



Instructions to Authors — Natural Resource Report, Natural Resource Technical Report, and Natural Resource Data Series

Version 3.1

Natural Resource Report NPS/NRPC/IMD/NRR—2010/256



ON THE COVER

NPS employees Isabel Ashton and Phyllis Pineda Bovin (foreground with compass) determine the placement of a monitoring plot on a 13,153-foot-tall unnamed peak in Great Sand Dunes National Park and Preserve.

Photograph by: Phyllis Pineda Bovin.

**Instructions to Authors —
Natural Resource Report,
Natural Resource Technical Report,
and Natural Resource Data Series**

Version 3.1

Natural Resource Report NPS/NRPC/IMD/NRR—2010/256

National Park Service

Natural Resource Program Center
Inventory and Monitoring Division
1201 Oak Ridge Drive, Suite 150
Fort Collins, Colorado 80525

December 2010

U.S. Department of the Interior
National Park Service
Natural Resource Program Center
Fort Collins, Colorado

The National Park Service, Natural Resource Program Center publishes a range of reports that address natural resource topics of interest and applicability to a broad audience in the National Park Service and others in natural resource management, including scientists, conservation and environmental constituencies, and the public.

The Natural Resource Report Series is used to disseminate high-priority, current natural resource management information with managerial application. The series targets a general, diverse audience, and may contain NPS policy considerations or address sensitive issues of management applicability.

All manuscripts in the series receive the appropriate level of peer review to ensure that the information is scientifically credible, technically accurate, appropriately written for the intended audience, and designed and published in a professional manner.

This report received formal, high-level peer review based on the importance of its content, or its potentially controversial or precedent-setting nature. Peer review was conducted by highly qualified individuals with subject area technical expertise and was overseen by a peer review manager.

Views, statements, findings, conclusions, recommendations, and data in this report do not necessarily reflect views and policies of the National Park Service, U.S. Department of the Interior. Mention of trade names or commercial products does not constitute endorsement or recommendation for use by the U.S. Government.

This report is available from the Natural Resource Publications Management website (<http://www.nature.nps.gov/publications/nrpm/>).

Please cite this publication as:

National Park Service. 2010. Instructions to authors — Natural Resource Report, Natural Resource Technical Report, and Natural Resource Data Series: version 3.0. Natural Resource Report. NPS/NPRC/IMD/NRR—2010/256. National Park Service, Fort Collins, Colorado.

Change History

Version numbers will be incremented by a whole number (e.g., Version 1.3 to Version 2.0) when a change is made that significantly affects requirements or procedures. Version numbers will be incremented by decimals (e.g., Version 1.6 to Version 1.7) when there are minor modifications that do not affect requirements or procedures for publication in the series.

The following revisions have occurred to this plan since June 9, 2009

Version #	Date	Revised by	Changes	Justification
3.0	8/23/2010	Fagan Johnson	Added new content pertaining to NRDS report series, the new NRInfo Reference Application, using MS Word styles to simplify manuscript format and layout. Updated and clarified suggested manuscript format and layout procedures, and work flow for submitting reports.	NRDS series not covered in last version, procedures needed for new NRInfo Reference Application, and other updates and changes made to clarify current policy.
3.1	12/23/2010	Fagan Johnson	Suggested fourth and fifth heading font and layout changed.	End-users found old styles hard to locate in manuscript, and did not use.

Contents

	Page
Change History	iii
Tables	ix
Appendices	ix
Executive Summary	xi
1. Introduction.....	1
2. Procedures for Submitting and Publishing Reports	3
2.1 Steps for National Publication	3
2.1.1 <i>Decide on Regional or National Report Series</i>	3
2.1.2 <i>Decide Which National Report Series</i>	3
2.1.3 <i>Decide on a Report Format</i>	4
2.1.4 <i>Download MSF Form and Report Template</i>	4
2.1.5 <i>Prepare Your Manuscript</i>	5
2.1.6 <i>Initial Peer Review</i>	5
2.1.7 <i>Locate and Contact Your Peer Review Manager</i>	5
2.1.8 <i>Submit MSF and Draft Report to the Peer Review Manager</i>	5
2.1.9 <i>Primary Peer Review</i>	5
2.1.10 <i>Send Report to the NRPC Office</i>	6
2.1.11 <i>Final Review</i>	6
2.1.12 <i>Final Edits and Digital Storage</i>	6
2.2 Series and Reference Numbers	7
2.2.1 <i>National Series Numbers</i>	7
2.2.2 <i>Regional Series Numbers</i>	7
2.2.3 <i>NPS (TIC) Reference Number</i>	8

Contents (continued)

	Page
3. General Format and Style Guidelines	9
3.1 General Layout	9
3.2 NPS-approved Fonts	9
3.3 Report Title and Subtitle Punctuation.....	10
3.4 Section Headings	10
3.5 Paragraph Text.....	10
3.6 Figures and Tables	11
3.6.1 <i>Figure-specific Elements</i>	11
3.6.2 <i>Table Captions and Footnotes</i>	11
3.6.3 <i>Table Column Headings:</i>	11
3.6.4 <i>Table Stub (or Row) Headings:</i>	12
3.7 Citing Literature within the Body of the Report.....	12
3.8 Measurement Units	13
3.9 Numbers.....	13
3.10 Taxon Names.....	13
3.11 Copyright	13
3.12 Errors	14
4. Content Guidelines.....	15
4.1 Outside Front Cover	17
4.2 Inside Front Cover	18
4.3 Title Page.....	18
4.4 Disclaimer Page.....	18
4.5 List of Contents.....	18

Contents (continued)

	Page
4.6 Lists of Figures and Tables, and Appendices (or Appendixes).....	19
4.7 Abstract or Executive Summary.....	19
4.8 Acknowledgments (Optional).....	20
4.9 List of Terms (or Small Glossary), Acronyms, or Contacts (Optional)	20
4.10 Internal First Order Headings	20
4.10.1 Introduction (or Similar).....	21
4.10.2 Study Area (Optional).....	21
4.10.3 Methods (or Similar).....	21
4.10.4 Results (or Similar).....	21
4.10.5 Discussion (or Similar).....	21
4.10.6 Conclusions (or Similar - Optional).....	22
4.10.7 Other First Order Headings (Any First Order Heading Not Mentioned Above).....	22
4.11 Literature Cited.....	22
4.12 Appendices or Appendixes.....	23
4.13 Back Cover	24
5. Layout, Design, and Publication of Final Reports.....	25
6. Report Versioning.....	27
6.1 Publishing a New Version of a Previously-published Report	27
6.2 Naming New Report Versions.....	27
6.3 Version Naming for NRR Guidance Reports	28
6.4 Managing Report Versions in NRInfo.....	28
6.5 Deleting/Hiding Reports in NRInfo.....	29
7. Using Styles in NRPM MS Word Templates	31

Contents (continued)

	Page
7.1 Applying Styles to Text.....	31
7.2 Applying Styles on the Front Cover and Title Pages	32
7.2.1 Report Title on the Front Cover and Title Pages	32
7.2.2 Report Subtitle on the Front Cover and Title Pages.....	32
7.2.3 Report Series Name/Number on the Front Cover and Title Pages.....	32
7.3 Report Headings and the List of Contents.....	33
7.4 Figure and Table Captions and Lists of Figures and Tables	33
7.5 Appendices and Lists of Appendices and/or Contents	34
Literature Cited.....	37

Tables

	Page
Table 1. List of major content elements used in NRTR, NRR, and NRDS reports, giving the chapter location where more detailed information can be found and basic guidance concerning whether or not that section is used in each report series.	15
Table 2. Example of a Change History table for a report that has undergone numerous major and minor version iterations.	28
Table 3. The MS Word formatting styles embedded into NRPM report templates, the NRPM report format element that style is used for, and any added benefit of applying those styles in a report.....	31

Appendices

	Page
Appendix A. Example of a figure and figure caption, which is placed on a separate page from the text.	39
Appendix B. Example of a table and table caption, showing how to format a table that continues onto a second page.....	41
Appendix C. Example of a list of Figures.	43
Appendix D. Example of a standard Acknowledgements page.....	45
Appendix E. Examples for citing literature within the Literature Cited section of the report (using the style of the journal Ecology).	47

Executive Summary

This report describes manuscript preparation and submittal procedures and style/formatting guidelines for manuscripts submitted to the National Park Service Natural Resource Report series (NRR), Natural Resource Technical Report series (NRTR), and Natural Resource Data Series (NRDS). It is a revision of an earlier report: *Instructions to Authors — Natural Resource Report and Natural Resource Technical Report: Version 2.4* (NPS 2006). The addition of the newer NRDS report series warranted a change in the report title. Other differences between this document and previous revisions include procedural changes due to the integration of NatureBib into the [Natural Resource Information Portal](#) (NRInfo) document storage and retrieval system, additional information for using MS Word format styles, and general edits to clarify and better reflect current policies.

