

INTERNAL REPORT 40

Instructions for Authors Working under the
Sponsorship of the Coniferous Forest Biome, IBP

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University of Washington

INSTRUCTIONS FOR AUTHORS WORKING UNDER THE
SPONSORSHIP OF THE CONIFEROUS FOREST BIOME, IBP

GENERAL INSTRUCTIONS

To comply with NSF and IBP requirements, all reports of work funded in part or in whole by, or related to, the Coniferous Forest Biome, IBP, must be submitted to the Biome central office, AR-10, University of Washington, Seattle, WA 98195. This includes material to be published outside the Biome (journal articles, reports of government agencies, and the like), internal reports, progress reports, proposals, computer programs, data sets, and so on. Material published outside the Biome will not be edited routinely by the Biome editors; arrangements may be made for editorial services if they are desired. Duplicate copies of all manuscripts submitted for publication as contributions to or from IBP and, eventually, of reprints thereof should be sent promptly to the Biome central office for assignment of a number as a formal record of the contribution. All reports to be processed by the Biome (internal reports, Biome bulletins, proposals, etc.) will be edited by the Biome editors. An accession number will be assigned to each report regardless of category; a contribution number will be assigned to each publication (such as journal article, published abstract, or bulletin) upon its acceptance.

To facilitate the editorial and retyping processes, all material submitted for Biome use or Biome publication should conform to certain standards, set forth below. Most of these standards are similar to those required by journals and other formal publications, so our requirements should work no hardship on the Biome investigators or their secretaries.

Some internal reports have been distributed without complying with the specifications in these instructions. Because we believe that time is of the essence in producing and distributing these reports, they were edited only minimally. Cost is also an important factor, and there were neither time nor funds to do a complete editing or make these reports conform to our prescribed style. We trust that all reports received after the dissemination of this document will be essentially uniform, according to the instructions given here.

All reports for Biome publication must be typed on white bond paper, 21.7 by 28 cm (8½ by 11 in.) or 20.3 by 26.6 cm (8 by 10½ in.) in dimensions, with the exception of certain tables that cannot possibly be fitted to the standard sheet (for such a table, type on more than one page or use "legal" size bond, 21.7 by 35.6 cm [8½ by 14 in.]). Leave at least 2.5-4 cm (1-1½ in.) margin on each of the four sides of every page. Exceptionally clear Xerox-type copies also may be used, but no carbon, spirit duplicator (Ditto), or mimeographed copy will be accepted.

All parts of a report (repeat, ALL) MUST BE DOUBLE-SPACED. This includes abstracts, text, footnotes, quotations, references, tables, figure titles--EVERYTHING!

Organize the parts of a report in the following sequence: title page (includes by-line; see below), abstract, text, footnotes, references, tables, figure titles (typed as a list), and figures. Details for each of these parts constitute the remainder of this paper. The title page (numbering not shown) should be page 1, and all other pages should be numbered in proper sequence. The position of the numeration is immaterial as long as it does not interfere with the text or other material on the page.

TITLE PAGE

The title should be brief without being cryptic, and should be as specific as possible about the content of the document. Balance brevity against descriptive accuracy and completeness. Avoid abbreviations, symbols, formulas, or expressions containing superscripts or subscripts in the title: avoid also, if possible, the use of an article (A, An, The) as the first word in a title.

Center the title on the page, typed in all capital letters, and, if it requires more than one line, double space. Four or more lines below the title, center the name(s) of the author(s). Four or more lines below the name of the author, center the author's department, institution, and address, on one line if possible. For multiple authors from separate institutions, give the name of each institution below the names of the pertinent authors (see example in Appendix). Use footnotes for acknowledgments, new addresses, etc. (see instructions under "Footnotes").

At the foot of the title page, list key words relevant to the content of your report. Key words are required for machine indexing and retrieval; the author is the person most competent to choose these all-important words.

ABSTRACT

Each report must be accompanied by a concise, informative abstract. (Do not confuse this abstract with the very brief abstract required as input to the IBP Information Center in Oak Ridge, although both could be the same.) To quote the American Chemical Society (1967, p.20):

The ideal abstract will state briefly the problem, or the purpose of the research when that information is not adequately contained in the title, indicate the theoretical or experimental plan used, accurately summarize the principal findings, and point out major conclusions. . . . The abstract should be concise. Only in unusual cases should it contain more than 200 words.

In other words, about one-half of a double-spaced page should be sufficient, two-thirds of a page is maximum. The abstract should contain no symbols, abbreviations, acronyms, or formulas.

