

Guidelines for Authors

Prepared for the Environmental Protection Agency

by

Mayo Editorial

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1. Introduction

This manual is intended to provide guidelines only and should not be regarded as a training manual. There will inevitably be omissions – mistakes even. This is a ***Guide*** for authors: its rulings should not be considered as applying inflexibly. One particular instruction is stressed here – use common sense. Preferred practices are presented here but in certain situations a cleaner, quicker, more efficient solution may present itself and should be employed in preference.

In many places, a simple common-sense decision has been made between two inseparably appealing alternatives. Often there is no right or wrong answer and a ‘toss of the coin’ type solution is required.

2. General Instructions

Write simply and concisely. Otherwise, the scientific value of your report may be obscured. Reports should convey the findings precisely and immediately to the reader, repetition or excessive discourse should be avoided. Authors are urged to have reports reviewed critically by colleagues for accuracy and clarity of presentation. Draft reports should be submitted as electronic files in MS Word. Standard scientific English should be used. Particularly when there are a few authors for a report, it is a good idea to keep a 'style sheet' as you write. Include an alphabetical list of spelling, hyphenation, capitalisation, and terminology preferences. An editorial meeting can then quickly reach agreement on consistency.

2.1. Formatting

Switch off automatic hyphenation. Use Times New Roman 12 pt type with line spacing set to 1.5 lines. Justify all text. Avoid superfluous tabs and spaces. Do not type double spaces after a period at the end of a sentence. Number pages. Do not indent the beginning of a paragraph. If possible, do not use more than three or four numbered section levels.

2.2. Tense

Use the active voice as far as possible: it is shorter, clearer, and more emphatic. For verb tenses, use the following rules:

Use the present tense when

- describing established knowledge or previously published results ("Slurry causes pollution in ...").
- For "presentation" (Figure 1 shows that ...).

Use the past tense:

- when describing methods and results in your current report (we used ...; we found ...).
- for attribution (Smith reported ...).

Avoid the present perfect tense (Smith has reported ...) when the simple past tense suffices.

2.3. *Emphasis*

Don't overuse italics for emphasis. A page peppered with different type styles impedes smooth reading. Avoid redundancies such as "one-half (50%)".

2.4. *Abbreviations*

Use standard abbreviations. Define any terms that may be unfamiliar to the reader the first time that they are written and use them consistently throughout the manuscript. Alternatively provide a glossary. Ensure that any term used is consistent with usage already published. Do not use full stops in contracted abbreviations where the final letter of the abbreviation is the same as the final letter of the full word – Dr, Ltd, vs and ca, for example – otherwise, a full stop should be used (Fig. and Co.). There should be a full stop after Ed. (editor), but not after Eds (editors). Symbols for scientific units do not contain full stops (kg not kg.).

Note the punctuation in *et al.* and species names such as *E. coli*. There should not be any punctuation in acronyms – USA not U.S.A; DNA not D.N.A.

Abbreviations should be defined, the following words being exceptions.

Figure – can be abbreviated to Fig. if it is followed by a number (i.e. if it is part of a proper noun). It should be written out in full at the beginning of a sentence.

Equation – the abbreviation used is 'Eqn' (lower case) and it should be used in the same way as 'figure'. The equation number should be placed in parentheses (refer to Equations).

Table and *Section* should never be abbreviated.

The following are usually abbreviated and have full stops: i.e., e.g., cf., *et al.* There should be a comma before e.g., i.e., etc. and cf. but not after (except in lists such as the one given here!). Ensure that these are used in the correct context, particularly cf. which means compare (c.f. means carried forward). Do not use cf. if 'see' is the intended meaning.

Do not place full stops after ppm or ppb, except at the end of a sentence

Always bear in mind what an abbreviation stands for, as it does not make sense to write SEM microscopy, for example.

AD is always written before the year (e.g. AD 1890), but BC is written after the year (e.g. 1500 BC). Note however ‘in the third century AD’.