The publishing standards presented in this report are a continuation of the *Natural Resource Publications Management Handbook* (NPS 1991), the [Editorial Style Guide for Park Science and Natural Resource Year in Review](#) (NPS 2004), and are updated and modified in compliance with the NPS Graphic Identity Program (<http://www.graphics.nps.gov/>). These standards are designed to meet the NPS graphic identity standards mandated in [Director's Order #52A](#).

Format and layout requirements for NRTR, NRR, and NRDS reports are most stringent for the outside front and back covers of a report. When comparing the covers of any two reports from the same series, readers should visually discern that the reports were published in the same report series.

Most of the responsibility for using the correct format/style and incorporating comments from peer reviewers is assumed by the person submitting the report, as the NPS does not have editors for the series. The person submitting the report for publication (author, editor, or person managing the publication of the report) bears any costs for printing and distribution of the reports. The majority of reports are distributed via the Internet.

All reports published in the NRTR, NRR, and NRDS report series must undergo a peer review process, overseen by a NPS-approved Peer Review Manager. Regional I&M Program Managers, or their delegate, usually serve as the NPS Peer Review Manager for reports generated by the I&M program. For other reports, please contact the Regional Natural Resource Chief, or NRPC Division Chief to find out who acts as the Peer Review Manager for that office.

Manuscripts in these series must adhere to a set of minimum standards and are peer-reviewed to ensure that information is scientifically credible, technically accurate, appropriately written for the intended audience, and designed and published in a professional manner. The manuscript and production standards described in this report apply to all contributors to these series, including contractors and cooperators, and the same procedures and standards are required for reports that will be distributed primarily in electronic format as well as those distributed by printed copies. If an NPS region publishes a regional series the region is encouraged to adopt these standards in full; however, each region may develop more specific guidance tailored to its unique organizational structure.

Periodically-updated instructions, examples, and templates for preparing, submitting, and publishing reports in these series are available on the Natural Resource Publications Management website (NRPM website) (<http://www.nature.nps.gov/publications/nrpm/>). To facilitate the preparation and peer review of draft manuscripts, and the timely publishing of routine scientific reports over the Internet, the minimum style/formatting standards and templates described in these Instructions to Authors use readily available fonts and minimal formatting that do not require desktop-publishing skills. For reports where a large number of copies will be printed and distributed, or a large readership is expected, contributors should produce a final report using Adobe Frutiger and NPS Rawlinson fonts.

A summary of the suggested process presented in this report for publishing in the NRR, NRTR, and NRDS report series is as follows:

1. Decide if report content and scope is best suited for the national or regional report series. The national series is recommended in most cases.
2. Decide if the manuscript is better suited for the NRTR, NRR, or NRDS report series.
3. Select the format to use to publish the report (basic MS Word or the more polished Adobe InDesign format).
4. Download the [NRPM Manuscript Submittal Form and Checklist](#) (MSF), along with the appropriate document template from the [NRPM website](#).
5. Prepare the manuscript using the style standards described in this report.
6. Obtain initial peer reviews by at least two, and preferably three, qualified reviewers.
7. Locate and contact the official Peer Review Manager that will be working with you to peer review the report.
 - a. If the report is generated by the NPS I&M program, contact the appropriate Regional I&M Program Manager to find out who will be the Peer Review Manager for the report.
 - b. For other reports, contact the Regional Natural Resource Chief, or the NRPC Division Chief.
8. Fill in the first section of the MSF form, and submit it and the draft manuscript to the Peer Review Manager for review.
9. The Peer Review Manager works with the person submitting the report to peer review and edit the report to meet their standards, and makes sure that the first and second sections of the MSF form are filled in to their satisfaction.
10. After the peer review comments have been addressed, the person submitting the report sends the final draft of the peer-reviewed report, along with the MSF form, to the [Natural Resources Program Center](#) (NRPC) for final review.
11. The NRPC office reviews the report, assigns the next number in the national series, obtains the NPS Technical Information Center (TIC) reference number, creates a draft reference in the [NRInfo](#) document storage and retrieval system, and sends all pertinent information back to the person submitting the report.
12. The person submitting the report incorporates the final review comments into the report, and works with the NRPC office to upload the report to the [NRInfo](#) document storage and retrieval system, and submit it to the NPS Technical Information Center office for archiving.

1. Introduction

This report describes manuscript preparation and submittal procedures and style/formatting guidelines for manuscripts submitted to the Natural Resource Technical Report series (NRTR), National Park Service Natural Resource Report series (NRR), and Natural Resource Data Series (NRDS). It is a revision of an earlier report: Instructions to Authors — Natural Resource Report and Natural Resource Technical Report: Version 2.4 (NPS 2006). The addition of the newer NRDS report series warranted a change in the report title. Other differences between this document and previous revisions include procedural changes due to the integration of NatureBib into the [Natural Resource Information Portal](#) (NRInfo) document storage and retrieval system, additional information for using MS Word format styles, and general edits to clarify and better reflect current policies.

The publishing standards presented in this report are a continuation of the Natural Resource Publications Management Handbook (NPS 1991), the [Editorial Style Guide for Park Science and Natural Resource Year in Review](#) (NPS 2004), and are updated and modified in compliance with the NPS Graphic Identity Program (<http://www.graphics.nps.gov/>). These standards are designed to meet the NPS graphic identity standards mandated in [Director's Order #52A](#).

Format and layout requirements for NRTR, NRR, and NRDS reports are most stringent for the outside front and back covers of a report. When comparing the covers of any two reports from the same series, readers should visually discern that the reports were published in the same report series.

Most of the responsibility for using the correct format/style and incorporating comments from peer reviewers is assumed by the person submitting the report, as the NPS does not have editors for the series. The person submitting the report for publication (author, editor, or person managing the publication of the report) bears any costs for printing and distribution of the reports. The majority of reports are distributed via the Internet.

All reports published in the NRTR, NRR, and NRDS report series must undergo a peer review process, overseen by a NPS-approved Peer Review Manager. Regional I&M Program Managers, or their delegate, usually serve as the NPS Peer Review Manager for reports generated by the I&M program. For other reports, please contact the Regional Natural Resource Chief, or NRPC Division Chief to find out who acts as the Peer Review Manager for that office.

Manuscripts in these series must adhere to a set of minimum standards and are peer-reviewed to ensure that information is scientifically credible, technically accurate, appropriately written for the intended audience, and designed and published in a professional manner. The manuscript and production standards described in this report apply to all contributors to these series, including contractors and cooperators, and the same procedures and standards are required for reports that will be distributed primarily in electronic format as well as those distributed by printed copies. If an NPS region publishes a regional series the region is encouraged to adopt these standards in full; however, each region may develop more specific guidance tailored to its unique organizational structure.