TEXT

Headings

Headings within the text must be limited to four levels; fewer are preferable. Commonly used first-level headings are: "Introduction" (often omitted), "Materials and Methods," "Results," and "Discussion" (often combined with "Results"). Whether or not these particular headings are used, their sequence should be followed in the text whenever appropriate. The following style is used in the various levels of headings: (1) centered, all capitals, preferably beginning on new page, three lines of space below (also above if not on new page); (2) centered, underlined, initial capitals on all important words, three lines space above, two below; (3) flush left (at left-hand margin), underlined, initial capital on first word plus proper nouns and adjectives, begin text on new line, two lines space above, one below; (4) paragraph indented, underlined, initial capital on first word, period, follow on same line with first words of paragraph ("run in"), one line space above. See Appendix for examples. Avoid numbering headings unless very frequent reference to specific sections (in other parts of the paper) would cause cumbersome reiteration of section titles.

Quotations

Quoted material should conform exactly to the original; use [sic] (intentionally so written) to alert the reader to any misspelling or other anomaly in the quoted material. A short quotation may be enclosed in quotation marks and run in with the text. A quotation that would occupy five lines or more should be set off from the text by indentation at right and left; omit quotation marks. See Conference of Biological Editors (1964, p. 18) for the correct use of ellipses (. . .) in partial quotations.

Enumerations

Avoid lists or enumerations wherever possible. Such material occupies extra space, takes longer to type, and often is ungrammatical (nonparallel construction). Rather, if itemization seems really necessary, begin a sentence and complete it with several numbered phrases, thus: The mineral is found (1) in topsoil; (2) in groundwater, and (3) occasionally in meltwater. Always maintain parallel construction within each numbered series; e.g., do not use a phrase under (1) and a complete sentence under (3). If a second level of numeration is necessary under (1), (2), . . ., use (a), (b)

Spelling and Grammar

Again, we wish to emphasize the importance of parallel construction and other grammatical considerations in all writing. Try to avoid changing tense within a paragraph or even within a section, except where such a change is absolutely necessary and valid (e.g., the data provided information that will be of great value in future work).

Avoid the use of future tense unless you mean in future time (not, "the water will flow into Little Duck Pond"--how do you know it will? -- from your observations you know that it normally does, but an obstruction could occur in future time; say, rather, "the water flows . . ."). The incorrect use of would is another common occurrence in scientific writing. "When the contents of the jar was poured through the filter, the particles would remain on the filter." If what? Why didn't they? The subjunctive indicates a conditional situation, i.e., they would have but they did not. Use the same tense throughout the sentence (in this instance, simple past).

Authors should check very carefully the spelling of difficult or unusual words, trade names, taxonomic names, and the like. Secretaries do not always have the facilities for checking such words, and they certainly do not have the time. Be sure that any "unusual" word you may use is a word accepted in formal publication, and not merely laboratory jargon. If it is the latter, find the correct word and use it. Most trade names should be capitalized: Millipore, Plexiglas (one s), Fiberglas (one s; but fiber glass or glass fiber). Some trade names or names derived from names of persons have become a part of the language and are not capitalized: nylon (but Dacron), mimeograph, petri dish. Please be especially careful with taxonomic names: capitalize all taxa above species, underline only genus, species, and intraspecific taxa, and spell out the genus name at least the first time it is used. Derivative words (adjectives or English words derived from the taxonomic names, e.g., basidiomycetous or basidiomycete, respectively, derived from Basidiomycetes) should be lowercased and should be checked carefully for spelling and validity.

Webster (1965), superseded by Webster 1971, Conference of Biological Editors (1964, p. 13-17), and American Chemical Society (1967, p. 108-109) where applicable, are the standard for spellings and capitalization used in Biome publications. When there is a choice of spellings, always use the first choice; when Webster says "usu. cap.," capitalize. There are, however, words spelled differently from their counterparts in Webster (1965, 1971) that, because of their use in reputable publications in the biological sciences, are acceptable (in the forms given) for Biome publications. Some words do not appear at all in Webster (1965, 1971), but are acceptable in formal writing in the field (for examples, see Ford-Robertson 1971). We welcome your contributions toward compiling a list of such words. When suggesting a candidate for this list, please be sure the word is in widespread use in formal writing, and cite two or more reputable scientific journals that use it in the form that you suggest.

A list of reference books appears in the Appendix. These books are invaluable aids in determining correct spelling, exact meaning, capitalization, correct abbreviations, style, and the like. The Biome uses them as standards, and we recommend that copies be obtained if they are not available in your departmental library.

