidence Quality Assurance Policy

2015/16

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To learn more and view all the guidance visit <http://jncc.defra.gov.uk/page-6675>

Evidence Quality Assurance Policy

What is this policy for?

This policy and the associated set of Evidence Quality Guidance Notes provide a standard for JNCC staff to follow to help ensure that the quality of JNCC scientific advice and evidence is fit for purpose.

The policy presents principles that must be adhered to by all staff when providing scientific advice and evidence. The Evidence Quality Guidance Notes are intended to give additional information and tools to help staff make good choices about quality assurance; they are not intended to prescribe activities.

Compliance with this policy will be monitored and reported to the Executive Management Board and Joint Committee.

The policy is compliant with *The Government Chief Scientific Adviser's Guidelines on the Use of Scientific and Engineering Advice in Policy Making* (2010) and *The Defra Joint Code of Practice for Research* (2012).

The Executive Management Board will review and, if necessary, update this policy on an annual basis.

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1. What is evidence?

Evidence is a general term for expert opinion or advice, data, methodology, results from data analysis, interpretation of data analysis, and collations and interpretations of scientific information (meta-analysis).

JNCC generates evidence through its own activities, in partnership with others and through commissioned survey and research. Evidence from external sources also plays an important role in allowing JNCC to give its scientific advice.

The surveys and research that we undertake and commission must follow good scientific practice:

- data are collected using repeatable systematic observation, measurement, and experiment;
- hypotheses are formulated and tested (and modified);
- data are stored securely;
- results are analysed;
- inferences are drawn regarding their meanings, importance and reliability;
- the research is published.

Analytical evidence – quantitative and qualitative – has a variety of sources. Independently peer reviewed and published studies are of particular value, but there are numerous other sources. These include 'grey literature' like technical reports, systematic reviews, commissioned studies, case studies, and also expert knowledge and opinion.

2. What is quality assurance?

Quality assurance (QA) signifies the various processes that ensure work abides by and meets specific quality standards. Monitoring and auditing are essential parts of the QA process.

Two principles included in QA are: "Fit for purpose", the product should be suitable for the intended purpose; and "Right first time", mistakes should be eliminated.

This policy defines the QA process in JNCC. Guidance notes are available to help staff understand and implement the process, but are not intended to be prescriptive.

3. Why is evidence quality assurance important?

a. Purpose

It is essential that good evidence (i.e. of fit for purpose range and quality) is available to underpin decision making, particularly in supporting policy and programme decisions made by government. Such evidence, when it is generated from assured scientific practice in research, is required to form judgements, deliberate response options and thereby make effective decisions. As a government body, JNCC must be able to assure the quality of its evidence and advice. This means being:

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- able to understand the quality, assumptions and limitations of the data we collect or use (this may include collation/processing or interpretation);
- clear about the certainty and risks associated with our evidence and advice;
- able to document and trace the processes that provide evidence;
- honest, open and transparent about those processes.

b. Transparency

Transparency means being open about the scientific evidence and analysis underpinning our decisions, including confidence, uncertainties, data and knowledge gaps, assumptions, and how we have used scientific evidence and analysis, and any other factors, in our advice.

Government has set out the need for greater transparency across its operations to enable the public to trust in government services and hold public bodies and politicians to account. This includes commitments relating to public expenditure, intended to help achieve better value for money. The JNCC Evidence Quality Policy is designed to support achievement of better value for money by ensuring that evidence and advice is of fit for purpose quality.

c. Government Guidelines on Scientific Advice

The Government Chief Scientific Adviser's Guidelines on the Use of Scientific and Engineering Advice in Policy Making (GCSA Guidelines, 2010) require the adoption of an open and transparent approach to the scientific advisory process. Evidence and analysis are published as soon as possible, alongside any public explanation of the reasons for policy decisions.

Scientific advice is only one type of advice that may be taken into account by government decision makers. Others types might involve social, political, economic, or ethical concerns.

Openness and transparency of the scientific advisory process is vital to ensure that all relevant streams of evidence are considered, so that the process has the confidence of experts and the public. The evidence for a particular policy should be published as early as possible, unless there are over-riding reasons for not doing so, for example, national security, or requirements to protect personal or commercial confidentiality. The evidence should be published in a way that is meaningful to the non-expert, using plain English and avoiding overly technical descriptions and jargon. The analysis and assumptions that went into its creation, and any important gaps in the data, should be clearly identified.