Periodically-updated instructions, examples, and templates for preparing, submitting, and publishing reports in these series are available on the Natural Resource Publications Management website (NRPM website) (<http://www.nature.nps.gov/publications/nrpm/>). To facilitate the preparation and peer review of draft manuscripts, and the timely publishing of routine scientific reports over the Internet, the minimum style/formatting standards and templates described in these Instructions to Authors use readily available fonts and minimal formatting that do not require desktop-publishing skills. For reports where a large number of copies will be printed and distributed, or a large readership is expected, contributors should produce a final report using Adobe Frutiger and NPS Rawlinson fonts.

Regional series address natural resource topics that are of interest and applicability to a specialized or limited geographical readership in the National Park Service and to others charged with managing natural resources, and may feature preliminary data and results of study or summaries of ongoing study for rapid dissemination to park managers. If you would like to publish in a regional series, you will need to contact the person with your regional office who coordinates these reports. Each region has its own report procedures and tracking system.

2. Procedures for Submitting and Publishing Reports

2.1 Steps for National Publication

2.1.1 *Decide on Regional or National Report Series*

Decide if the report content and scope is best suited for the national or regional report series. The national series is recommended in most cases.

- All persons submitting a report that is related to (or funded by) the I&M Program should use the national NRTR, NRR, and NRDS series, and follow the procedures outlined in this report.
- If you would like to publish in a regional series, you will need to contact the regional office for more information. Each region has its own procedures and tracking system.
- NPS regions that publish a regional series are encouraged to adopt these standards in full; however, each region may develop more specific guidance tailored to its unique organizational structure.

2.1.2 *Decide Which National Report Series*

Decide if your manuscript is better suited for the NRTR, NRR, or NRDS report series. The differences among these series are below.

Natural Resource Technical Report (NRTR): used to disseminate the results of scientific studies in the physical, biological, and social sciences for both the advancement of science and the achievement of the National Park Service mission. The series provides contributors with a forum for displaying comprehensive data that are often deleted from journals because of page limitations. The NRTR typically follows the "Introduction - Methods - Results - Discussion" type organization that is standard for many scientific journal publications and technical reports. Examples of NRTR reports include:

- periodic data summaries with analysis and interpretation
- inventory reports
- monitoring reports
- species status reports

Natural Resource Report (NRR): used to disseminate high-priority, current natural resource information with managerial applications. The series targets a general, diverse audience, and may contain NPS policy considerations or address sensitive issues of management applicability. Reports that are organized into chapters, such as monitoring plans and protocols, are best suited for the NRR, which has a more flexible "open format" layout. Examples of the diverse array of reports published in this series include:

- vital signs monitoring plans
- data management plans
- monitoring protocols
- natural resource condition assessments
- "how to" resource management papers
- annual reports of resource programs or divisions of the Natural Resource Program Center

- resource action plans
- any report with chapters/sections focused on land and resource management

Natural Resource Data Series (NRDS): intended for the timely release of basic data sets and data summaries. An example would be simple, annual reporting of monitoring results that will be more thoroughly analyzed and interpreted later as part of a multi-year trend report. Care is taken to assure accuracy of raw data values, but a thorough analysis and interpretation of the data has not been completed. Consequently, the initial analyses of data in these reports are provisional and subject to change. Examples of NRDS reports include:

- periodic data summaries for field sampling projects
- annual visitor statistics summaries
- periodic data compilations from automated weather stations

2.1.3 Decide on a Report Format

Decide which format you want to use to publish your report from the choices below.

The "Good" Format: option uses readily available fonts and minimal formatting (1 column, Arial and Times New Roman fonts) and does not require any specialized software or desktop publishing skills. The majority of reports will follow this option, which is intended more for routine reports that are distributed primarily by posting them on the Internet and for which a large readership is not expected. Also, draft reports in MS Word that are sent out for peer review will mostly use this option, even if the final report will follow the "Best" option, since the preferred NPS fonts used in the "Best" option may cause problems for peer reviewers.

The "Better" Format: option is in between the "good" and "best" formats, with some degree of desktop publishing layout. Examples of the "better" format would be a two-column report that uses NPS Rawlinson and Adobe Frutiger typefaces. This option is used less often than the other two formatting options.

The "Best" Format: option is a more polished document with a 2.5-column layout using NPS Rawlinson and Adobe Frutiger font style and formatting that is consistent with the "Communicating the National Park Service Mission" design standards and Director's Order 52. This option is recommended for reports that will be printed (especially those using color) and more than about 50 hard copies will be distributed, or for which a large readership is expected. There is more design flexibility for the body of the report with this format, and templates in Adobe InDesign are available. It is possible for a novice to produce a 2.5-column layout, but most contributors will either hire a contractor or have in-house expertise available to produce a final report in the "Best" layout.

2.1.4 Download MSF Form and Report Template

Download the official [Manuscript Submittal Form and Checklist](#) (MSF), along with the appropriate document template that you want to use, from the [NRPM website](#). The MSF is required with all report submissions. We strongly suggest that you prepare your manuscript using a recent version of one of our document templates. The document templates provide:

- Exact format and layout specifications required for the front and back cover pages. Format and layout requirements for NRTR, NRR, and NRDS reports are most stringent

for the outside front and back covers of a report. When comparing the covers of any two reports from the same series, readers should visually discern that the reports were published in the same report series.

- Examples of the currently accepted NPS disclaimer language and descriptions of the most common types of peer review performed.
- Examples of the suggested formats and styles for most common report elements seen in NRTR, NRR, and NRDS reports.

2.1.5 Prepare Your Manuscript

Prepare your manuscript using the style standards described in this report. The responsibility for using the correct format and style is assumed by the person submitting the report, as the NPS does not have editors for the series. The person submitting the report bears any costs for printing and distribution of the report. The majority of reports are distributed via the Internet. Additional guidance on formatting and submitting reports can be found on the [NRPM website](#).

2.1.6 Initial Peer Review

Once the manuscript is prepared, obtain initial peer reviews by at least two, and preferably three, qualified reviewers, and work with them to incorporate their comments and changes into the report.

2.1.7 Locate and Contact Your Peer Review Manager

After making the revisions recommended by the initial peer reviewers, locate and contact the person that will be acting as the Peer Review Manager for the report. All reports published in the NRTR, NRR, and NRDS series must receive the appropriate level of peer review, overseen by a NPS-approved Peer Review Manager.

Regional I&M Program Managers, or their delegate, usually serve as the NPS Peer Review Manager for reports generated by the I&M program. For other reports, please contact the Regional Natural Resource Chief, or NRPC Division Chief to find out who acts as the Peer Review Manager for that office.

2.1.8 Submit MSF and Draft Report to the Peer Review Manager

The contributor then submits the MSF, with the first section filled in, and a draft manuscript to the Peer Review Manager, who will oversee the peer and management review process. The first section of the MSF:

- Briefly describes why the material is appropriate for the report series chosen.
- Identifies the initial peer reviewers and the process by which peer review comments were or were not incorporated into the revised manuscript.
- Identifies whether or not the manuscript includes any sensitive or commercially valuable information that may potentially jeopardize a park resource, any material that might not be consistent with NPS policy, or any other material that might require a Management Review.

2.1.9 Primary Peer Review

The Peer Review Manager works with the person submitting the report to peer review and edit the report to meet their standards. The NPS Peer Review Manager responsibilities are below.

- Oversees the peer review process to ensure that it is consistent with the NPS Interim Guidance on Peer Review and meets the peer review requirements for the Natural Resource Publications series.
- Determines whether or not additional peer review is necessary based on the manuscript content and the quality of the initial reviews, and, if deemed appropriate, arranges for and oversees additional peer review.
- Determines whether or not a Management Review is necessary, and if so, selects an appropriate reviewer who can verify consistency with NPS policy or clear and appropriate relation to NPS policy and that appropriate treatment is given to sensitive issues.
- Works with the author or editor submitting the report for publication to incorporate the management and review comments into the final manuscript.
- When the Peer Review Manager is satisfied that the reviewer comments have been adequately incorporated, and that the report meets the minimum formatting standards for the series; the Peer Review Manager approves the report for publication in one of the series, fills out the second section of the MSF, and sends it back to the person submitting the report for publication.