Style

Technical style refers to the manner in which certain things are written, the abbreviations used, the nomenclature, and the like, as opposed to the literary style of an author. All Biome publications must conform to a certain technical style, but we endeavor to leave an author's literary style intact.

All measurements must be given in metric units. Not only do most scientific journals adhere to the "metric only" standard, but use of the metric system seems to be gaining favor as national policy. Use the International System (SI) of units adopted by the Eleventh General Conference on Weights and Measures in 1960. The International System is explained in detail beginning on p. 90 of American Chemical Society (1967). When materials purchased are standard only in English units (e.g., $\frac{1}{2}$ -in. i.d. pipe), show the standard English unit measurement in parentheses immediately after the metric designation. On graphs, be sure that the axes are given in metric units. On maps, be sure that the scale is given in meters or kilometers; if elevation contours are in feet, give the metric equivalents.

Abbreviations other than those for metric units and chemical elements should be defined the first time they are used. Spell out the names of individual chemical elements (in the text) unless they are used frequently. Spell out units of measure when they are not accompanied by numbers (e.g., in kilometers), except in tables, where space is usually important. Avoid the use of nonstandard abbreviations or those that could be mistaken for the abbreviation of something you do not intend. Spell out Figure and Equation at all times. Never begin a sentence with an abbreviation, numeral, or acronym.

Numerals should be used for all measurements except time units greater than hours, for all numbers 10 or greater (exception, e.g., 2.8 million rather than 2,800,000), and for lower numbers used in a series with higher numbers (e.g., 2 deer, 5 coyotes, 15 quail, and 25 robins). Spell out numbers under 10 when they are used for anything other than measurements (e.g., five trees, but 6 cm). Use superscript numerals rather than the solidus (/) for "per" (5 cm hr^{-1}). Use superscript numerals at the left of the symbol of a chemical element to indicate mass number (e.g., ^{14}C); the ionic charge goes on the upper right index (Ca^{2+} [not Ca^{++}], Cl^{3-} [not Cl^{\equiv}]). Use 24-hour-clock time for specifying time of day (0600 hours; "hours" always spelled out to avoid confusion with elapsed time). For dates, use the sequence day/month/year (30 November 1972).

Display equations (those separated from the running text) should have extra space above and below (at least three lines of space), and should be centered on the page. If you have not the facilities to have equations typed (Greek letters, etc.), be sure that all hand-drawn parts are clearly identified (pencil lightly in margin, "beta," etc.). Be sure to distinguish between the letter "o"; the degree sign, "°"; and the numeral zero, "0". All display equations should be numbered. Equation numbers should be in arabic numerals

in parentheses, flush with the right-hand margin. Parentheticals should be set four spaces to the left of the first parenthesis of the equation number. Very brief equations may be placed in the text, but those with superscripts or subscripts of more than a numeral or two should be made display equations, because the reports eventually will be single spaced. See Byrd (1954) and American Chemical Society (1967, p. 101-107) for helpful information on setting up and typing equations.

REFERENCES

References are an important part of every scientific paper. To be of value, however, they must be accurate; often, a date or a spelling in text does not correspond with its "mate" in the reference list, or a vital bit of information has been omitted. Frequently, authors cite an article that they have not seen, but that is cited in material they have read. A classic example of the pitfalls inherent in such practices was given by George G. Stilwell, M.D., in *Technical Communications* 17(2):36-38 (reprinted by permission):

If he did not read it, he has [the author] fallen into the dangerous trap in which are enmeshed many authors who gained knowledge of material from a secondary source, which may be wrong, yet included the original reference in their list of sources, just as if they had actually seen it.

Probably the classic example of such a trap occurs in medical bibliography. In 1887, Jaroslav Hlava published an article on amebic dysentery in an obscure Czech medical journal. It was entitled "O úplavici," meaning "On dysentery." In the same year, a man named Kartulis published an abstract of this article in an easily available German abstract journal. However, by some strange mix-up, Hlava's name appeared nowhere in the abstract. Instead in the place that should have been occupied by the author's name appeared the title "O úplavici," or "On dysentery." During the next 50 years, many medical authors, not intellectually honest and not having seen the rather inaccessible original study, quoted from this fecally construed and nonexistent Dr. Uplavici, getting their information from the erroneous abstract. Naturally, however, they included the name Uplavici and the Czech journal article in their list of references, just as if they had read the primary source.

In 1938, Dr. Dobell, an English scientist, summarized the story and finally laid Dr. Uplavici to rest by publishing a humorous obituary of this phantom investigator. Many abashed, red-faced authors must have felt remorse on reading his death notice.