The JNCC Evidence Quality Policy is compliant with the GCSA Guidelines 2010.

d. Access to evidence and information

JNCC is committed to providing open access to the data and information we hold, publishing via our website.

The Freedom of Information Act, 2000 (FOI) gives the public a right of access to information held by all public authorities in the UK. The Environmental Information Regulations, 2004 (EIR) deal with environmental information held by public authorities in England, Northern Ireland and Wales. The Information Commissioner's Office¹ is an independent authority promoting openness by public bodies. Scotland has its own Scottish Environmental Information Regulations and the Freedom of Information (Scotland) Act 2002. These are regulated by the Scottish Information Commissioner.

¹ http://www.ico.org.uk/for_the_public/official_information

The purpose of the legislation is to make public bodies, such as JNCC, more transparent and accountable. The right to information is subject to certain exemptions and exceptions which are considered on a case by case basis.

There are exceptional cases where JNCC will withhold access to some information and there are exemptions listed under both pieces of legislation to allow this. All such decisions are based on a public interest test, which weighs up the balance of the interest to the public in releasing the data or information against the potential risk of damage if access was allowed.

For the types of data that we hold there are two exceptions (under the Environmental Information Regulations) that are particularly relevant, although other exceptions may also be relevant:

- Protecting the interest of the data provider (especially in relation to data which has been voluntarily provided);
- Protection of the environment to which the information relates (where the release of data or information could lead to environmental harm).

Guidance on both FOI and EIR requirements is available on the JNCC website². Good QA practices can both help avoid the need for the public to make requests and enable more efficient responses to FOI or EIR requests.

4. Who is responsible for evidence quality assurance?

a. Internal responsibilities

JNCC employs specialists in a wide range of scientific disciplines, particularly across biological sciences, and also in economics, geographic information and spatial analysis, statistics and data management. All of these staff are responsible for evidence quality assurance, along with administrative staff who contribute to project management and evidence delivery.

Project managers have a particularly important role in implementing the Evidence Quality Assurance (EQA) policy, with support from programme leaders. Both should have a good working knowledge of the policy and be able to provide leadership and guidance for other staff involved in evidence and advice delivery.

Groups working on evidence delivery within or for JNCC also have a role in supporting implementation of the EQA policy, for example, by providing peer review for major projects, monitoring implementation of the policy and suggesting policy improvements.

The Executive Management Board (EMB) and Audit and Risk Management Committee (ARMC) both have responsibility for ensuring that the EQA policy works and is implemented to a satisfactory standard. EMB has responsibility for making decisions over evidence spend, including review of business cases for projects, and hence performs an EQA role in deciding on the range of evidence required. EMB is also responsible for ensuring that JNCC has the capabilities and capacity to deliver required EQA standards, via recruitment of staff with appropriate skills and provision of the appropriate training and professional development.

² <http://jncc.defra.gov.uk/default.aspx?page=6077>

The Statutory Nature Conservation Bodies' (SNCBs) Chief Scientists' Group advises JNCC on UK coordination work, including helping to specify the scope of our evidence and advisory work, commissioning technical advisory papers from JNCC and assessing the quality of evidence and advice.

The Joint Committee is ultimately responsible for evidence standards and QA processes within JNCC. Members discuss strategic nature conservation and organisational issues as well as making high-level advice, strategy, funding and planning decisions. In setting strategic direction, the Committee helps determine the scope of evidence and advisory work undertaken, and through its scientific oversight provides scientific leadership, including challenge, scrutiny (including peer review) and support.

b. Working with others

Specialists within the SNCBs, with whom JNCC staff often work closely, have a responsibility to support good evidence quality assurance practices in joint work. This responsibility also applies to other partners, both in government and the NGO sector, and any contractors employed to deliver evidence products. In these cases, JNCC staff will need to help others understand our EQA standards and procedures and what we expect from them to support achievement of good practice.

In working jointly with partner organisations agreement must be reached and recorded on standards that will be adopted for any given project at the start of that project; the JNCC policy should be followed as closely as possible. Guidance is available for understanding the EQA practices of the government environment departments, the SNCBs and EU projects, which highlights the main differences in approaches and where agreement on a common approach is most likely to be required.