2.1.10 Send Report to the NRPC Office

Once the report has been approved by the Peer Review Manager, and there are no more significant edits to the report content, the person submitting the report:

1. Assembles the MSF, with the first two sections filled in, and a final draft of the report in MS Word or Adobe PDF format.
2. Emails the [Natural Resources Program Center \(NRPC\)](#) to submit the MSF and a final draft of the report for final review. The files can either be attached to the email, or be placed on an accessible online file sharing site (FTP, SharePoint, etc.).

2.1.11 Final Review

The NRPC office reviews the report, assigns the report the next number for that report series (Chapter 2.2 Series and Reference Numbers), obtains the [NPS Technical Information Center](#) reference number, creates a draft reference in the [NRInfo document storage and retrieval system](#), and sends all pertinent information back to the person submitting the report.

2.1.12 Final Edits and Digital Storage

The person submitting the report incorporates the final review comments into the report and works with the NRPC office to upload the report to the [NRInfo document storage and retrieval system](#) and submit it to [NPS Technical Information Center](#) office for archiving.

Once the final version of a report has been distributed in any way to persons outside the peer review process (printed or electronic copies distributed, posted on NRInfo, etc.), it is considered “final.” Minor edits and corrections are allowed, but any edits that change the factual information or page placement of content require that a new version of that report be published. For more information about publishing a new version of an older report, see Chapter 6. Report Versioning.

2.2 Series and Reference Numbers

The report numbering system for all Natural Resource national and regional series is a modification of the American National Standard Technical Report Numbering (STRN) System. The intent of the numbering system is (1) the facilitation of reference and ordering, (2) the generation of lists of reports by number without confusion or apparent duplication for indexing services, (3) the identification, location, and organization of the literature for libraries, and (4) efficient and accurate citing of material. The numbers for national series publications are to be obtained from the NPS peer review manager through use of the Natural Resource Publications Management website. The format and examples of the series numbers are as follows:

2.2.1 National Series Numbers

NPS/aaaa/bbbb/cccc—2010/002

- NPS - Agency
- aaaa – Originating region, division, or I&M network (3 or 4-character alpha code for region; or 4-character division, network, or park)
- bbbb – Optional subdivision of originating office alpha code
- cccc – NRTR, NRR, or NRDS, depending on which report series is used, followed by an em-dash
- 2010 - Year
- 002 - Sequential number in that report series

Examples:

NPS/NRPC/GRD/NRR—2005/238

National NRR report published under the auspices of the NPS Natural Resource Program Center office (NRPC), Geologic Resources Division, in Fort Collins.

NPS/SODN/NRR—2006/225

National NRR report published under the auspices of the Sonoran Desert I&M Network.

NPS/SHEN/NRDS—2010/081

National NRDS report published under the auspices of Shenandoah National Park.

2.2.2 Regional Series Numbers (Check with Regional Office to confirm system)

NPS/aaaa/bbbb/cccc—2006/002

- NPS - Agency
- aaaa – Region code: 3-character alpha code (AKR, PWR, etc.)
- bbbb – Park or I&M network 4-character alpha code
- cccc – NRR or NRTR depending on which report series is used, followed by an em-dash
- 2006 - Year
- 002 - Sequential number in that report series

Examples:

NPS/IMR/SODN/NRR—2006/010

NRR report published by the Sonoran Desert I&M Network, in the Intermountain Region's report series.

NPS/NER/SHEN/NRTR—2005/002

NRTR report published by Shenandoah National Park in the Northeast Region's report series.

NPS/PWR/NRR—2005/012

NRR Report published by the Pacific West Region in their own report series.

2.2.3 NPS (TIC) Reference Number

The NPS Reference Number is the system number for filing, archiving, and requesting natural resources national and regional series reports at the [NPS Technical Information Center](#), Denver. An example of an NPS reference number is 123/105335. Contributors will obtain this number along with the series number from the NRPC office in Fort Collins. The NPS Reference Number must appear on the back side of the title page and on the inside back cover of national publications.

3. General Format and Style Guidelines

The publishing standards presented in this report are a continuation of the Natural Resource Publications Management Handbook (NPS 1991), the [Editorial Style Guide for Park Science and Natural Resource Year in Review](#) (NPS 2004), and are updated and modified in compliance with the [NPS Graphic Identity Program](#). These standards are designed to meet the NPS graphic identity standards mandated in [Director's Order #52A](#).

The basic format and style guidelines for reports are below. We suggest that you prepare your report using one of the MS Word or Adobe InDesign templates provided on the [NRPM website](#). The templates are designed to comply with the above NPS standards, help writers maintain layout consistency throughout a report, and provide tools to avoid or mitigate the most common difficulties encountered when preparing manuscripts.

Format and layout requirements for NRTR, NRR, and NRDS reports are most stringent for the outside front and back covers of a report. When comparing the covers of any two reports from the same series, readers should visually discern that the reports were published in the same report series. More detailed information on the format and layout requirements for the front and back cover can be seen in Chapter 4, sections 4.1 Outside Front Cover and 4.10.10 Back Cover.

3.1 General Layout

- Submit all reports double-sided on 8½×11 inch white bond paper, and/or as either a Microsoft Word document (doc) or Adobe Acrobat (pdf) format, as required by the contract or agreement.
- Maintain 1.0-inch margins top, bottom, left, and right throughout document with the exception of the outside front cover and outside back cover.
- Pagination: number all pages sequentially, centered at the bottom of the page.
 - Page numbering for the initial sections (title page, lists of contents, figures, tables, and/or appendixes, abstract or executive summary, and acknowledgments) should use lower case Roman numerals (i, ii, iii). Pagination begins on the title page, but showing page numbers begin on the next page after the title page with the Roman numeral ii.
 - The main body of the report (beginning with the introduction and including the appendixes) should be numbered sequentially using Arabic numerals (1, 2, 3).
 - Most first order headings should begin on a new, right-hand, and odd numbered page (see Chapter 4 Content Guidelines for details). This arrangement assures that all first order headings in the main part of the report face the reader when reading or leafing-through the report.
 - If required, add a blank page before a new first order heading.
 - The blank page should be completely blank, with no page number at the bottom of the page.

3.2 NPS-approved Fonts

- Use either Times New Roman or NPS Rawlinson fonts for the main body text and for the report title and subtitle on the front cover.

- Times New Roman is often used for reports with a smaller distribution, and when sharing draft versions of the report for peer review.
- NPS Rawlinson is suggested for the final version of reports, especially for reports with a large distribution. Since the availability of NPS Rawlinson is limited, it is not recommended for sharing draft versions of a report for peer review.
- Use either Arial or Adobe Frutiger fonts for all first through third order section headings, figure and table captions, and the contents inside tables.
 - Arial is often used for reports with a smaller distribution, and when sharing draft versions of the report for peer review.
 - Adobe Frutiger is suggested for the final versions of reports, and especially for reports with a large distribution. Since the availability of Adobe Frutiger is limited, it is not recommended for sharing draft versions of a report for peer review.

3.3 Report Title and Subtitle Punctuation

A colon should only be used to separate the report title from the subtitle in the official bibliographic citation for all NRTR, NRR, and NRDS reports. Please do not use a colon for additional text separations to either your report title or subtitle.

3.4 Section Headings

- All section headings should be flush left.
- Use title case (i.e., first letter of all words capitalized except articles, prepositions and conjunctions) for all section headings.
- Parent headings should be more prominent, typically using a larger font size, than subordinate headings.
- First order headings should use Adobe Frutiger or Arial font, bold, double spaced (single blank space) between heading and first paragraph.
- Second order headings should use Adobe Frutiger or Arial font, bold, and text starting on next line unless immediately followed third order headings, then double spaced between second and third order headings.
- Third order headings should use Adobe Frutiger or Arial font, bold, italics, and text starting on next line unless immediately followed by a fourth order heading, then double space between third and fourth order headings.
- Fourth order headings should use Times New Roman or NPS Rawlinson font, underlined, and text starting on the next line unless immediately followed by a fifth order heading, then double space between fourth and fifth headings.
- Fifth order headings should use Times New Roman or NPS Rawlinson font, italics, and text starting on the next line.