One of the basic rules for any technical writer must be not to publish a reference in such a way as to indicate that the writer has read the article if he has read only an abstract of it or a secondary source of information about it. Let's remember this rule or another Dr. Uplavici may raise his cloacally inspired, ghostly head to leer at us.

"All parts of a reference listing should be checked against the original document." (American Chemical Society 1967.) In other words, do not cite a work that you have not actually read. Use the article you have read.

Citation

References should be cited in the following form: (Smith 1970) [no comma after name], or . . . the work of Smith (1970); . . . (Smith and Jones 1971); . . . (Smith 1970, Smith and Jones 1971, Jones et al. 1969) [three or more names, use et al.]. Do not list unpublished information or personal communications in the references; rather, give full name of "author" and the date in the text, thus: (E.H. Jones 1971, University of Washington, personal communication; A.H. Smith 1972, Oregon State University, unpublished data). Use a, b, etc. for multiple publications of the same author in a given year (see next paragraph).

List of References

The list of references should be typed in strict alphabetical order, and within this order by date; e.g., Jones, L. C. 1969; Jones, L. C. 1970a; Jones, L. C. 1970b; Jones, L. C., and W. B. Allen. 1968, Jones, L. C., and E. R. French. 1956; Jones, R. H. 1945. Note the use of a, b, . . . for multiple listings of the same author and date. See Appendix for examples of style for listings.

Give complete publishing information, including total number of pages of a book, report, thesis, etc. (i.e., anything other than a periodical); name and city of the publisher (except of a journal). For example, the U.S. Department of the Interior publishes certain federal government reports, the U.S. Government Printing Office publishes others, and so on. Give name(s) of editor(s) (compiler, chairman, etc.) of any book or report that includes the works of several authors (such as the AAAS volumes, or a symposium) and, in such a volume, the page numbers of the cited author's article. We use the new (1971) National Clearinghouse for Periodical Title Word Abbreviations Word-Abbreviation List (approved by UNESCO/ICSU and recommended for adoption by the International Standards Organization for abbreviations of journal names.) The price of the new list is \$6.00, and the annual subscription to supplements (began June 1971) is \$2.00. This list represents an effort to standardize journal title abbreviations world-wide and includes numerous recent changes from abbreviations previously used. Until you can obtain a copy, we recommend that you spell out all journal names completely, and leave the abbreviating job to the editors. To reiterate, give complete publication information--everything you can find; give us more information than we need rather than omit something necessary.

Be sure that all cited references appear in the reference list, and vice versa. Be sure, also, that the spellings of authors' names and the publication dates correspond (this is a frequent bottleneck for hard-pressed editors).

FOOTNOTES

Footnotes should be typed together on a separate page, double-spaced. Paragraph indent each new footnote. If your typist's machine is not equipped with superscript numerals, have her make the regular numerals superscript by rolling the platen slightly forward. Do not indicate the footnote numeral by the underline and solidus (2/) or otherwise mark the numeral; just raise it one-half line. Footnote references in the text go after the sentence punctuation.

The acknowledgment of funding and other assistance (if any), and the contribution number (if any) should be included in footnote number 1, to the title. The correct forms of acknowledgment for all Biome work are given in the Appendix. If an author has changed his institution since the work reported was done, his present address may be given in footnote number 2 (to his name).

Footnotes should be brief. Do not include extensive explanations or amplifications of textual discussions. Such material, if necessary at all, may be set in smaller type within the text.

Footnotes to tables are not in sequence with the text footnotes, but run in a separate sequence within each table. See paragraphs on tables for more information.

TABLES

Place each table on a separate page. If possible, limit a given table to one or two 21.7- by 28-cm pages. If the table is too long to type on one page, separate it at a convenient line and continue on an additional page.

Table titles should be brief. If further explanation is needed, it may be put in a footnote (^a) to the title. Each column should contain data or information under the same unit value; the lines should indicate the various samplings. If headings are required within the table to separate two or more categories or parts, place these headings (below the rule under the box headings) at the left-hand margin, and begin column one a few spaces in from the margin. Use no vertical rules.

To conserve space, abbreviations may be used more freely in tables than in text. Be sure to define (with footnotes) any that might be misunderstood. Do not use dashes in the body of the table to indicate that no observations were made; leave the space blank.

To avoid possible confusion with information in tables, superscript letters are used for footnotes. See sample table in the Appendix.