2.5. Headings

Do not place a full stop at the end of a heading unless the text continues immediately after the heading. Numbers should be used to indicate the order or level of each heading.

2.6. Hyphens

There is controversy surrounding the use of hyphens. They should only be used to avoid ambiguity in adjectival phrases – “two year-old sheep” has quite a different meaning to “2-year-old sheep”. Hyphenation must be consistent throughout a manuscript.

If there is a prefix–word combination that may be misinterpreted, use a hyphen (e.g. ‘re-form’ and ‘reform’, ‘re-mark’ and ‘remark’).

If a prefix is used before a proper noun, use a hyphen (e.g. pre-Newton).

If a prefix is used before a year, use a hyphen (e.g. pre-1940, mid-1980s).

Use hyphens with numbers to avoid ambiguity (e.g. first-order equation, three-fifths, three-quarters).

It is not necessary to use a hyphen with an adverb–adjective combination if the adverb ends with -ly (e.g. greatly underused facility). It may be necessary to hyphenate other adverbs (e.g. well-established experiment, least-squares procedure, best-known example).

Use a hyphen in sentences where the first adjective qualifies the second and may also directly qualify the noun (e.g. variable-volume experiment, constant-temperature apparatus).

Use hyphens in long, connected adjectival expressions (e.g. the signal-to-noise ratio, up-to-date information).

Hyphens are required for some adjectival phrases if they are used attributively (e.g. a temperature-sensitive cell, a time-dependent mechanism, a sulphur-rich crystal), but not if used predicatively (e.g. the cell was temperature sensitive).

Hyphens are always used for certain words (e.g. X-ray).

2.7. Equations

Equations should be placed on a new line and should be numbered. The number should be placed in parentheses after the equation and aligned to the right.

2.8. Scientific units

The scientific units used should be those adopted in the Système International (SI) convention, where possible. There are standard abbreviations for SI units and these should be strictly adhered to. Thus kilograms not pounds, metres not feet should be used. (Note: a meter is an instrument of measure.). The units given in a manufacturer's specification should not be changed.

The symbols used for units are the same whether the unit is singular or plural. Do not place a full stop after a unit except at the end of a sentence. Thus, g not gm or gms or g., km not Km, Hz not hz, s not sec, h not hr.

There should always be a space between the scientific unit and its value (except before °C, degree (°) and %), e.g. 15 km, 80 mg/l, 22°C, 160°, 3%.

Use proper numerals for 0 (zero) and 1 (one) – not O/o (oh) and l (ell)

2.9. Plurals and possessives

Plurals are formed in most cases by the addition of a lower-case 's'; apostrophes should not be used to indicate plurals: "in the 1990s" *not* "in the 1990's"; "NGOs" *not* "NGO's".

There are differences between American and British English usage for plurals: formulae and antennae are British plurals while the American equivalents are formulas and antennas.

Apostrophes should not be used with possessive pronouns. The most abused example is “its”: “it’s” means “it is”!!!

2.10. Common words and phrases that are incorrectly used

‘A number of’ / ‘The number of’ – the phrase ‘a number of’ is followed by a plural verb whereas ‘the number of’ is followed by a singular verb.

‘Affect’ and ‘effect’ are not interchangeable. ‘Affect’ is primarily used as a verb meaning to influence or to make a difference to. ‘Effect’ can be both a noun (meaning the result of something) and a verb (meaning to accomplish something or to bring about a result).

‘Alternative’ means another option while ‘alternate’ means to occur in turn.

And – there is a school of thought that believes that you should not start a sentence with ‘and’. This is totally without foundation. Bryson (2001) has the final word on the subject: “And that’s all there is to it.”.

‘Biweekly/bimonthly’ – in publishing means every two weeks/months. Everywhere else it can mean either twice a week/month or every two weeks/months and so should be avoided.