3.5 Paragraph Text

- Paragraphs should use Times New Roman or NPS Rawlinson font.
- Format paragraphs flush left with no left indentation on the first line.
- Paragraphs should be single-spaced; double space between paragraphs.
- Do not hyphenate whole words at the end of a line; instead use an unjustified (ragged) right margin.
- Use one space after periods and colons.

- The order of brackets and related symbols is: ([{}]).
- In general, use the "-ic" not the "-ical" ending for adjectives (e.g., geologic, hydrologic). However, use "biological" and "nongovernmental," as well as U.S. "Geological" Survey.

3.6 Figures and Tables

- Every figure and table should be cited in the text.
- Figures and tables should occur as soon as possible after they are first mentioned in the regular text. They should not occur before, or multiple paragraphs after they are first mentioned.
- Small figures and tables may be placed on the same page as the text that refers to them. Larger figures and tables should be on their own numbered page immediately following the page (double-sided) on which they are first referenced in the text.
- For figures and tables which are more than one page, repeat the figure or table number and caption followed by "(continued)." in parentheses, for each additional page.
- All figure and table captions, table contents, and footnotes should use Adobe Frutiger or Arial font that is left-justified to the page (Appendix A and Appendix B).
- Use sentence case for all figure and table captions; where only the first letter, proper nouns, and acronyms are capitalized. Begin entries with a capitalized and bold label (**Figure** or **Table**) followed by a space, then a number, then a period, then a space, and then the caption, followed by a period (e.g., **Figure 1.** Map of survey area, **Table 2.** Number of plots). If the caption is more than one line, additional lines also start flush left to the page .
- Figures and tables should be numbered sequentially with Arabic numerals in the order of their presentation in the text,(e.g., **Figure 1, Figure 2; Table 1, Table 2**).
- The caption, headings, legend, and footnotes must contain all the information the reader needs to understand a figure or table without referring to the text. If line drawings and artwork are necessary, they must be in high-contrast black and white and of a reproducible quality.

3.6.1 Figure-specific Elements

- Figures should convey all information when viewed in grayscale; use color only when absolutely necessary to display detail.
- Figures should all have brief descriptive captions located below the figure (Appendix A).
- Explanatory information and keys to symbols should be placed in the figure legend.

3.6.2 Table Captions and Footnotes

- Tables should all have brief descriptive captions located above the table, and with one blank line space between the table title/caption and the body of the table (Appendix B).
- Table footnotes should be placed at the bottom of the table.
- Numerical data in columns should be aligned with decimal tabs at equivalent places.

3.6.3 Table Column Headings:

- Horizontal lines are typically placed above and below the column headings and below the last table row.
- Column headings should be left-aligned over text columns, centered over numerical data.

- Include column headings on second and succeeding pages if a table runs onto more than one page. Heading rows should be defined so that headings will repeat when tables break over more than one page.

3.6.4 Table Stub (or Row) Headings:

- Left-align, using sentence-style capitalization.
- Subcategories should be indented slightly.
- When the word "total" appears at the foot of a stub it is often indented more deeply than other lines, or is otherwise distinguished typographically.

3.7 Citing Literature within the Body of the Report

- Follow the style used by the journal *Ecology*, which uses the author and year system for citing literature references in the text. If you wish to mention the author in your discussion say, for example, "Wakeley (1954) reported that...". Otherwise, place the author and year [e.g., (Wakeley 1954)] within or at the end of your statement (Appendix G).
- Separate citations of works by different authors in one set of parentheses with a comma [e.g., (Wakeley 1954, Bennett 1960, 1964, McManus 1967)]; multiple works within one set of parenthesis are to be listed chronologically, not alphabetically.
- Separate several cited works by the same author with commas (Hackett 1970, 1972a, 1972b) and list them chronologically.
- When a cited work has two authors, list both [e.g., (Yahner and Mahan 2003)].
- When a cited work has three or more authors, list the first author et al. and year [e.g., (Yahner et al. 2002)].
- Personal communications should not be listed in the literature cited section of the report.
 - All reports citing personal communications should have an Acknowledgements report section that mentions all persons cited as a personal communication source (Chapter 4.8 Acknowledgements).
 - Text citations of personal communications should be clear and concise, and include enough information for readers to look for and locate the person cited.
 - Typical information given for personal communications includes: name of individual, job title, agency or organization (if any), type of communication (phone conversation, interview, or use "pers. comm." if you don't know), and date.
 - Personal communication citation information can be included as part of the manuscript text, or at the end of the sentence in parentheses. Below are some examples.

“According to Dr. Tom Philippi, a Quantitative Ecologist with the National Park Service... (phone conversation, 7-7-2010).”

“Official National Park Service policy concerning... (Steve Fancy, National I&M Program Leader, interview, 6-25-2009).”

“...at Colorado State University (Amy Lavender, Colorado Natural Heritage Program, email communication, 11-10-2008).”

3.8 Measurement Units

- You may use English or metric (SI) units, but be consistent throughout the manuscript. Equivalents are not required but are helpful to many readers. In text, put the equivalents in parentheses immediately after the units. "The study area size was 3 ha (7.4 ac)."
- Use abbreviated standard units of measure when with a numeral; units of measure are to be spelled out if no quantity is given (e.g., "10 m" or "Tree height was measured in meters").
- Retain only the final unit of measure in a series (e.g., 10 to 15 kg).
- Use "/" for ratios with numbers (8 deer/ha); use "per" without numbers (At Valley Forge National Park the number of deer per hectare was greater than ...).

3.9 Numbers

- Numbers from zero through nine are spelled out unless they accompany a unit of measure.
- Spell out a numeral at the beginning of a sentence regardless of any inconsistency this may create, or rewrite the sentence.
- Ordinal numbers follow the same rules as cardinal numbers (i.e., first, ninth, 10th, 11th).
- Physical measurements (length, width, distance, area, volume, decimals, percentages, degrees, symbols, latitude/longitude, fractions greater than one) and time (days, years) are always expressed as numerals.
- When two numerals appear together (usually in compound modifiers), spell out one or recast the sentence (e.g., We needed 30 eight-cent stamps, *not* 30 8-cent stamps).
- When using symbols (e.g., <, =, >, %, ≤, ≥), do not include a space between the symbol and the number (e.g., <22, ≤50, 98%).

3.10 Taxon Names

- The NPS has adopted ITIS (Integrated Taxonomic Information System) as its standard for taxonomy and nomenclature, and all scientific names should follow this standard. See <http://www.itis.gov/>.
- In general, use common species names of plants and animals, initially followed with scientific names parenthetically (beginning in the Introduction); thereafter, only the common name is necessary.
- If a large number of species are referred to in the text, a reference list of common and scientific names must be included as an Appendix.
- Common animal and plant names should be in lowercase except when a proper name is part of the common name (e.g., alpine forget-me-not, American dipper, golden-mantled squirrel, ponderosa pine, Douglas fir).
- Abbreviations for species: sp. is singular; spp. is plural.

3.11 Copyright

- Authors are responsible for obtaining written permission for use of any copyrighted figures, tables, graphs, and information.

3.12 Errors

- Authors are responsible for conducting an editorial review of the draft report to ensure: clarity; proper grammar, spelling, and punctuation; accuracy and completeness of all numbers, tables, figures, and references; and adherence to these format and content guidelines.

4. Content Guidelines

Table 1. List of major content elements used in NRTR, NRR, and NRDS reports, giving the chapter location where more detailed information can be found and basic guidance concerning whether or not that section is used in each report series.