FIGURES AND THEIR LEGENDS (TITLES, CAPTIONS)

Illustrations usually should be limited to line drawings; photographs are expensive to reproduce satisfactorily. Figures should be submitted as inked drawings or glossy photographic prints (never as printed halftones). They must be reproducible in column width (7.5 cm) or, if necessary, in page width (16 cm). Art work for reproduction should never be folded. Keys to symbols and other data should appear in the caption, not on the figure itself. Line graphs should show no more than three or four curves if they intersect complexly.

The lettering on illustrations is exceedingly important if it is to present a good appearance and to be legible in the reduced form. In line graphs, each axis must be labeled clearly with both the quantity measured and the units (metric always) in which it is measured. All labels should appear outside the grid border. Lettering and numbers should read from left to right if possible, or from bottom to top if necessary. After reduction, lettering on the ordinates and abscissas of all graphs should be about the same size. The smallest letters used should be at least 1.5 mm high in the reduced form; others may be larger if diversity in size is desired, but do not use lettering that will appear more than 3 mm high in reduced form. Be sure that the lines of the lettering are neither too light nor too heavy to be reduced legibly. Symbols on curves should correspond to the size of the lettering; i.e., the smallest should be at least 1.5 mm in diameter in reduced form and the largest need be no more than 3 mm.

To achieve the foregoing standards, make the smallest lettering equal to no less than 2 percent of the overall width of a figure that is to be reduced to one-column width. For example, if your drawing is 25 cm wide and is to be reduced to one column (7.5 cm), the smallest letters should be 5 mm high. The largest lettering need not exceed 4 percent of the overall width. If however, the nature or complexity of the drawing is such that it must occupy the full width of a page, the smallest lettering may be 2.5 mm high (1 percent), and the largest lettering in proportion (2 percent). Strive for uniformity in lettering for all figures in final form, whatever reduction may be necessary. Do not use freehand or typewritten lettering on illustrations; a neat appearance requires mechanical or paste-on lettering.

CONCLUSION

The Coniferous Forest Biome is attempting to achieve consistency and a certain degree of uniformity in the style and appearance of its publications. Internal reports eventually may become Biome publications or journal articles, and should be prepared with this in mind. Most of our requirements and suggestions conform to good publishing practice in scientific journals in general, and few changes (except possibly in format of headings, references, etc.) should be necessary if an internal report is submitted later to a journal for publication. If you have questions or constructive suggestions, we shall appreciate hearing from you.

The more closely you adhere to the standards given in these instructions, the less work our editors will have to do before your report is ready for distribution. The result will be a saving in time and money, for you.

APPENDIX

Sample Title Page

CHANGES IN THE CHEMICAL COMPOSITION OF SEDIMENTS OF LAKE WASHINGTON, 1958-1970

Joseph Shapiro

Limnological Research Center, University of Minnesota, Minneapolis 55455

W.T. Edmondson, and David E. Allison

Department of Zoology, University of Washington, Seattle 98195

Style for Headings

FIRST LEVEL HEADING

Second-Level Heading

Third-level heading

Text begins on new line.....

and goes on and on.

Fourth-level heading. Text is run in on line with heading.

List of Reference Books

AMERICAN CHEMICAL SOCIETY. 1967. Handbook for authors of papers in journals of the American Chemical Society. Washington. 125 p.

BYRD, W. 1954. Mathematics in type. The William Byrd Press, Richmond Va. 58 p.

CONFERENCE OF BIOLOGICAL EDITORS, COMMITTEE ON FORM AND STYLE. 1964. Style manual for biological journals. American Institute of Biological Sciences. Washington. 117 p.

FORD-ROBERTSON, F. C. 1971. Terminology of forest science, technology, practice, and products. Multilingual Forestry Terminology Series, No. 1. Society of American Foresters, Washington. D. C. 349 p.

FOWLER, H. W. 1965. A dictionary of modern English usage. 2d ed., Sir Ernest Gowers (ed.). Oxford University Press, N. Y. 725 p.

NATIONAL CLEARINGHOUSE FOR PERIODICAL TITLE WORD ABBREVIATIONS. 1971. Word abbreviation list. American National Standards Institute, Standards Committee Z 39. NCPTWA, c/o Chemical Abstracts Service, University Post Office, Columbus, Ohio 43210. 42 p.

U.S. GOVERNMENT PRINTING OFFICE. 1967. Style manual. Washington. 512 p.

WEBSTER, M. 1965. Webster's third new international dictionary of the English language, unabridged. G. & C. Merriam Co., Springfield, Mass. 2662 p.

WEBSTER, M. 1971. Webster's seventh new collegiate dictionary. G. & C. Merriam Co., Springfield, Mass. 1223 p. (NB: Certain new preferred spellings and new word divisions in this volume supersede Webster [1965].)

