

# NORTHWEST SCIENCE

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## Information for Authors and Instructions for Formatting a Manuscript

Northwest Scientific Association website: <http://www.northwestscience.org>

Manuscript submission: <http://www.edmgr.com/nwscience>

### Purpose and Scope

The pages of *Northwest Science* are open to original and fundamental research in the basic and applied natural sciences, with a focus on the geographic area of the Pacific Northwest, including Alaska, western Canada, and the Northwestern United States (WA, OR, ID, MT, and northern CA). At least two reviewers and an associate editor referee all submissions, with the final decision regarding publication resting with the editor. Papers from authors outside of the Pacific Northwest are welcome if they pertain to resources or issues pertaining to the area and would engage a broad audience. The journal is published quarterly and sent to institutional and individual members of the Northwest Scientific Association. Papers are also indexed through a number of services, assigned digital object identifiers (DOI) and abstracts are freely available online at <http://www.bioone.org/loi/nwsc>.

The journal considers both refereed (research articles and notes) and non-refereed (forum essays and book reviews) manuscripts. **Research articles** present the results of original research that has not been previously published. They are generally 6-20 journal pages long. Authors should contact the editor prior to submitting longer papers. **Notes** are typically less than 6 journal pages long and present a concise description of a limited investigation that focuses on, for example, new methods, significant range extensions, and perhaps taxonomic observations. Notes are not required

to follow the same sectional format as research articles, but they should comply with the general textual style format. All submissions are peer reviewed and must be scientifically credible. Authors are encouraged to contact the editor about the suitability of manuscripts to be published as notes. **Forum** submissions and **book-reviews**, edited by the subject editor for clarity but not peer reviewed, are by invitation only. Unsolicited submissions will be returned by the editor.

### Submission of Manuscripts

Submissions to *Northwest Science* are now made using Peer Track Essentials, an online manuscript submission and peer review tracking software system. **To submit to the journal, follow the URL <http://www.edmgr.com/nwscience> using an Internet browser.** New users will be required to register with the system to obtain a user name and password. Full instructions for submitting your manuscript and cover letter are provided on the site and authors will receive confirmation that a manuscript has successfully loaded into the system shortly after completion. The system requires you to paste the Title, Short Title, and abstract into the system software. The body of the manuscript and figures are uploaded as separate files (Microsoft word and JPEG file formats) into the system. The software then builds a PDF version of the manuscript, which will be viewable prior to submission. Author approval of this PDF file is required before final submission.

**General guidelines for manuscript preparation follow the  
Council of Science Editors (CSE) Style Guide**

## Instructions for Research Articles

### 1. Submission Format and Sections

- The format and style of manuscripts should conform to general usage in recent issues (an example can be found here: <http://www.bioone.org/doi/abs/10.3955/0029-344X-82.S.I.1>).
- 12 pt Times New Roman font.
- 1-inch margins.
- Entirely double-spaced (including tables).
- Single-space after a period.
- Do not turn on line numbering.

Manuscripts should contain the following sections in this order:

- Title Page (example in section 8, below)
- Abstract (250 words or less)
- Introduction
- Methods (with subsection Study Area if applicable)
- Results
- Discussion
- Literature Cited
- Figure Captions
- Tables

Footnotes should only be used for author information, and in tables, sparingly and when necessary.

*Sample Title Page layout:*

**Peter M. Brown**<sup>1</sup>, Rocky Mountain Tree-Ring Research, Inc., 2901 Moore Lane., Ft. Collins, Colorado 80526

and

**William T. Baxter**<sup>2</sup>, California Department of Forestry and Fire Protection, 802 N. Main Street, Ft. Bragg, California 95437

### **Fire History in Coast Redwood Forests of the Mendocino Coast, California**

Running footer: Coast Redwood Fire History

**Keywords:** fire history, fire, redwoods, California, Mendocino

3 tables, 4 figures

<sup>1</sup>Author to whom correspondence should be addressed. Email: [pmb@rmtr.org](mailto:pmb@rmtr.org)

<sup>2</sup>Current address: ... [include new address changed since time of submission]

### 2. Title Page (see sample below)

The first page should contain:

- Author name(s), followed by their institutional address from which the material emanated, including city, state/province, postal code,
- Title of Paper.
- Running footer (i.e., the short title)—5 words or less, capitalize each word.
- Keywords—5 or less.
- Denotation of number of tables and figures included in article.
- Corresponding author—include in footnote format, e.g., “<sup>1</sup>Author to whom correspondence should be addressed. Email: [johndoe@xyz.com](mailto:johndoe@xyz.com)”.
- Current address—if an author has changed institutions, a footnote may be used to provide the current address.