Major Content Element (Corresponding Section)	NRTR Reports	NRR Reports	NRDS Reports With Cover Page	NRDS Reports No Cover Page
Outside Front Cover (Chapter 4.1)	Required	Required	Optional	None
Inside Front Cover (Chapter 4.2)	Required	Required	Optional	None
Title Page (Chapter 4.3)	Recommended	Recommended	Recommended	Recommended
Disclaimer Page (Chapter 4.4)	Recommended	Recommended	Recommended	Recommended
List of Contents (Chapter 4.5)	Recommended	Recommended	Optional	Optional
List of Figures (Chapter 4.6)	Recommended if any figures	Recommended if any figures	Optional	Optional
List of Tables (Chapter 4.6)	Recommended if any tables	Recommended if any tables	Optional	Optional
List of Appendices or Appendixes (Chapter 4.6)	Recommended if > 2 Appendices ¹	Recommended if > 2 Appendices ¹	Optional	Optional
Abstract /Executive Summary (Chapter 4.7)	Recommended	Recommended	Optional	Optional
Acknowledgements (Chapter 4.8)	Optional	Optional	Optional	Optional
List of Terms, Acronyms, or Contacts (Chapter 4.9)	Optional	Optional	Optional	Optional

¹If there are more than two Appendices, NRR and NRTR reports should include a separate List of Appendices or Appendixes. If there are fewer than two Appendices, add them to the List of Contents.

²The Introduction and Methods sections of NRDS reports may be combined, and as short as a single sentence.

Table 1. List of major content elements used in NRTR, NRR, and NRDS reports, giving the chapter location where more detailed information can be found and basic guidance concerning whether or not that section is used in each report series (continued).

Major Content Element	NRTR Reports	NRR Reports	NRDS Reports With Cover Page	NRDS Reports No Cover Page
Introduction (Chapter 4.10.1)	Recommended or similar	Recommended or similar	Recommended – short /merged ²	Recommended – short/merged ²
Study Area (Chapter 4.10.2)	Optional	Optional	Optional	Optional
Methods (Chapter 4.10.3)	Recommended or similar	Optional or similar ³	Recommended – short /merged ²	Recommended – short /merged ²
Results (Chapter 4.10.4)	Recommended or similar	Optional or similar ³	Recommended	Recommended
Discussion (Chapter 4.10.5)	Recommended or similar	Optional or similar ³	Optional	Optional
Conclusions (Chapter 4.10.6)	Optional or combined ⁴	Optional or similar ³	Optional	Optional
Other First Order Headings (Chapter 4.10.7)	Optional	Optional	Optional	Optional
Literature Cited (Chapter 4.10)	Recommended	Recommended	Optional	Optional
Appendices or Appendixes (Chapter 4.11)	Optional	Optional	Optional	Optional
Inside and Outside Back Cover (Chapter 4.12)	Required	Required	None	None

²The Introduction and Methods sections of NRDS reports may be combined, and as short as a single sentence.

³ NRR reports are not confined to the basic scientific report format (i.e., following the Introduction, Methods, Results, etc. format), and authors may name and arrange major sections of the report as they see fit.

⁴The Discussion and Conclusions sections may be combined in NRR and NRTR reports.

4.1 Outside Front Cover

NRTR and NRR reports always have a front cover, and NRDS reports have the option of not including a front cover page (Table 1).

Format and layout requirements are most stringent for the outside front and outside back covers of NRTR, NRR, and NRDS reports. When comparing the front or back covers of any two reports from the same series, readers should visually discern that the reports were published in the same report series. These standards also meet the NPS graphic identity standards mandated in [Director's Order #52A](#).

The electronic templates for NRTR, NRR, and NRDS reports provided on the [NRPM website](#) adhere to these standards. An example of the graphic and text layout specifications for all elements found on the outside front cover page can be seen on the outside front cover of this report. The criteria and items that must be located in the positions provided in the electronic templates are:

- The background for all NRTR, NRR, and NRDS reports should be white. Photographs and images should only occur below the top banner.
- Special page margins are used on the outside front and outside back cover pages. The page margins used on the outside front cover depends on the software used to prepare the report.
 - For reports generated using MS Word, page margins on the outside front cover page should always be 0.75-inch on the left, top, and right; 1.0-inch from the bottom.
 - For reports generated using Adobe InDesign, the page margins on the outside front cover page can be 0.5-inch to 0.75-inch on the left and right. The page margins should always be 0.75-inch at the top, and 1.0-inch at the bottom of the outside front cover page.
- The banner at the top of the outside front cover page should exactly match what is seen on the outside front cover page of this report, or in one of the Adobe InDesign Templates provided on the [NRPM website](#).
- The report title occurs immediately below the lower horizontal bar of the banner at the top of the page. It should be flush left, Times New Roman or NPS Rawlinson 20 pt, bold, located exactly 12 pt below the upper horizontal rule at the top of the front cover page.
 - Using a NRPM MS Word template, applying the embedded *nrps Title* style to selected text on the very next line below the horizontal rule will automatically format the text to these specifications.
- The report subtitle, if any, occurs immediately below the report title. It should be Flush left, Times New Roman or NPS Rawlinson 18 pt, italics (not bold), and exactly 6 pt below the Report Title.
 - If you are using a NRPM MS Word template, applying the embedded *nrps Subtitle* style to selected text on the very next line below the Report Title will automatically format the text to these specifications.
- The Series Name/Number of the report occurs immediately below the report title or subtitle (if any). It should be flush left, Times New Roman or NPS Rawlinson 12 pt, located exactly 12 pt below the line above.

- Additional logos or text may be added anywhere to the right or below the Series Name/Number.
- A digital photograph or image representing some facet of the study should be placed at least 12 pt below the Series Name/Number line, and centered to the left and right page margins. Borders surrounding the photograph or image are optional, but when included, should always be distributed evenly from all sides of the photograph or image.

4.2 Inside Front Cover

All NRTR, NRR, and NRDS reports that include a photograph or image on the outside front cover page, should include a description of the photograph or image and a credit for the image that is flush with the left and bottom page margins (see the inside front cover of this report).

4.3 Title Page

All NRTR, NRR, and NRDS reports should include a title page (Table 1). This page will include the report title, report series and number, authors and affiliations, the month and year of final publication will be inserted near the bottom of title page (see the title page of this report).

4.4 Disclaimer Page

Each report series has a unique disclaimer page that is tailored to that report series, and periodically updated to meet NPS policy. To make sure that the most current disclaimer and peer review language is used, authors are advised to begin each of their reports with a fresh template downloaded from the [NRPM website](#). An example of the disclaimer page for a NRR manuscript can be seen on page *ii* of this report. The disclaimer pages provided by the templates include:

- The most current and accepted disclaimers used for that report series.
- A list of current and accepted peer review statements that may be used alone or combined to denote the type of peer review performed.
- A customizable paragraph for the author or editor to provide hyperlinks to NPS websites where readers can find more information about and/or obtain a copy of the report.
- The official report citation.
- The NPS Technical Information Center (TIC) reference number.
- The month and year of publication.

4.5 List of Contents

Lists of contents are recommended for all NRTR and NRR reports, and are optional with NRDS reports (Table 1). Examples of the suggested format for the list of contents can be seen in the Contents section of this report, and in the templates provided on the [NRPM website](#). The formatting suggestions for all lists of contents are below.

- The list of contents should begin on a new, right-hand, odd-numbered page using a Roman numeral (usually on page *iii*).
 - If required, add a blank page before your list of contents.
 - The blank page should be completely blank, with no page number at the bottom of the page.
- Use title case on listed items, where all words are capitalized except for prepositions (e.g., *as, from, the*) and conjunctions (e.g., *and, for, that*).

- Double-space entries.
- Subordinate headings should be indented 0.33 to 0.5 inches farther than the parent report heading above.
- A space followed by a line of dots followed by a space should proceed from the last word of each entry to a right-aligned page number.
- Allow page numbers to "stand alone" on the right side of the page by spreading longer entries to additional lines by maintaining a 1" right margin indentation, making sure that each additional line of the entry is aligned to the same starting point as the first word of the entry.
- Repeat the heading (i.e., Contents) followed by "(continued)" in parentheses at the top for each additional page of the list of contents.