Sample References of Various Types

Journal Article

FRENCH, B. M. 1971. How did Venus lose its angular momentum?
Science 173(3992):169-170.

Book

ODUM, H. T. 1971. Environment, power, and society. Wiley-Interscience,
New York. 331 p.

Edited Book

SILLEN, L. G. 1961. The physical chemistry of sea water. IN: Mary
Sears (ed.), Oceanography, p. 549-581. AAAS Publ. 67. 654 p.

Procedural Handbook

FOGG, G. E. 1969. Oxygen-versus-¹⁴C-methodology. IN: R. A. Vollenweider
(ed.), A manual on methods for measuring primary production in aquatic
environment, p. 76-78. IBP Handbook No. 12. F. A. Davis Co., Philadelphia.
213 p.

Thesis

FISHER, S. G. 1970. Annual energy budget of a small forest stream
ecosystem: Bear Brook, West Thornton, New Hampshire. Ph.D. thesis,
Dartmouth College, Hanover, N. H. 97 p.

Book with editor as author

HILL, M.N. (ed.) 1963. The sea. Vol. 2, 554 p.

Proceedings or Symposium

LIKENS, G. E. (ed.) 1972. Nutrients and eutrophication: The limiting-
nutrient controversy. American Society of Limnology and Oceanography
Special Symposia, vol. 1. 339 p.

No Named Author, Editor, or Chairman

JOINT INDUSTRY/GOVERNMENT TASK FORCE ON EUTROPHICATION: 1969. Provisional
algal assay procedure. U.S. Department of the Interior, New York. 62 p.

U.S. GOVERNMENT PRINTING OFFICE. 1967. Style manual. Revised ed.
Washington. 512 p.

For multiple authors, use the following style (note punctuation):

JONES, A. B., and C. D. SMITH. 1970.

JONES, A. B., C. D. SMITH, and E. F. YOST. 1970.

Acknowledgments

All Biome funding (partial or total) must be acknowledged in any published reports including theses. Use the following form of acknowledgment or, if the journal to which you are submitting a given paper requires a different form, be sure that all information is included. Contribution numbers will be assigned to all published reports at the time of their acceptance.

For total IBP support

The work reported in this paper was supported by National Science Foundation grant no. GB-20963 to the Coniferous Forest Biome, U.S. Analysis of Ecosystems, International Biological Program. This is Contribution no. xx from the Coniferous Forest Biome.

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The work reported in this paper was supported in part by National Science Foundation grant no. GB-20963 to the Coniferous Forest Biome, U.S. Analysis of Ecosystems, International Biological Program. This is Contribution no. xx from the Coniferous Forest Biome.

For work contributed TO or done in cooperation WITH the Biome, with no IBP support

The work reported in this paper was supported by the [name of granting agency or agencies, grant number(s), etc.], in cooperation with the Coniferous Forest Biome, U.S. Analysis of Ecosystems, International Biological Program.

Table 1. Characterization of phosphorus-dependent growth and phosphorous uptake kinetics of two diatoms and three bacterial species.^a

Organism	α_0 (10^{-15} g-atom P)	μ_m (doubt day ⁻¹)	V_m (10^{-15} g-atom P μ^{-2} day ⁻¹)	K_m (10^{-6} g-atom liter ⁻¹ P)
Diatoms:				
<i>Cyclotella nana</i> ^b	0.95	1.6	2.0	0.58
<i>Thalassiosira fluviatilis</i>	12.5	1.6		1.72
Bacteria:				
<i>Corynebacterium bovis</i>	0.187	4.8	7.7	6.7
<i>Pseudomonas aeruginosa</i>	0.097	48	17.9	
<i>Bacillus subtilis</i>	0.145	12	12.5	11.3

^a α_0 = minimum P content per cell; μ_m = growth rate during unrestricted growth at 22°C, other conditions at or near optimum; V_m = maximum uptake rate for orthophosphate P per unit area of cell surface; K_m = half-saturation constant of uptake mechanism.

^b Obtained from Cline's Pond.

Sample Table

Below is a portion of a table appearing in Nutrients and Eutrophication: The Limiting-Nutrient Controversy (G. E. Likens, ed.), a special symposium volume published by the American Society of Limnology and Oceanography, Inc. (1972). The table has been altered for purposes of this demonstration.