Long-term partnerships, in which JNCC co-funds work with others, will need to reflect the standards established in the JNCC EQA Policy and associated guidance. In particular, project managers will need to ensure that the EQA process is communicated in publications and that the certainty associated with evidence is clearly communicated.

Contractors will need to comply with standards set out in this policy.

5. Which advice or evidence should be quality assured?

Quality Assurance should be proportionate to the intended use of the advice or evidence

Staff in JNCC produce different types of scientific advice and evidence ranging from short, rapidly produced advice notes to major data and evidence products delivered through contracts and partnerships. The QA approach for each of these products is necessarily very different, but all forms of scientific advice and evidence should undergo some level of QA.

Deciding on a suitable QA procedure should be based on a simple assessment of risk associated with use of the evidence.

a. Assessing risks associated with the use of advisory and evidence products

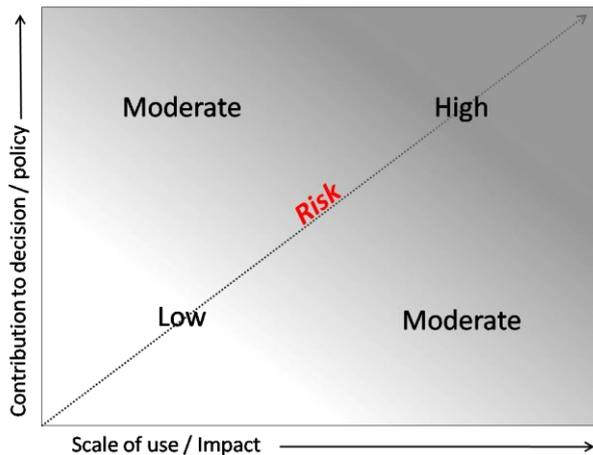
Risk can be defined and categorised in many ways; for the purpose of this policy we mean risk to biodiversity and ecosystems from decisions based on our advice and evidence.

This simple risk model should be used to assess the scope of QA needed:

Risk is typically measured as 'size of impact multiplied by likelihood of occurrence of an event' (see figure below). For an advisory or evidence product this can be defined as:

Impact = use of the evidence, i.e. potential decision or policy application, and scale of change that is likely to result from this use;

Likelihood = contribution of the evidence to the use, i.e. how significant is the evidence likely to be as a driver of the decision or policy change, including as part of a larger evidence-driven process.



Risk assessment is rarely precise, and a general rule is that as risk increases the QA of the advice and evidence should be more rigorous. There will be exceptions to this rule, usually as a result of the time available to provide advice or evidence (see below). Risk can also change during the life of a project and in this situation should be re-assessed and QA adapted accordingly.

Special cases relating to 'contribution to decision' also exist in which the advice is the sole basis for decision making, for example evidence-based protocols and criteria. In such cases, the risk of using poor evidence and/or creating poor protocols will always be moderate to high, varying only in relation to scale of use, and so both the underlying evidence and the protocols themselves should be subject to sufficiently rigorous QA.

Examples of high risk applications might include: designation of European protected sites; national and official statistics; advisory options for supporting development of EU law; evidence in support of government response to EU legal challenges; etc.

Moderate risk applications might include: technical advice to support UK negotiations in international agreements (although these might be high risk in some circumstances); conservation advice packages for protected areas; strategy development; operational policy development; etc.

Lower risk applications might include: scoping exercises to specify additional evidence gathering needs; expert inputs to workshops; responses to Parliamentary Questions; etc.

Staff should also be aware that other risks will be relevant to users of our advice and evidence, including reputational risk and risk of legal challenge, and may need to be taken into consideration when deciding on the best evidence quality assurance procedures. Precautionary approaches to EQA may also be helpful in situations where risks are very hard to assess.