### 3. Abstract

The abstract must include the following three parts:

- Statement of purpose.
- Statement describing approach, or when applicable, experimental design and a summary of the results.
- Summarizing sentence or two regarding the larger significance of the work.

## 4. Body

### Sections and Subheads

Start the text on the third page and use continuous pagination; *do not start new sections on new pages*.

Each section should be labeled with a heading that is left justified and bold type (see example below).

Subheadings within each section must follow the following structure:

- Second level subheadings occur on a separate line, with all primary words capitalized and using normal type (see “Statistical Analysis” below).
- Third level subheadings appear at the start of the paragraph, in *italics*, with all words capitalized followed by an em-dash (see “*Temperature and Soil Moisture*” example below).

*Section and subheading example:*

#### **Results**

##### Statistical Analysis

We conducted statistical analysis of all variables sampled at the site...

*Temperature and Soil Moisture*—We found that temperature and soil moisture...

### Literature Citations

Literature citations within the text should contain the author’s last name and year of publication (examples provided below). Multiple citations provided parenthetically should be ordered chronologically (early to late), not alphabetically. If more than two authors, use “et al.” to shorten the citation.

#### **Format A:**

...studied by Jones (1998)...

...studied by Jones and Smith (1999)

...studied by Jones et al. (2000)

#### **Format B:**

...was previously investigated (Smith 1991, Jones 1995, Harris 2000)

...results of other investigations (Smith 1991, 1995; Jones 1995; Brown 2002)

Note in this second case, a comma separates two citations by the same author and a semi-colon separates all other citations.

### Tables and Figures

References in the body of the text must be capitalized and spelled out—e.g., Table 1, Figure 2.

**At first mention of a table or figure, change the font color to red.** This will facilitate placement of the figure for typesetting if the manuscript is accepted for publication.

See additional guidelines, in sections 6 and 7, below.

### Number Formatting

All numbers in the text from one to nine will be spelled out, whereas Arabic numerals will be used for numbers 10 and larger. Exceptions include:

- a series of mixed numbers (e.g., 14 elk, 35 deer, 3 badger, and 1 bear).
- when the number immediately precedes an abbreviation for a standard unit of measure (e.g., 5 g).

### SI unit abbreviations

Abbreviations are appropriate, but optional; e.g., author is permitted to use d instead of days, hr instead of hours, etc.

- Use °C for temperature.
- Use the 24 hour clock (0600 and 2230).
- Use negative exponents (kg m<sup>-2</sup> rather than kg/m<sup>2</sup>).
- Use leading zeros for all numbers < 1 (e.g., 0.01).
- Use italicized statistical symbols (e.g., *F*, *P*, *Z*), and a capitalized *P* for probability of statistical tests.
- Express percents with % symbol, with no space between the number and %; e.g., 10%
- Use brackets within parentheses.

### Species name formatting:

- On first mention in the text, all species should be designated by common name followed by the systematic binomial (*italicized* and in parentheses) and type of organism studied, if it is not likely to be obvious to readers outside of the

field—e.g., “false bugbane (*Cimicifuga elata*), an herbaceous perennial plant.”

- Common names for species should not be capitalized unless the name is proper—e.g., Chinook salmon, Clark’s nutcracker.
- Papers dealing with numerous taxa need not use common names, but the taxonomic reference should be cited—e.g., “Nomenclature follows Hitchcock and Cronquist (1976).
- In general, when faced with citing a taxonomic authority or not, authors should follow the convention for their disciplines.

#### Personal Communications

Personal communications should be used sparingly.

- The full name and affiliation of the person being quoted is required.
- Cite in the text, parenthetically, and not in the literature cited.
- “Personal observation” should rarely be used; instead, clearly state that the observation was part of the work being described.

### 5. Literature Cited (see Appendix 1 for examples of various citations)

#### Capitalization

- Capitalize all major words in book titles.
- Capitalize only the first word for all other articles.
- Journal names should be spelled out and capitalized.
- All authors and editors must be listed in the bibliographic citation; no “et al.” abbreviation permitted in this section—only in the body of the text.

#### Table layout example:

TABLE 1.»Tree-ring chronologies used in this study, location, species, correlation with stream flow at the Yakima gage, and correlation with PC2 from the PCA analysis

ITRDB chronology	Location	Species name / Abbreviation	r	r <sub>PC2</sub>
or085	Mill Creek RNA, OR	ponderosa pine / PIPO	0.31	0.54
id010	Sand Pass, ID	whitebark pine / PIAL	0.29	-0.16
cana220	Whirlpool Pt., AB	limber pine / PIFL	0.26	-0.38

- List senior author’s last name first, followed by first and middle initial; subsequent authors are listed with initials first followed by last name.
- Quote only volume and page numbers—e.g., “75:324-334,” and **do not** include issue number—e.g., “75(11):324-334.” (The only exception is if a journal’s pages are not numbered consecutively between issues.)
- Citations should be in alphabetical order, double spaced, and first line indented (control-shift-T in MS Word PC version, and option-T in MS Word Mac version). **Do not** use spaces, tabs, or hard returns to create a first line indent.
- **There should be a space between all initials**—e.g., Duda, J.•J., and R.•J. Camp. This is very time consuming to rectify.