Editing-Proofreading Symbols

In marking manuscript copy, minor corrections or a few words of new material may be written between the lines above the location where they are to be inserted; mark the location with a (^) just below the line. For extensive changes, type the new material on a separate sheet and place it after the page where it is to be inserted, with the same page number but with a letter added thus: 13a. If more than one insertion is to be added to a given page, number them "insert 1," "insert 2," . . . and write in the left-hand margin of the manuscript, "insert 1 here," etc. Be sure a caret indicates the exact position of the insertion in the text.

In correcting proof, never attempt to write over or between the lines, and never completely obliterate an unwanted word. Rather, circle or otherwise define the part to be corrected, and write all small corrections in the margin of the proof sheet. Type extensive corrections on the bottom of the proof sheet or on a separate sheet, and draw a line and caret to indicate where they should be inserted.

For the convenience of our investigators and their secretaries, below are lists of the more commonly used editing and proofreading symbols. We give each separately to clarify the distinctions between the methods used in each instance. We suggest that you use the symbols in correcting manuscript copy and in marking proof.

Manuscripts (always double-spaced)

Size and style of type. This will give you an idea of how to mark manuscript copy to change a letter to ~~Lower Case~~. For a capital letter or for all capitals, underline three times. For italic type underline once: to change from italic to ^{rom}roman, encircle the word and write "rom" above it or in the margin. If the MS as typed leaves any doubt, mark superior letters or numerals thus [^] and inferior letters or numerals thus _a.

Paragraphing. To indicate a new paragraph where none exists, place the "paragraph" symbol (¶) before the sentence that is to begin the new paragraph. ¶ Begin a new paragraph. To combine two paragraphs, write "no ¶" at the beginning of a paragraph to be combined with the one above, or draw a continuous line from the last word of the first paragraph to the first word of the second.

← Thus.....

Insertion and deletion. To insert a word or phrase, write the word above the line where it is to go, and mark the exact position with a caret.

To delete one or more words, draw a line through the ~~unwanted~~ word or encircle the unwanted now is the time for material and complete the encirclement with the delete symbol (ϕ). To delete material without closing (as with an unfortunately-placed hyphen or an accidentally plural), draw a vertical line through the unwanted material and complete line with the delete symbol, as shown. To delete and close up, as with an extra letter in a word, use the delete symbol together with the "close" symbol (\odot). To correct a letter or word, draw a line through the incorrect letter or ^{word} ~~error~~, place a caret below, and write the correct letter or word above the line. To change your mind and leave standing a word or phrase previously marked out, place a series of dots under the material left standing (Proofreaders also write "stet" for the same meaning).

Position. To have material moved to the right on the page, draw an elongated right-hand bracket in the correct position \rfloor thus. To move material to the left, do the same in reverse. To have a title, equation, or other display material centered on the page, surround it with reverse brackets thus: \lrcorner Table 1. Cedar River watershed \lrcorner
To transpose order letters of or words, mark as shown or enclose transposed ³ ² ¹ in ring matter. For more complicated transpositions, rearrange words of order numbers in.

Spacing. To close up entirely, use "close" symbol; to close up partly, leaving \frown some space, use half "close" symbol. To insert [#] space within a line, draw a vertical line and place "space" symbol (\wedge) above. To indicate additional space (as in a table), the space symbol alone is sufficient.

Punctuation. To insert a period, use a caret and a circled period, thus \odot . Insert a comma thus \wedge and a semicolon thus \wedge ; a colon should be inserted thus \wedge . Quotation marks or apostrophes should be indicated by inverted carets, \vee thus \vee . A hyphen may be marked directly in the text, but a caret should be used to alert the typist (solid-state). Bulky punctuation such as question marks, parentheses, or brackets should be written above the line with a caret below to indicate position, as with a corrected word or ['] letter \wedge .

Miscellaneous. To have an abbreviation or numeral spelled out, circle it (measured in (km); (5) sites). To accomplish the reverse, write the numeral or abbreviation above the line as with any correction. To indicate the start of a new line (as in the explanatory column of a table), mark thus: ┐ start a new line.

Proofs (single spaced)

In correcting proofs, a minimum of marking is done in the printed material; most corrections appear in the margin. The column at the left indicates the marginal notation for the corrections to be made in text.