Decisions on QA approaches need to balance risk with time and resource availability; all decisions need to be recorded. Project managers should make risk assessments at the start of the project process and, if necessary, check risk assessments with colleagues, including programme leaders.

b. The problem of time-limited responsive advice

There are a number of scientific advisory functions for which delivery times mean that expert knowledge is relied upon almost completely with limited or no additional evidence review. Some of these functions are of moderate to high risk, i.e. have high impact and the JNCC advice is the sole source of evidence for decision making. For these functions, which include advice on licensing under the Convention on International Trade in Endangered Species (CITES) and advice on regulated activities in offshore marine waters, a more strategic approach to QA should be taken rather than each piece of advice being subject to individual QA. This strategic approach relies on competency of staff and quality control is achieved through effective systems, training, within-team checks (including peer review), and use of advice from non-team experts (usually specialists in JNCC or the SNCBs, or suitable external experts).

All scientific advisory functions relying on strategic (programme or project level) approaches to QA must have a bespoke QA standard in place and this must be based on the principles set out for use of expert knowledge or opinion (see 6.a). It must include a monitoring plan to allow quality audits.

6. General principles for evidence quality assurance

The following sections provide a set of principles associated with different forms of evidence production from expert knowledge to procured evidence: these principles must be adhered to by all staff providing or involved in the provision of scientific advice and evidence.

To help staff implement the actions required to meet these principles there is a series of Evidence Quality Guidance Notes (EQGN); these are not prescriptive, but do include tools and forms for staff to use.

a. Expert knowledge and opinion

Expert knowledge and opinion are important and frequently used methods for providing advice and supporting development of response options, and checking quality of evidence (through peer review).

Expert knowledge or opinion should not be relied upon as a sole source of evidence when there is relevant evidence of suitable quality to support advice, unless there are good and demonstrable reasons why published evidence cannot be reviewed (for example, short deadlines imposed by others or as part of a function-specific strategic QA standard (see 5.b)).

Assessing the quality of expert knowledge and opinion is difficult, although maintenance of expertise through training and professional development and selection of experts are key controls (see EQGN2 on peer review). However, there are a number of principles that should be followed to increase confidence in use of expert knowledge and opinion, both when used

to complement evidence reviews and when used without supporting evidence. These principles are based partly on [JNCC Report 490](#).

Principles for using expert knowledge and opinion

JNCC staff when using in-house expert knowledge or opinion to provide rapid advice will:

- Ensure quality assurance of expert advice is proportionate to the use and likely impact of the advice;
- Comply with any function-specific strategic QA procedures, or:
 - Check advice or opinion with a suitably qualified colleague within JNCC, or if appropriate a colleague in an SNCB or partner organisation;
 - Support advice or opinion with review of relevant peer reviewed or trusted evidence (evidence based on peer reviewed and published methods), citing evidence sources in the advice;
- Ensure that potential users are made aware that the advice is based on expert knowledge or opinion.

JNCC staff when using externally sourced expert knowledge or opinion to provide advice will:

- Ensure quality assurance of expert advice is proportionate to the use and likely impact of the advice;
- Obtain opinions from two or more experts;
- Select experts with an appropriately wide range of views and expertise, involving generalists, as well as specialists;
- As best practice, typically involve non-government experts from academic, NGO and/or business communities, but when this is not acceptable for reasons of confidentiality then document decisions;
- Ensure that experts involved in an exercise do not have relevant conflicts of interest;
- Define key terms and concepts ahead of an information gathering exercise to help clarify what is being asked for and reduce uncertainty and 'noise' in experts' responses;
- When appropriate, use training or familiarisation of experts on the issues to be addressed in order to help reduce uncertainty and improve the quality of information that is provided;
- Use different methods to check consistency, for example well designed questionnaires paired with workshops, iterative consensus development methods, Delphi method, etc;
- Use a transparent and structured process to evaluate expert opinion, documenting methods used and decisions taken;
- When appropriate, weight opinions from different experts in accordance with the experts' self-assessments of their degree of expertise;
- Give experts opportunities to reflect on and refine their opinions in the light of information from the other experts.

Both internal and external expert opinion may be sought simultaneously and guidance to help staff fully understand and meet all of these principles is provided in EQGN3.

b. Reviews and assessments: using multiple sources of evidence

Review of multiple sources of evidence, including that produced by JNCC and from external sources, is an important method for developing evidence and advice. This section focuses on using the results and conclusions from existing evidence sources.

Analysis of multiple data sets, or re-analysis of data, to create new evidence products (in-house research) should follow good scientific practice and the principles included in the section below on procurement of evidence must be followed.