#### Citation example:

Duda, J.•J., and R.•J. Camp. 2008. Ecology in the information age: patterns of use and attrition rates of Internet-based citations in ESA journals, 1997-2005. *Frontiers in Ecology and the Environment* 6:145-151.

(The “•” signifies a commonly overlooked space, the bold comma [,] follows the senior author’s initials, and there are **no spaces** in the citation between the journal volume number:pages.)

### 6. Tables (See example below for the typical final appearance of a two-column table in *Northwest Science*)

All tables must be cited in the text, but typed and double-spaced on separate pages, following the Literature Cited.

- Table heads begin with the word “TABLE” in all caps, followed by the number, a period, and a tab before the description of the table (not bold).

- Use of bold type in tables should be limited to highlighting particular information, but not for headings or general use.
- Use letters as superscripts to indicate statistical differences among values being compared. Include footnotes at bottom of table to explain.
- Reported means should be accompanied by an appropriate measure of variance.
- The standard deviation (SD) describes the variability about the mean of individuals in a population and is generally free of assumptions about the statistical distribution of values. The standard error of the mean (SE), on the other hand, describes the uncertainty of how well the sample mean represents the population mean. It is too common for authors to inappropriately choose to report the SE when they should report SD, simply because SE is almost always smaller than SD. Although this practice is widespread, it is misleading to the reader, not an appropriate representation of the variability within a sample, and is strongly discouraged.
- Tab stop tables are preferred over auto-formatted tables, but not required. To verify tab-stopped tables in your manuscript, turn on line numbering. If each line in the table has a line number, then it is tab-stopped. Otherwise, the table is auto-formatted.
- Tips for using tab stops: <http://practicaltypography.com/tabs-and-tab-stops.html>. For complex tables, contact the Editor for guidance.

## 7. Figures

**The resolution of all figures must be at least 300 dpi (dots per inch).** Another separate concern is the size of the image, which should be a minimum of 5" x 7". However, if a figure can be clearly read in one-column width (2<sup>5</sup>/<sub>8</sub>" ), it does not need to be as large as the minimum size preferred. If you do not have the ability to adjust the resolution of a figure or graph, but can adjust the size, make low resolution figures very large (e.g., 20" x 30") and the editorial staff can convert them into high-resolution images. If an image size is under 1 or 1.5 megabytes (MB) in size (somewhat depending on content), its resolution is probably too low for reproducing clearly. Consult the editor if uncertain.

- Figure heads/captions begin with the word "Figure," followed by a space, number, period, and tab (») after the period, before the description (not bold).

### *Figure Example:*

Figure 1.»Map of western Washington displaying the six study sites. Sites in the circle were used as monthly sample sites, February to August 2012. The other three sites were supplemental sites and were only sampled once in June 2012.

- Figure captions should be typed as a group and placed at the end of the manuscript, after Literature Cited.
- Figure captions should allow the figure to stand alone and be completely interpretable without the reader having to comb through the body of the paper.
- Color figures can be accepted, but are not encouraged. If possible, please design figures to print with black ink in grayscale. If figures necessarily require printing in color, there will be an added surcharge of \$65 per page. Please consult with the editor before submitting color figures.
- Study area illustrations should have an inset locator map to provide geographic context (with landmarks, city, or state names labeled), a scale for distance, and an arrow to indicate north.
- Only essential information should be provided in the figure; any additional information and details may be supplied in the figure caption.
- Labels and text within the figure should be large enough to be legible if reduced to fit within the printed margins of the journal. This requirement is particularly essential for graphs. It is always a good idea to print out an image at 100% on standard 8.5" x 11" paper (do not select "Print-to-Fit" to see if the resolution and size are suitable for the publication).
- Graphs should avoid horizontal and vertical scale lines. Lines and/or curves should be sufficiently dark to be reproduced, and to handle possible reduction in figure size.
- Photographs are acceptable at the discretion of the editor and should have sufficient resolution, contrast, and intensity to reproduce clearly in grayscale. If color is essential, please consult the editor.

## Appendix

### Examples of *Northwest Science* format conventions for Literature Cited

Make sure that all citations listed in the literature cited are found in the text and vice-versa. Also, please triple-check that each citation follows *Northwest Science* format; fixing incorrectly formatted citations is one of the most time-consuming chores for the (volunteer) editorial staff. Please turn on the show/hide formatting button in your word processor (it looks like this: ¶ and can be found on the standard toolbar).