Collective nouns – can be used with either a singular or a plural verb. Americans favour the singular and the English the plural treatment. Refer to the entry in the *New Oxford Dictionary of English* (page 359): “A collective noun can be used with either a singular verb (.....) or a plural verb (.....). Generally speaking, in Britain it is more usual for collective nouns to be followed by a plural verb while in the US the opposite is true. Notice that, if the verb is singular, any following pronouns must be too:”.

‘Compared to’ and ‘compared with’ have different meanings: ‘compared to’ is used to stress the similarity between things that are essentially different; ‘compared with’ is used to draw attention to a difference. Bryson (2001) says: “So unless you are writing

poetry or love letters, *compare with* is usually the expression you want.” The *New Oxford Dictionary of English*, however, concedes that either can be used.

‘Complement’ means to add to while ‘compliment’ means to praise or admire.

‘Comprise’ and ‘compose’ are similar but not identical – a body comprises the elements of which it is composed.

‘Data’ – should always be plural for scientific use.

‘Dependent’ and ‘dependant’ – the adjective is always spelt ‘dependent’.

‘Each’ – Bryson (2001) says: “When *each* precedes the noun or pronoun to which it refers, the verb should be singular. When it follows the noun or pronoun make the verb plural.”

‘Either’ means one or other of and should be avoided when more than two quantities or items are involved.

‘Infer’ and ‘imply’: A writer implies what the reader infers. Imply means to suggest and infer means to deduce.

‘Neither’ – with a *neither–nor* combination the verb should agree with the noun nearest it. A *neither–or* combination is always wrong. When neither is used on its own the verb should be singular.

‘None’ – the belief that none should always be singular is a myth. It can be treated as a singular or as a plural depending on the context and the emphasis needed.

‘Only’ should be placed directly before the word or phrase it modifies.

‘That’ and ‘which’ are not interchangeable. ‘That’ is a defining pronoun, whereas ‘which’ introduces a description of an object already defined. Bryson (2001) says:

“A non-defining clause is one that can be regarded as parenthetical: ‘The tree, *which had no leaves*, was a birch’. The italicized words are effectively an aside and could be deleted. The real point of the sentences is that the tree was a birch; its leaflessness is incidental. A defining clause is one that is essential to the sense of the sentence: ‘The tree *that had no leaves* was a birch’. Here the leaflessness is a defining characteristic; it helps us to distinguish that tree from other trees.”

2.11. Change of usage

'Sulfur' is now the correct IUPAC spelling (not 'sulphur') – the same obviously applies to its derivatives.

2.12. Common misspellings

Led is the past tense and the past participle of lead

Odorant *not* Odourant

“under way” – “underway” is the American spelling

“Stationery Office” *not* “Stationary Office”

“a drier climate” *not* “a dryer climate”

“its” is the possessive and “it’s” means “it is”

2.13. Ranges

'From' always takes 'to': 'From X to Y' *not* 'from X–Y'

'Between' always takes 'and': 'Between X and Y' *not* 'between X–Y'

2.14. Redundant words and phrases

Redundant words and phrases tend to detract from the clarity of a report. Some alternatives are suggested in Table 2.1.

Table 2.1. Some suggested alternatives to redundant words and phrases.

Preferable	to	Preferable	to
although	despite the fact that	higher than	higher in comparison to
after	subsequent to	If	in the event that
because	accounted for by the fact that due to the fact that	innovation	new innovation
because of	on the grounds of	like	along the lines of
before	prior to	many, much	considerable amount of
believe	is of the opinion that	merge	merge together
by, with, using	by means of through the use of	more	greater number of
can	has the capability of	more than, over	in excess of
cannot	lacks the ability to	most	the majority of
close, near	in close proximity to	near	in the immediate vicinity
conclude	bring to a conclusion	now	at this point in time
eliminate	entirely eliminate	proved	definitely proved
few	a small number of	result	end result
for 3 years	for a period of 3 years	50 rivers	a total of 50 rivers
full	completely full	seems	appears to be
fully	to the fullest possible extent	stress	place emphasis on
		unique	very unique

3. Figures and Tables

Figures and Tables should be numbered consecutively in the order in which they are first mentioned in the text. They should be numbered in Arabic numerals, and should be numbered decimally by chapter – e.g. the second Table in Chapter 2 should be numbered Table 2.2. If either a table or a figure has been taken from another work, the source should be acknowledged.