4.6 Lists of Figures and Tables, and Appendices (or Appendixes).

Include lists of Figures, Tables, and Appendices (or Appendixes) as needed (Table 1). Each list should begin on a new page with its own first section heading, unless two or more lists can be shown on a single page (see lists of Tables and Appendices of this report, and Appendix C).

- Lists of Figures, Tables, and Appendices should all begin on a new, right-hand, odd-numbered page using a Roman numeral. This rule is optional for NRDS reports under 20 pages.
 - If required, add a blank page before a new list.
 - The blank page should be completely blank, with no page number at the bottom of the page.
- Double-space entries.
- If they will fit on the same page, you may place lists of Figures, Tables and/or Appendices on the same page.
- Use sentence case (i.e., capitalize only the first letter of the first word and any proper nouns or acronyms) for captions of figures, tables, and appendices.
- Begin entries with a capitalized and bold label followed by a space, then a number (for figures and tables) or capitalized letter (for Appendixes), then a period and space, then a caption (e.g., **Figure 1.** Map of survey area, **Table 21.** Estimated larvae in survey area, or **Appendix G.** Checklist of butterfly species).
- A space followed by a line of dots followed by a space should proceed from the last word of each title to a right aligned page number.
- Allow page numbers to "stand alone" on the right side of the page by spreading longer captions to additional lines, making sure that each additional line of the caption is left aligned and maintains a right indent of one inch.
- If there are fewer than three Appendixes, do not include a list of Appendixes or Appendixes. Just add them to the list of contents.
- Repeat the heading (i.e., Figures, Tables, or Appendixes/Appendixes) followed by "(continued)" in parentheses at the top for each additional page of a list.

4.7 Abstract or Executive Summary

All NRTR and NRR reports should include either an abstract or an executive summary (Table 1). Abstracts and executive summaries are optional with NRDS reports. The typical approach is to use abstracts for shorter reports and executive summaries for longer reports

Abstracts and executive summaries should begin on a new, right-hand, odd-numbered page using a Roman numeral.

- If required, add a blank page before your list of contents.
- The blank page should be completely blank, with no page number at the bottom of the page.

The abstract should briefly but concisely identify the objectives, methods, principal results, and major conclusions. The purpose is to allow readers to determine whether the information is useful to them. The recommended length is up to 3% of the total length of the report, with a maximum length of 250 words.

The executive summary should be a "stand alone" section that summarizes the prominent facts discussed in the report and the conclusions reached in relation to study objectives (see Executive Summary of this report). It should be as brief as possible, yet cover the subject in a clearly written, non-technical style so that, on its own, this section tells the reader what the project was about and what conclusions were made. This section is often removed from the report and used by the park Superintendent to inform legislators, public individuals and organizations, and NPS park, regional, and Washington Office staff of the completion and results of the study.

4.8 Acknowledgments (Optional)

Briefly acknowledge those who directly helped with research or writing. Acknowledgments of typists, illustrators, editors, and referees may be included, but generally are discouraged. Use only forename initials with surname and do not include professional titles or academic degrees. The Acknowledgements section has no page numbering restrictions.

4.9 List of Terms (or Small Glossary), Acronyms, or Contacts (Optional)

Some reports include a list of terms (or small glossary), commonly used acronyms, or personal contacts. These sections are optional, and should occur somewhere between the abstract or executive summary, and the first chapter section of the report (usually the introduction or similar). These sections have no page numbering restrictions.

4.10 Internal First Order Headings

All first order headings following the Abstract/Executive Summary and/or Acknowledgements sections should begin on a new, right-hand, and odd-numbered page. This arrangement assures that all first order headings in the main part of the report face the reader when reading or leafing through the report.

- If required, add a blank page before a new first order heading.
- The blank page should be completely blank, with no page number at the bottom of the page.

This rule is optional for all NRDS reports under 20 pages, where just the Introduction (or similar) must begin on a new, right-hand, and odd-numbered page.

4.10.1 Introduction (or Similar)

All NRTR and NRR reports should include an introduction, or similar, heading (Table 1). Introduction headings are optional for NRDS reports.

The introduction section for NRTR reports should include the hypotheses and purpose of the investigation, study objectives, conditions under which the study was conducted, the general plan of treatment of the subject, and summary of previous work accomplished (literature review) that relates to the project.

The introduction section for NRR reports should include the purpose for the report, as well as any background or other information that provides context for the information provided in the report (Chapter 1. Introduction).

NRDS reports allow the author to combine the introduction and methods sections into a single section, and may be as short as a single sentence.

4.10.2 Study Area (Optional)

Provide a concise narrative description and justification of the study area(s) for the research. Include a detailed map of the study area(s) for further clarity.

4.10.3 Methods (or Similar)

Methods sections should be included with all NRTR reports (Table 1). Methods are optional with NRR and NRDS reports. The methods section may be combined with the introduction section with NRDS reports, and be as short as a single sentence.

Present a detailed explanation of the methods, materials, and analytical techniques that were used in the field, laboratory, and office during the study. Describe how, when, where, and by whom the data were acquired for the investigation. The methods should be documented so that the investigation could be exactly repeated, if necessary. Be sure to include how data were analyzed and what statistical tests were employed. Describe the process used for determining whether the data met the data quality objectives and, if not, what corrective actions were taken. Detailed information about QA/QC procedures for data collection, verification, and validation should be placed in an appendix if it is too lengthy and detracts from the main body of the text.

4.10.4 Results (or Similar)

Results sections should be included with all NRTR and NRDS reports, and are optional with NRR reports (Table 1).

In a logical sequence, present, in detail, the findings of the study that either support or provide evidence against the hypotheses or that answer the question(s) presented in the "Introduction." Basic descriptive statistics (sample size, percentages, mean, median, maximum, and minimum) are appropriate when clearly presented. Avoid technical discussions of complex statistical testing; instead, refer readers who may be interested in this type of information to an appendix.

4.10.5 Discussion (or Similar)

NRTR reports should always include a discussion section (Table 1). Discussion sections are optional with NRR and NRDS reports. Since NRDS reports typically include minimal or no data analysis, the discussion section for NRDS reports should be very short.

This section and the "Conclusions" section are the most important parts of any report that includes any type of data analysis and/or interpretation. Present a clear interpretation of the data that addresses the hypotheses, objectives, or purpose for which the study was conducted. Be sure to include how this research is applicable to the park(s) where it took place, and to other studies that have been conducted in that area of research. Other findings may be reported that would be of general interest to the scientific community.

4.10.6 Conclusions (or Similar - Optional)

The conclusions section is optional for NRTR, NRR, and NRDS reports, and may be combined with the Discussion section (Table 1). Conclusions sections included in NRDS reports should be very short.

Provide a specific and detailed summation of the conclusions of the study. In some instances, this is one of the few parts of the report that park managers will read. If the research was initiated due to specific park management needs, management implications should be emphasized and thoroughly discussed.

With NRTR reports, recommendations regarding policy positions of the agency should not be included in this section. If desired, recommendations of this nature should be covered in a special supplementary report separate from the NRTR report, or included as a separate first order heading in the report.

4.10.7 Other First Order Headings (Any First Order Heading Not Mentioned Above)

NRTR reports were designed to display scientific data that are often deleted from scientific journal articles, and typically follow the "Introduction - Methods - Results - Discussion" type organization that is standard for many scientific journal publications and technical reports. Reports that contain significant first order headings that address NPS management or policy issues should consider either publishing the existing report in the NRR series, or publishing the non-scientific information as a separate report.

Any report that includes more than one first order heading that does not fall into one of the first order heading categories outlined above, or that includes a significant focus on NPS management or policy issues, should be published in the NRR series.