Also, please check to make sure that online html citations are viable.

#### *Journal articles*

- Broadbooks, H. E. 1970a. Home range and territorial behavior of the yellow pine chipmunk *Eutamias amoenus*. *Journal of Mammalogy* 51:310-326.
- Broadbooks, H. E. 1970b. Populations of the yellow pine chipmunk, *Eutamias amoenus*. *American Midland Naturalist* 83:472-488.
- Cêska, A., and H. Romer. 1971. A computer program for identifying species group. *Vegetatio* 20:48-73.
- Grizze, J. E., C. F. Starmer, and G. G. Kuch. 1969. Analysis of categorical data by linear models. *Biometrics* 25:489-504.

#### *Monographs or books*

- Edmonds, R. L., J. K. Agee, and R. I. Gara. 2000. *Forest Health and Protection*. McGraw-Hill, New York. Note: (**number of pages unnecessary**)
- Nussbaum, R. A., E. D. Brodie, Jr., and R. M. Storm. 1983. *Amphibians and Reptiles of the Pacific Northwest*. University of Idaho Press, Moscow.
- Franklin, J. F., and C. T. Dyrness. 1988. *Natural Vegetation of Oregon and Washington*. Oregon State University Press, Corvallis.

#### *Papers in proceedings or symposia; also chapters in edited books*

- Ryland, J. S. 1975. Parameters of the lophophore in relation to population structure in a bryozoan community. *In* H. Barnes (editor), *Proceedings of the 9th European Marine Biology Symposium*, Aberdeen University Press, Aberdeen, UK. Pp. 363-393.
- Madany, M. H., and N. E. West. 1980. Fire history of two montane forest areas of Zion National Park. *In* M. A. Stokes and J. H. Dieterich (technical coordinators), *Proceedings—Fire History Workshop*. USDA Forest Service General Technical Report RM-81,

Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO. Pp. 50-56

- Williamson, C. E. 1991. Copepoda. *In* J. H. Thorp and A. P. Covich (editors). *Ecology and Classification of North American Freshwater Invertebrates*, Academic Press, San Diego, CA. Pp. 787-822.

#### *Theses, dissertations, and articles in press*

- Donald, D. B. 1971. The limnology of the plankton of three temporary ponds in Alberta. M.S. Thesis, University of Calgary, Calgary, Alberta.
- Wiser, H. C. 1961. Decomposition and homogeneity of continua on 2-manifolds. Ph.D. Dissertation, University of Utah, Salt Lake City.
- Dunwiddie, P. W. *In Press*. Dichotomous key to conifer foliage in the Pacific Northwest. *Northwest Science*. [*if the publication date is unknown or uncertain*]
- Vierling, K. T. 2000. Source and sink habitats of red-winged blackbirds in a rural/suburban landscape. *Ecological Applications* 10: (*in press*). [*if the publication date is known and certain*].

#### *Technical bulletins*

- Daubenmire, R., and J. B. Daubenmire. 1968. *Forest vegetation of eastern Washington and northern Idaho*. Washington Agricultural Experiment Station Technical Bulletin 60. Washington State University, Pullman.
- Goodwin, J. G., Jr., and C. R. Hungerford. 1979. Rodent population densities in pine forests. USDA Forest Service Research Paper RM-214. Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

#### *Online (Web) references*

- USDA Forest Service. 1998. Fire Effects Information System. Prescribed Fire and Fire Effects Research Work Unit, Rocky Mountain Research Station, Missoula, MT. Available online at <http://www.fs.fed.us/database/feis/> (accessed 7 October 2004).

#### *Unpublished Reports*

Unpublished reports often contain useful data that contribute to the development of the study being reported. Even though they do not meet the criteria for first disclosure, if they have a date, author, and a location where the report is on file, they may

be listed in Literature Cited if it is an essential piece of information. Unpublished reports and grey literature should be used sparingly. If the date is unknown, treat the report as a personal communication and cite it in the text. Do not use the report if the location is unknown. **Do not cite unpublished data (i.e., data not analyzed or contained in a report).**

Kraft, G. F. 1967. Annual report on the status of Lake Whatcom. Unpublished report on file at Department of Biology, Western Washington University, Bellingham.

#### *Personal Communications*

These should be kept to an absolute minimum, because they do not meet the requirements for first disclosure as defined by the Council of Science Editors. If used, the full name and affiliation of the person being quoted is required. *Personal communications are cited in the text*, not in Literature Cited. For example:

...(David L. Peterson, U.S. Forest Service, personal communication).