3.1. Tables

Each table must be cited in the text. Put table titles above the table. The title should contain the table number at the start, followed by the description. Where possible the table should stand alone so that it can be understood without reference to the text.

Each column must have a heading. Units should always be given as appropriate.

Footnotes can be used to indicate the source of the data in the table or to explain abbreviations that have been used, etc.

3.2. Figures

Put legends below the figure. The legend should contain the figure number followed by the description. Where possible the figure should stand alone so that it can be understood without reference to the text.

3.2.1. Text citations

All figures must be cited at least once in the text.

3.2.2. Captions and labelling

All numbered figures must have suitable captions. Remember to check the captions against the text and figures to ensure that any cross-references are accurate and that the numbering is correct. Keep captions as short as possible; aim for a single sentence, appropriately punctuated. For ease of reduction, clarity, etc. it is better to use a sans-serif typeface for labelling. Remember to proof-read the labels for spelling mistakes/typos as a spell-checker won't pick up any errors here. Units should always be given as appropriate

3.2.3. Permissions, acknowledgements and legal rights

The author must ascertain which material has already been published under copyright and obtain the necessary permission to reproduce it. All reproduced material must be acknowledged, e.g. “Reproduced with permission from ...”.

4. References and Further Reading

All references that are cited in the text should be listed in the 'References' section. For short reports one list at the end of the manuscript is recommended. This means that individual references are not repeated throughout the text. For longer reports it may be appropriate to have a list of References at the end of each chapter. A Bibliography should only be used if it contains references that have not been cited in the text.

4.1. Harvard reference system

The Harvard system is recommended.

References that are cited together in the text should be arranged chronologically and then alphabetically by the authors' names. They should contain the name of the author(s) followed by the year of publication. The citation should be in the form

'Smith (1990)' or '(Smith, 1990)'

depending on the context.

If there are two authors, the names of both should be included in the citation

'Smith and Jones (1992)' or '(Smith and Jones, 1992)'.

If there are three or more authors, use the name of the first author followed by *et al.* and the year. All authors should be named in the Reference list.

'Smith *et al.* (1992)' or '(Smith *et al.*, 1992)'

(*et al.* should be in italics with a full stop).

Two or more references that are cited at the same place in the text should be placed in parentheses, listed in chronological order and separated by semi-colons

“(Smith and Molloy, 1961; Smith, 1990; Smith *et al.*, 1992)”.

Publications that were published by the same author in the same year should be identified with a, b, c, etc.

Smith (1990a,b) or (Smith, 1990a,b)

4.2. Reference list style

In the Reference list, the references should be listed alphabetically by the name(s) of the author(s), in the order: single author, two authors, three or more authors, then chronologically, and finally using a, b, c, etc. if applicable. Use the following rules.

- (a) for one author: list chronologically if there is more than one reference by a specific author; then use a, b, c, etc. if two or more references come from the same year.
- (b) for two authors: list alphabetically based on the name of the second author, then chronologically, and then by a, b, c, etc.
- (c) three or more authors: list chronologically, then by a, b, c, etc.

Note the following example.

Smith, J. (1961)

Smith, M. (1956)

Smith, M. (1963)

Smith, J. and Adams, M. (1961)

Smith, M. and Molloy, G.B. (1961)

Smith, M., Jones, G.J. and Molloy, G.B. (1954)

Smith, J., Adams, M. and Walsh, M. (1961)

The Reference section should be clear, consistent and comprehensive so that the reader can easily find the references for further reading.

Do not include 'personal communications' in the References; however, they may be cited in the text.