The interpretation of evidence collations can be biased by a number of factors, including for example:

- lack of evidence and/or poor transferability of evidence;
- selective choice of evidence to underpin advice;
- dismissal of evidence that conflicts with other evidence;
- inclusion of evidence that is not relevant for the intended use;
- failure to account for the quality of evidence included and its associated uncertainty;
- poor choice of meta-analysis methods;
- poor information management underpinning meta-analyses;
- combining evidence and expert opinion.

In order to reduce bias in evidence reviews and meta-analysis the following set of principles must be followed.

Principles for undertaking evidence reviews and assessments

JNCC staff when undertaking in-house reviews or assessments of evidence will:

- Make reasonable attempts to collate all relevant evidence of good or high quality to include in an assessment, documenting search methods used;
- Include any relevant evidence of suitable quality that conflicts with other evidence in the assessment, but clearly describe the effect of this evidence on the overall certainty of the assessment;
- Correctly and consistently cite all evidence sources so that users are clear about origin and would be able to find the evidence if it is published or request it if not;
- Select fit for purpose meta-analysis methods, testing this through peer review (see EQGN2) and document the reasons for the methods chosen;
- Follow existing JNCC/programme-level data management approaches, ensuring other users are able to understand the data and would be able to use the data to obtain repeatable results;
- Assess expert opinions used for an assessment (see EQGN3), documenting the methods used and outcomes to ensure transparency;
- Provide assessments of certainty in the overall conclusions drawn from the evidence and associated likely risks for any response options provided, using the terminology given in EQGN1;
- Peer review products according to the risk-based approach (5.a) and EQGN2, documenting methods chosen, reviewers involved and storing reviews in original form.

Guidance to help staff more fully understand and meet all of these principles is provided in EQGN1.

Systematic review provides a way to reduce bias, but can be costly and time consuming and is used infrequently by JNCC (guidance on systematic review methods are available from a number of sources, e.g. The Centre for Evidence-Based Conservation³).

7. Evidence QA in procurement

a. Procurement practice and evidence quality

The JNCC procurement process includes steps to help project managers ensure that the quality of commissioned work is fit for purpose. It provides guidance on creating a project specification, choosing contractors and defining required products.

There are two important principles identified in the procurement process that specifically relate to evidence quality (Finance Guidance Note FGN2):

Procurement for works, equipment, goods and services shall be based on **value for money**, i.e. quality (in terms of fitness for purpose), delivery against price, technical compliance & expertise, and other factors.

Competitive tendering - Procurement of specialist scientific services - Wherever possible JNCC will ensure that services are acquired via a competitive process.

The *JNCC Procurement Procedure Flowchart* sets out the workflow required to ensure that these principles are met, and central to the process is the project specification (known as the Annex A). It is used to establish the scope of the work (framing the questions to be addressed) and is a key document for establishing quality assurance requirements.

Most evidence procurement is likely to be done through a 'performance' specification, in which the problem to be addressed is defined, but not the solution. Conformance specifications, in which the exact requirement is set out, are also used for procuring some scientific evidence, for example where specific monitoring methods are necessary.

For **conformance specifications** the Annex A would specify what methods and approaches we would require a contractor to use. The Invitation to Tender (ITT) would typically be the same as the Annex A in this situation.

In **performance specifications** methods and approaches are not usually specified. However, to develop a good specification the project manager needs to have considered which methods and approaches would be appropriate for the project, and may even undertake peer review of the specification. The Annex A can be used to describe the methods we would expect a tender to specify, used for peer review and be the basis for informing the tender evaluation process. In such cases, the Annex A would differ from the document used for inviting tenders (ITT), which would necessarily exclude specifics on methods and approaches.

To help embed good evidence quality assurance practice in procurement via performance specifications we recommend the following documents are created:

³ <http://www.cebc.bangor.ac.uk/index.php>

- An Annex A – for internal use only (not published), to include information to help us test and understand the requirement (including through peer review) and provide context for tender evaluation;
- Invitation to Tender (ITT) specification – derived from the Annex A, to set out the problem and any specific requirements (published);
- Contract specification – derived from the Annex A and successful tender documents, agreed with the contractor, and for contract use only (not published).