Size and style of type:

- (lc) lower case letters
- (LC) set in ~~LOWER CASE~~ (or, for initial capitals, ~~LOWER CASE~~)
- (c) capital letter
- (CAP) set in all capitals
- (rom) set in roman type
- (ital) set in italic type
- ^/ superior letter or figure
- 2/ inferior letter or numeral

Paragraphing:

- # end old paragraph here. # Start new paragraph
- no # No paragraph. OR: >
- run in Run in or run on.
- the/ insert marginal addition
- 2 delete word marked or marked
- 2 delete and close up
- e/ correct letter or word marked
- let it let it stand (all matter above dots)

Position:

- ┐ move to right
- └ move to left
- (tr) transpose enclosed in ring matter
- (tr) transpose order letters of or words
- (tr) rearrange words of order numbers in
- (run over) run over to next line (a two-letter division should be avoided)
- (run back) run back to preceding line (incorrect division of word)
- (up)

reset A syllable or short word standing alone on a line
is called a "widow"; it should be eliminated.

up

Spacing:

=/ close up entirely; eliminate space
^/ close up partly; ^ leave some space
#/ insert space (or more space); insert space

Punctuation:

o/ insert period or "full point"
^/ insert comma here
;/ insert semicolon
:/ insert colon
"'/ insert quotation marks ^ here ^
?/ insert question mark or "query"
!/ insert exclamation point or "bang"
-/ insert hyphen (solid state)
—/ one-em dash (this was our objective ^ to find substitutes....)
/) insert parentheses
[/] insert brackets

Miscellaneous:

sp spell out (measured in (km))
— mark off or break; start new line
? query to author or editor

Preparation of Abstracts for IBP Information Center

To introduce you to the new abstract format, certain portions of the document are paraphrased below.

Each paper or report that we include in our information base has several identifying characteristics. The obvious characteristics are such things as author, title, and abstract. In addition, there are less obvious ones that we believe will have value in locating and identifying relevant documents.

Each identifying characteristic is called a data element or field; each field can be recognized by the computer, and can be searched by computer. For instance, if you want to search for a paper written by J. M. Brown, you can have the computer search made of only the author field.

Each field is identified by a label enclosed in "</>." The labels are defined on the abstract form. Additional fields may be included in the future, but they must be defined and approved before they are used.

General Instructions

A line shall consist of 60 characters or fewer; avoid splitting words at the end of a line. Special rules for tabular data are described under <NUM DATA>.

Spelling. Use Americanized spellings throughout. If British spellings are used in an author abstract, change them (e.g., color not colour, meter not metre).

Numerical data. Most of the material you will be dealing with is bibliographic. There will be an increasing emphasis on numerical data, however, so abstracts should be reviewed for pertinent data. When using numerical data, you will be especially concerned with the fields <NUM DATA>, <NUM DESC>, <DATADATE>, and <PARMLIST>. You will want to review the instructions for the use of these labels.

Chemical notation. Element and compound names should be spelled out in all fields except the abstracts. Super- and subscripts are not routinely available and their use should be avoided. Do not use hyphens in naming isotopes (e.g., cesium 137, not cesium-137).

Use of characters. The character set we regard now as standard includes: roman alphabet in upper and lower case, numerals 0-9, @ # % * \$. _ / - +) & : ; ' / " = ! , (< > . Some characters (e.g., < > @ * : ; ,) have special meaning in certain situations. Formulas and characters such as Greek letters, superscripts, and subscripts, which may be encountered in an abstract, must be altered before they can be accepted as input, therefore they should be avoided whenever possible. Roman numerals should not be used. Use arabic equivalents.

Key terms. The general policy we follow in making separations among key terms is to use a semicolon between items of the same level (e.g., <KEYWORDS> water; pollution; hydrocarbons). A comma may be used to indicate descending levels (subterms) within a term (e.g., <GEODESC> North America, United States, Tennessee).

IBP Information Center
Coniferous Forest Biome
Abstract Input Form*

Documentalist: (leave blank) _____ Date of Preparation: _____

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<TITLE> (Title of document) _____

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<CORPAUTH> (Corporate author: institution originating document) _____

<SPONSOR> (Group or agency sponsoring work if different from <CORPAUTH>) _____

<LIT TYPE> (Type of literature: book, journal, proceedings, etc.) _____

<SUBJ CAT> (Subject category; broad field descriptor) _____

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<PARMLIST> (List of parameters) _____

<DATADATE> (Date significant to content of article) _____

<ABSTRACT> (Brief statement of document content*) _____

<DATADESC> (Description of data*) _____

<MENTOR> (Thesis advisor) _____

<COUNTRY> (Country where work was done) _____

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<PVT KWD> (Private keywords, those of meaning only to input team) _____

<TAXON> (Taxonomic descriptions; scientific names of organisms studied) _____

<NUM DATA> (Numerical data*) _____

<COMMENT> (Any additional information not covered by other fields*) _____

COMPLETE ALL OF THESE (MANDATORY)

COMPLETE IF RELEVANT

*Attach separate sheets for fields that have insufficient space

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