***New Zealand Journal of Forestry Science***

**Manuscript template outline for a Research Article**

See the submission preparation checklist and author guidelines at: <http://nzjforestryscience.nz/index.php/nzjfs/about/submissions>

for more information.

**Title (use sentence case)**

The title should succinctly describe the contents of the manuscript. Use words that accurately, but concisely, describe what you did and used.

Authors’ names

List the full names of for all authors and indicate the corresponding author with an asterisk.

*Authors’ addresses*

List the institutional addresses and email addresses for all authors

**Abstract**

The Abstract is a summary of the main points of the manuscript. It should not exceed 350 words. It should be structured into separate sections:

**Background:** the context and purpose of the study;

**Methods: a very brief summary of what you did;**

**Results:** the main findings;

**Conclusions:**  a brief summary of what the findings mean and their potential implications.

\*\*\*Minimise the use of abbreviations and do not cite references in the abstract\*\*\*

**Keywords**

Three to ten keywords representing the main content of the article. Separate each keyword with a semi-colon

***Mathematical symbols***

Greek letters and other common symbols must be added using the 'Insert symbol' function in Word wherever possible e.g. *fT* ≥ *λ = θ×ρ.* DO NOT use a Maths function to add symbols into the main text unless the symbol cannot be inserted directly.

***Plant names:***

There are no parentheses around botanical authority names when the original authority is still valid e.g. *Pinus taeda* L. or *Eucalyptus globoidea* Blakely. The parentheses are required around the original authority only where the authority has changed, e.g. *Pseudotsuga menziesii* (Mirb.) Franco.

There is no space after the initial of an authority e.g. *Pinus radiata* D.Don not *Pinus radiata* D. Don.

The botanical authority needs to be included twice: (i) the first time the species is mentioned in the title/abstract; and (ii) the first time the species is mentioned in the main text.

Where two genera starting with the same letter are referred to in the same manuscript then the full names must be used to avoid confusion, e.g. ‘… wood properties of *Pinus radiata* and *Picea abies* …*’* not ‘… wood properties of *Pinus radiata* and *P. abies*…*’*

MAKE SURE YOU USE THE CURRENT NAME AND AUTHORITY, WHICH CAN BE FOUND at *World Flora Online* [**www.worldfloraonline.org**](http://www.worldfloraonline.org/)

**Introduction**

The aim of this section is to provide the reader with an overview of the technical and scientific background to work.

Establish the context of your work by discussing relevant work that is already published (with citations) and summarising your current understanding of the problem you are investigating. Q: *What did we know about the subject before I did this study? Why is this subject of interest internationally?*

State the purpose of the work in the form of the hypothesis, question, or problem you investigated: Q: *Why is it an important question?*

Briefly explain your rationale and approach: Q: *What did I study*? *Why is the experimental approach taken in the study an appropriate one? How will this study advance our knowledge?*"

**Methods**

The methods section should include the design of the study, the type of materials involved, a clear description of all comparisons, and the type of analysis used, to enable replication. Your description should be the "quantitative" aspects of your study - the masses, volumes, incubation times, concentrations, etc., that another scientist needs in order to duplicate your experiments. Use subheadings as appropriate:

**Study site**

Provide a [**description of the study site**](http://abacus.bates.edu/~ganderso/biology/resources/writing/HTWsections.html#describesite)*,* including the significant physical and biological features, and the precise location (latitude and longitude, map, etc).

**Organisms studied**

Describe any **organism(s) studied** (plant, fungus, etc.) and, when relevant, their pre-experiment handling and care.

**Experimental OR sampling design** (i.e., how the experiment or study was structured. For example, controls, treatments, what variable(s) were measured, how many samples were collected, replication, the final form of the data, etc.);

**Protocols for collecting data**, i.e. how the experimental procedures were carried out. Identify key pieces of equipment by vendor name and brand or category. Cite the source of any published methods that you have used. Always describe any modifications you have made to a standard or published method. If you have done a literature review then cite the sources you used (e.g. Scopus, Google Scholar etc) and the keywords you used for your search. Also, provide the date on which you did the search.