A standard Annex A form is available from the JNCC intranet (from *Finance Forms* and *EQA* pages), and embeds EQA requirements. Additional information on how to assess and describe the specific EQA for a project in an Annex A is provided below in Table 1, along with guidance on how this could then be translated into an invitation to tender (ITT). These are based on the following additional principles to ensure that the evidence we procure is of fit for purpose quality, and hence value for money.

b. Additional principles and standards for ensuring that procured evidence is of 'fit for purpose' quality

JNCC will ensure that the following requirements are met when procuring evidence:

- Research/survey methods will be fit for purpose, and when innovative and novel methods are used, or developed, adequate risk management, including peer review processes, will be implemented;
- Interpretation of new data and other evidence is based on best scientific practice, and analytical methods and sources of other evidence are cited clearly;
- Evidence quality and the uncertainty associated with its interpretation are clearly communicated in reports and other relevant products;
- Peer review is used throughout the procurement process, including during development of the specification, in selecting the best contractor to achieve value for money, and in ensuring that reports and other products are of the required quality (see EQGN2);
- Procurement decisions and contract management processes are documented in a way that allows monitoring and evaluation of compliance with the JNCC Evidence Quality Policy.

JNCC will procure evidence only from contractors who satisfactorily demonstrate that they have the required:

- Capacity, capability and credibility – the staff resources available, including sub-contractors, the competency of those actually doing the work and track record of the contractor will be assessed for suitability to deliver the specified work;
- Quality management systems, either accredited or self-designed, in place and in use;
- Data management capability and relevant and adequate data access policies in place for the specified work.

Project managers are required to comply with these principles and use the guidance in Table 1 for creating a project specification (an Annex A) and invitation to tender. Contract documents must reflect the agreed approach to EQA, including addressing these principles.

c. Elements for inclusion in an Annex A and invitation to tender document

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A standard Annex A form is available from the JNCC intranet (from *Finance Forms* and *EQA* pages); this should be used to ensure EQA is embedded in procurement and supersedes the lists in FGN2 and given on the Specification page of the *Procurement* intranet page.

To help staff ensure consistency in approach to evidence quality assurance key elements of an Annex A, ITT and contract are described in the table below (Table 1).

Table 1: Guidance on effective inclusion of EQA in procurement documentation

Matching section in Annex A	Specification (the Annex A)	Invitation to tender
(5) Project objectives: detailed tasks - research/survey methods	Annex A should cite the required and/or desired methods, if known, for delivering the project objectives; this will help in tender evaluation. Peer review of methods may be appropriate (see EQGN2); in cases where peer review of methods is undertaken a description should be provided in Annex A.	The specification used for inviting tenders should avoid being prescriptive on the methods that are required so as to ensure effective competition, unless conformity is required. The applicant must state what research and/or survey methods will be used and whether these are already peer reviewed (published sources should be cited). They must state why the chosen methods are fit for purpose. When methods are not published or a non-published variation of a method is being proposed, the possible risks to quality of evidence associated with the innovative methods should be described and a contingency plan for managing these risks provided.
(5) Project objectives: detailed tasks - peer review	Choice of peer review approaches should be based on risk assessment (section 5). The Annex A should describe the desired approach, based on EQGN2, and reasons for this decision. Any requirements deemed mandatory, including the need for a steering or advisory group, should be clearly described and included in the invitation to tender.	Plans for peer review of the specification (if required) and of project progress and outputs should be described and accounted for in the delivery timetable. Approaches to any specified mandatory peer review must be clearly described and timetabled. If JNCC intends to undertake an independent review outside of the project then this should be mentioned.
(13) Instructions for tender submission - capacity, capability and credibility	Annex A should include a basic estimate of staff resource and the competency requirements to meet the objectives. This is not for inclusion in the invitation to tender, but to help clarify likely costs and in tender evaluation.	The applicant is required to propose a breakdown of staff resources and how these will be met, including any subcontracting. The competencies and experiences of those actually doing the work must be provided (for example, short CVs, publication records) and must be relevant to the specified work. Examples of previous relevant work completed by the applicant and any sub-contractors should also be provided.
(13) Instructions for tender submission - Quality Management (QM) systems	Any requirements for the contractor to have an accredited QM system in place must be specified. Requirements for compliance with recognised	Any recognised QM systems in use by the applicant should be specified and current certification demonstrated. If not accredited, the applicant must provide evidence