Journal titles should be written out in full, not abbreviated. The titles of journal articles (or chapters in edited books) should be included.

The page range for journal articles should include the start and end pages of the article, e.g. 12–15, 437–441 not 437–41.

Check that all references cited in the text are listed in the Reference section, and that all references in the Reference section are cited in the text.

Avoid ‘Anonymous’ as the author – for government, EU, or agency reports use the name of the body involved as the author name.

Reference example – book

Boon, P.J. and Howell, D.L. (Eds), 1997, *Freshwater Quality: Defining the Indefinable?* Scottish Natural Heritage, The Stationery Office, Edinburgh, UK.

Reference example – book chapter

Caffrey, J.M., 1987, Macrophytes as biological indicators of organic pollution in Irish rivers. *In: Richardson, D.H.S. (Ed.) Biological Indicators of Pollution.* Royal Irish Academy, Dublin, Ireland, pp. 71–81.

Reference example – report

Healy, B., 1999, *Survey of Irish Coastal Lagoons 1996 and 1998.* Report to the National Parks and Wildlife Service, Office of Public Works, Dublin, Ireland.

Reference example – journal

Marnell, F., 1998, The distribution of the smooth newt, *Triturus vulgaris* L., in Ireland. *Bulletin of the Irish Biogeographical Society* **22**: 84–96.

Reference example – Government and EU Publications, etc.

DoELG (Department of the Environment and Local Government, Ireland), 2000, *National Climate Change Strategy.* Stationery Office, Dublin, Ireland.

Council of the European Communities, 1991, *Council Directive 91/156/EEC of 18 March 1991 amending Directive 75/442/EEC on waste*. Official Journal of the European Communities No L 78/32.

Reference example – website guidelines

The basic form of a document retrieved via online databases, Gophers, or the WWW should contain enough specific information about the publication to retrieve it.

EPA, 2000, *Ireland's Environment – A Millennium Report*. Irish EPA, Richview, Clonskeagh, Dublin 14. Also available online at: <http://www.epa.ie/soe/soemain.html> [accessed 23 February 2003].

The Benchmarking Network <http://www.benchmarkingnetwork.com>

US EPA, 2001, National Environmental Performance Track. Available at <http://www.epa.gov/performance-track/> [accessed 23 February 2003].

5. Author Submission Checklist

5.1. Text

Have you run a spell-check? ***Do not rely on the MS Word spell-checker for accuracy in scientific or technical English. For example, 'liaise' is spelt incorrectly in the Word spell-checker. Do not use the MS Word grammar checker – it makes nonsense of scientific English.***

Were you consistent in the use of capitalisation, abbreviations, etc.?

Are the pages numbered?

5.2. Headings

Is the capitalisation correct and consistent?

5.3. Tables

Are all tables numbered sequentially?

Are all tables cited in the text?

Are all tables included electronically?

5.4. Figures

Are all figures numbered correctly?

Are all figures cited in the text?

Are all figures included electronically?

Is the resolution high enough for print quality?

Have I included the original file?

Do the figure captions match the actual figure?

Are the axes labelled correctly?

5.5. References

Are all references cited in the text listed in the Reference list?

Are all references in the Reference list cited in the text?

Did I check that the spelling of the authors' names in the text citation match that in the References?

Is the year given in the text the same as in the References for each citation?

Is the correct format used?

If you use a Reference Manager programme the checks above are largely taken care of.

6. Bibliography

Bryson, B., 2001, *Troublesome Words*. Third edition. Penguin Viking.

Day, RA., 1995, *Scientific English: a Guide for Scientists and Other Professionals*. Second edition. Oryx Press, Phoenix, AZ.

Fowler, H.W., 1980, *A Dictionary of Modern English Usage*. Second edition. Oxford University Press.

Gowers, E., 1980, *The Complete Plain Words*. Second edition. Penguin.

The New Oxford Dictionary of English, 1998, Oxford University Press.