**How the data were analysed** (qualitative analyses and/or statistical procedures used to determine significance, data transformations used, what probability was used to decide significance, etc). The information should include:

* **Statistical software used**: Sometimes it is necessary to report which statistical software you used; this would be at the discretion of your instructor or the journal;
* How the data were **summarised** (Means, percent, etc) and how you are reporting **measures of variability** (SD, SEM, 95% CI, etc), which lets you avoid having to repeatedly indicate you are using mean ± SD or SEM.
* Which **data transformations** were used (e.g. to correct for normal distribution or equalise variances);
* **Statistical tests** used with reference to the particular questions, or kinds of questions, they address. For example,
  + "A Paired t-test was used to compare mean flight duration before and after applying stabilisers to the glider's wings."
  + *"One way ANOVA was used to compare mean weight gain in weight-matched calves fed the three different rations."*
  + *"Comparisons among the three pH treatment groups for each variable were done using one way ANOVA (with Tukey's post hoc test) or a Kruskal-Wallis Test (with Dunn's post hoc test)."*
* Any other **numerical** (e.g., normalising data) or **graphical** **techniques** used to analyse the data
* **What probability (*a priori*) was used to decide significance**?

**Describe how the data were summarised and analysed.** Here you will indicate what types of descriptive statistics were used and which analyses (usually hypothesis tests) were employed to answer each of the questions or hypotheses tested and determine statistical significance.

**Results**

Objectively present your **key** [results](http://abacus.bates.edu/~ganderso/biology/resources/writing/HTWsections.html#results), *without* interpretation, in an orderly and [logical sequence](http://abacus.bates.edu/~ganderso/biology/resources/writing/HTWsections.html#sequence) using both [text](http://abacus.bates.edu/~ganderso/biology/resources/writing/HTWsections.html#text) and [illustrative materials](http://abacus.bates.edu/~ganderso/biology/resources/writing/HTWtablefigs.html) (Tables and Figures). Tables and Figures should be placed at the relevant part of the text. See below for further information on Table and Figure formatting. Report your results so as to provide as much information as possible to the reader about the nature of differences or relationships. The Results section may also be broken into subsections with short, informative headings.

**Discussion**

Don’t just repeat your results here. Also, make sure that [no new results](http://abacus.bates.edu/~ganderso/biology/resources/writing/HTWsections.html#nonewresults) are presented in this section.

Instead, interpret your results in light of [what was already known](http://abacus.bates.edu/~ganderso/biology/resources/writing/HTWsections.html#discliterature) about the subject of the investigation, and explain any new understanding of the problem after taking your results into consideration. The Discussion will always connect to the [Introduction](http://abacus.bates.edu/~ganderso/biology/resources/writing/HTWsections.html#introduction) by way of the question(s) or hypotheses you posed and the literature you cited, but it does not simply repeat or rearrange the Introduction. Instead, it tells how your study has moved us forward from the place you left us at the end of the Introduction.

Fundamental questions to answer here include:

* Do your results provide answers to your testable hypotheses? If so, how do you interpret your findings?
* Do your findings agree with what others have shown? If not, do they suggest an alternative explanation or perhaps an unforeseen design flaw in your experiment (or theirs?)
* Given your conclusions, what is our new understanding of the problem you investigated and outlined in the Introduction?
* If warranted, what would be the next step in your study, e.g., what experiments would you do next?

**Conclusions**

This should state clearly the main conclusions of the research and give a clear explanation of their importance and relevance. Do not add any new results or citations in this section.

**List of abbreviations**

If abbreviations are used in the text they should be defined in the text at first use. A list of abbreviations can also be provided, which should precede the competing interests and authors' contributions.

**Competing interests**

A competing interest exists when your interpretation of data or presentation of information may be influenced by your personal or financial relationship with other people or organisations. Authors must disclose any financial competing interests; they should also reveal any non-financial competing interests that may cause them embarrassment were they to become public after the publication of the manuscript.

Authors are required to complete a declaration of competing interests. All competing interests that are declared will be listed at the end of published articles. Where an author gives no competing interests, the listing will read 'The author(s) declare that they have no competing interests'.

**Authors' contributions**

In order to give appropriate credit to each author of a paper, the individual contributions of authors to the manuscript should be specified in this section, e.g. AB carried out the molecular genetic studies, participated in the sequence alignment and drafted the manuscript. JY carried out the immunoassays. MT participated in the sequence alignment. ES participated in the design of the study and performed the statistical analysis. FG conceived of the study, and participated in its design and coordination and helped to draft the manuscript. All authors read and approved the final manuscript. Use initials to refer to each author's contribution

An 'author' is generally considered to be someone who has made substantive intellectual contributions to a published study. To qualify as an author one should: 1) have made substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data; 2) have been involved in drafting the manuscript or revising it critically for important intellectual content; and 3) have given final approval of the version to be published. Each author should have participated sufficiently in the work to take public responsibility for appropriate portions of the content.

Acquisition of funding, collection of data, or general supervision of the research group, alone, does not justify authorship. All contributors who do not meet the criteria for authorship should be listed in an acknowledgements section. Examples of those who might be acknowledged include a person who provided purely technical help, writing assistance, or a department chair, who provided only general support.