Matching section in Annex A	Specification (the Annex A)	Invitation to tender
	codes of practice should also be given, for example Code of Practice for Official Statistics ⁴ .	that they have a QM system in place (documentation should be provided) and in use or provide a quality assurance plan. The QM system or plan must include adequate monitoring and audit practices.
(7) Outputs - data management and access	Set out management and storage requirements related to the data generated from the project and the relevant policy for data access.	The applicant is required to describe the approach that they will take to data management and storage and demonstrate that they have the required capability. They must indicate that they can comply with any specified data access requirements.
(14) Evaluation criteria	A short list of evaluation criteria and the ways in which they will be scored must be included in the Annex A, based on the standard criteria. They must include criteria relevant to the other headings in this table.	The tender evaluation criteria, plus scoring approach (weightings), must be specified in invitations to tender.

8. Publishing evidence and communicating evidence quality

JNCC publishes evidence and scientific advice in many forms, including through the report series, books, papers, data sets and geographic information. Quality assurance of products prior to publication is important, especially through peer review.

Peer review should be proportionate to the kind of evidence being published. Staff should assess the need for peer review, conduct the required review and respond to it, and document the process and outcomes (EQGN2). Evidence products likely to have a major role in significant decision making (i.e. related to high environmental risk) should undergo independent peer review. The peer review process should be transparent and the names of reviewers cited in publications (see EQGN2 for more information).

Evidence that is of sufficient scope and/or novelty should be considered for submission to a scientific journal for publication, although this way of publishing should not delay use of the evidence for decision making. Realistic time and resources will need to be allocated to allow this, ideally during initial project planning and certainly if the evidence is gained through procurement. If seeking to publish procured evidence in a scientific journal, JNCC staff should assess their contributions to the paper and seek co-authorship if this is appropriate. A simple set of rules for determining authorship is available in Annex 4 of EQGN5.

Reports published as part of the [JNCC Report Series](#) and major papers must include a short statement on the evidence quality assurance process undertaken during the project and in refining the report (the Communications Team will advise on how best to do this for a particular type of report).

⁴ <http://www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html>

Whatever the form in which evidence is published, it is critical that the way in which a product has been quality assured is communicated clearly. In addition, staff must provide some assessment of certainty of the findings, using the terminology in EQGN1.

9. Public consultation on JNCC evidence

JNCC undertakes public consultations on a range of evidence products, especially in relation to European and international reporting. Consultation can provide a valuable additional peer review opportunity, but is not necessarily relevant to all of our evidence work. However, it should not be done instead of peer review; it typically follows on once expert peer review of evidence is completed.

Decisions on if, when and how long to consult the public on evidence should be made at the beginning of any project and adequately planned. The requirement to consult is often pre-determined by government, and JNCC might not always be responsible for running consultations, but when we do lead a consultation then project managers should consult with programme leaders or project steering groups on the appropriateness of public consultation. Evidence products likely to have a major role in significant decision making (i.e. related to high environmental risk) would usually undergo public consultation either alone or more typically as part of that decision making process.

10. Record keeping, monitoring, auditing and reporting

Adequate records of decisions and actions taken in QA must be kept to allow monitoring, assessment (audit) and reporting of compliance with this policy.

All projects where EQA is relevant should have an initial risk assessment that is recorded; the 10-step check list available on the JNCC intranet can be used for this purpose.

For procured evidence, discrete projects or substantial evidence reviews a Project Audit Document (PAD) must be created at the beginning of the work and used through to completion; a PAD template is available (see also EQGN5). It should set out clearly who is responsible for tracking and recording the agreed evidence quality assurance process for the project. Where a function-specific strategic QA standard is in use this must specify record keeping requirements.

Documents should be managed and retained in accordance with the guidance set out in EQGN5 and the JNCC Information Management Framework.

JNCC will monitor the quality of its evidence and advice on a regular basis and implement changes necessary to address any serious shortfall in compliance with this policy or the adequacy of the policy. Monitoring methods will include quarterly checks via normal corporate performance reporting. The approach to any additional monitoring will be defined by the Executive Management Board at the start of each business year.

Information on evidence quality management, including methods and outcomes, will be audited and reported to the Executive Management Board (quarterly) and Joint Committee (annually), and summary information published annually.