**Acknowledgements**

You must acknowledge the assistance of all contributors who do not meet the criteria for authorship. Authors should obtain permission to acknowledge from all those mentioned in the Acknowledgements section.

**Endnotes**

This is an *optional* section. Any endnotes used should be designated within the text using a superscript lowercase letter and all notes (along with their corresponding letter) should be included in the Endnotes section at the end of the text (not at the foot of each page). Please format this section in a paragraph rather than a list. Footnotes are not allowed.

**References**

Use the NZJFS EndNote style, which is available at: <https://nzjforestryscience.nz/index.php/nzjfs/libraryFiles/downloadPublic/13>

or the Zotero style available at: <https://www.zotero.org/styles?q=id%3Anew-zealand-journal-of-forestry-science>

Only articles and abstracts that have been published or are in press may be cited. Unpublished abstracts, unpublished data and personal communications should not be included in the reference list, but may be included in the text and referred to as "unpublished observations" or "personal communications" giving the names of the involved researchers. Obtaining permission to quote personal communications and unpublished data from the cited colleagues is the responsibility of the author. Footnotes are not allowed, but endnotes are permitted.

Examples of the *New Zealand Journal of Forestry Scienc*e reference style are shown below. For further guidance, see the Publication Manual of the American Psychological Association and the respective web site of the Association (http://www.apastyle.org/). Please ensure that the reference style is followed precisely; if the references are not in the correct style, they may need to be retyped and carefully proofread.

**All authors must be listed for each reference.**

**Do NOT include dois - these will be added during production.**

*Article within a journal*: Harris, M., Karper, E., Stacks, G., Hoffman, D., DeNiro, R., & Cruz, P. (2001). Writing labs and the Hollywood connection. *Journal of Film Writing*, *44*(3), 213-245.

*Complete book:* Calfee, R.C., & Valencia, R.R. (1991). *APA guide to preparing manuscripts for journal publication.* Washington, DC: American Psychological Association.

*Book chapter, or an article within a book:* O'Neil, J.M., & Egan, J. (1992). Men's and women's gender role journeys: Metaphor for healing, transition, and transformation. In B.R. Wainrib (Ed.), *Gender issues across the life cycle* (pp. 107-123). New York: Springer.

*Report:* Maclaren, J.P. (2009). *Douglas-fir Manual.* [FRI Bulletin No. 237], 32 p. Rotorua, New Zealand: Scion.

*Online report:* Abou-Allaban, Y., Dell, M.L., Greenberg, W., Lomax, J., Peteet, J., Torres, M., & Cowell, V. (2006). *Religious/spiritual commitments and psychiatric practice.* [APA Report no. 06-289]. New York: American Psychiatric Association. http://www.psych.org/edu/other\_res/lib\_archives/archives/200604.pdf. Accessed 25 June 2007.

**Tables**

Tables should be numbered and cited in the text in sequence using Arabic numerals (i.e. Table 1, Table 2 etc.). Each table should be presented at the relevant point in the text. Tables should NOT be submitted as figures but should be included in the main manuscript file.

The Table title must be provided above the table. All explanatory information must be provided below the table and referred to in the table using appropriate symbols. Do not use commas to indicate a decimal point - use a full stop instead.

**Figures**

Each figure must be included at the relevant point in the text. A High-resolution copy of each image should also be provided as a separate file. Figure titles and legends should be provided in the main manuscript only, not in the graphic file. Each figure should be submitted as a single file that fits on a single page. Figures should be numbered in the order they are first mentioned in the text, and uploaded in this order. Figure keys should be incorporated into the graphic, not into the legend of the figure. Individual figure files should not exceed 10 MB.  Please note that it is the responsibility of the author(s) to obtain permission from the copyright holder to reproduce figures (or tables) that have previously been published elsewhere. In order for all figures to be open access, authors must have permission from the rights holder if they wish to include images that have been published elsewhere in non open-access journals. Permission should be indicated in the figure legend, and the original source included in the reference list. Figures can be submitted as TIFF,  JPEG or PNG files.

**Supplemental information and Additional files**

Supplemental information is an *optional* part of a paper. It contains information that is non-essential to understanding of the paper, but may present information that further clarifies a point without burdening the body of the presentation. Results that would otherwise be indicated as "data not shown" may be included as additional files. Authors can provide datasets, tables, movies, or other information as additional files. Additional files are published in their original format and are uploaded as separate files. Supply a list of Additional Files and their titles at the end of the body text.