NRR reports are not confined to the basic scientific report format (i.e., following the Introduction, Methods, Results, etc. format), and authors may name and arrange major sections of the report as they see fit (Table 1). All of the first order headings in this report that occur after the introduction section of this report are examples of first order headings in a NRR report.

NRDS reports are less formal than NRTR or NRR reports, designed for the timely sharing of provisional and simple data results, and may include any type of heading or chapter organization.

4.11 Literature Cited

All NRTR and NRR reports should include a literature cited section (Table 1). Including a literature cited section for NRDS reports is optional. The literature cited section should begin on a new, right-hand, and odd-numbered page.

- If required, add a blank page before the literature cited section.

- The blank page should be completely blank, with no page number at the bottom of the page.

References cited in a report should employ the style used by the journal *Ecology* (Appendix F).

- When part of the citation information is missing, skip to the next element (using the correct formatting punctuation), but make sure there is enough information for the reader to locate the reference. For example, skip report number if it is not available.
- Titles should be written in sentence style: only capitalize the first word in the title, first word in the subtitle, proper names, and acronyms.
- The specific epithet for biological species (scientific name) should be written in italic font.
- When there is more than one author, include the word "and" before the last author's name.
- When the list of authors exceeds ten, only list the first ten and write *and others* for the balance.

4.12 Appendices or Appendixes

Appendices or Appendixes include supplementary materials (e.g., QA/QC procedures) that support the main body of the report. Appendices are optional for NRTR, NRR, and NRDS reports (Table 1). Examples of appendices can be seen in the appendices at the end of this report.

- Pagination for appendices or appendixes:
 - For reports over 20 pages, with a wide distribution, or where the appendices are designed to be printed out separately from the parent document; each appendix should begin on a new, right-hand, and odd-numbered page.
 - If required, add a blank page before a new appendix.
 - The blank page should be completely blank, with no page number at the bottom of the page.
 - For reports under 20 pages or with a limited distribution that do not include appendices that are designed to be printed out separately from the parent document, at least the first appendix should begin on a new, right-hand, and odd-numbered page.
- There are no rules for how you name your appendices, but it is a good idea to remain consistent for all appendices in your report (Examples: Appendix A-G; SOP 1 – Field Season Timeline, SOP 2 – Snow Depth Probing; Protocol I- Small Mammals, Protocol II - Amphibians).
- Whenever possible, appendices should be formatted like all other content in the report. In cases where this is not possible, just the heading used for the first page of each appendix.
- Page numbers for appendices should appear in the same location as the rest of the report, but there is no numbering/naming convention for page numbers for appendices. It is a good idea to use a consistent page naming/numbering convention for all appendices in your report.

4.13 Inside and Outside Back Cover

The electronic templates provided for NRTR and NRR reports include a back cover (Table 1) (see the inside and outside front cover of this report).

- The inside back cover should begin on a new, right-hand, and odd-numbered page. If required, add a blank page before the inside back cover page.
- The blank page should be completely blank, with no page number at the bottom of the page.
- Edits and updates should only be made to the inside back cover page (NPS TIC number as well as the month and year of publication in the lower left-hand corner of the page).
- All other information on these last two pages should remain as it is found in the report template. NRDS reports do not include a back cover.

5. Layout, Design, and Publication of Final Reports

To facilitate the preparation and peer review of draft manuscripts, and the timely publishing of routine scientific reports over the Internet, the minimum style/formatting standards and templates described in these Instructions to Authors use readily available fonts and minimal formatting that do not require desktop-publishing skills. For reports that will be printed and distributed by hardcopy, or for which a large readership is expected, contributors should produce a final report using Adobe Frutiger and NPS Rawlinson fonts that is consistent with the "Communicating the National Park Service Mission" design standards and Director's Order 52 after they have been approved for publication and dissemination by the NPS peer review manager. Consistent use of the arrowhead, black band, the "Experience Your America" tagline, and typography will give the final reports a clearly recognizable NPS identity.

Step-by-step instructions, templates, and examples of professional-looking final reports are available on the [NRPM website](#). Instructions for downloading and installing the NPS Rawlinson and Adobe Frutiger typefaces to be used in final reports can be found at the [NPS Graphic Identity Program website](#). The preferred layout for final reports uses a two-and-one half-column layout with NPS Rawlinson and Adobe Frutiger fonts as shown in the examples, although for some reports a two-column layout may be appropriate.

6. Report Versioning

This chapter describes the rules for publishing and managing multiple versions of NRTR, NRR, and NRDS reports; the suggested naming conventions to use for newer versions of previously published reports; and basic guidance on managing report versions in the Natural Resource Information Portal ([NRInfo](#)).

6.1 Publishing a New Version of a Previously-published Report

The two basic scenarios for publishing new versions of a previously-published report are:

1. Previous version(s) of the report need to remain available and accessible. In this case, the new version of the report should be published as a new and separate report, with its own NRPM series name/number, TIC number, and reference record in NRInfo (Chapter 2. Procedures for Submitting and Publishing Reports). Instances when this option should be chosen include:
 - Persons need to reference or download the older version(s) of a report.
 - Periodic updates for multi-year projects that present collected data.
 - Significant changes are made to existing reports that include any type of data collection and related analysis. This includes:
 - Changing any of the factual information presented by the report.
 - Adding to or changing any data, analysis, discussion or conclusions presented in the report.
 - Changes that result in altering the pagination or page placement of any information in the report (e.g., page number, paragraph number, or line number on any pages in the report).
2. A new version will completely replace the old version(s) of a report. The electronic copies of the old version(s) of the report will not be visible or available for download in NRInfo. Instances when this option should be chosen include:
 - Minor spelling or editing corrections.
 - Updates to NRR reports that were written for the sole purpose of providing guidance for procedures, policy, or management (NRR Guidance Reports), and previous versions of the report should no longer be accessible. Examples of NRR Guidance Reports include:
 - Sampling protocols.
 - Standard operating procedures (SOP's).
 - Management plans.
 - Monitoring plans.
 - Technical guides.
 - Policy guides.

6.2 Naming New Report Versions

The same report title base should be used for new versions, adding a description to the end of the title or subtitle to denote the difference between this and older version(s) (e.g., June 2010, Version Two, Revised). This will make the new version easier to find when searching NRInfo and any other online sites that search for reports. Below are some examples.

6.3 Version Naming for NRR Guidance Reports

Minor version changes to NRR Guidance Reports occur following updates and edits that do not significantly alter the information presented in the report (e.g., edits and updates that provide clarification, or when no significant information was added to or subtracted from the report). Minor version changes are usually denoted by increasing the version number in the report subtitle sequentially to the next available decimal value (e.g., from Version 2.1 to Version 2.2).

Major version changes to NRR Guidance Reports occur following major additions, subtractions, or significant changes to the procedures, policies, or management directives described in the report. Major Versions of a report are usually denoted by increasing the report version number to the next whole number (e.g., from Version 1.4 to Version 2.0).

Version changes for NRR Guidance Reports are sometimes tracked on a Change History page located near the beginning of the report. The suggested practice is to include a Change History table that lists all of the minor version changes for the current major version of that report (Table 2).

Table 2. Example of a Change History table for a report that has undergone numerous major and minor version iterations.

Version #	Date	Revised by	Changes	Justification
3	05/18/2010	F. Johnson	Added NRDS section, updated procedures for NRInfo Reference Application, and updates to language and Exhibits	New report series added, new work flow with NRInfo, and further clarification concerning procedures.
3.1	06/20/2010	F. Johnson	Added chapter on report versioning	To aid in managing multiple iterations of the same report in NRInfo
3.2	07/01/2010	F. Johnson	Added chapter on using MS Word styles in report templates	To help users with common formatting issues with MS Word templates

6.4 Managing Report Versions in NRInfo

This is an overview of the recommended practices for managing multiple versions of a report in the Reference Application in NRInfo. Detailed procedures for editing NRInfo reference information can be found on the [NRPM website](#).

If older version(s) of a report need to be accessible:

- If the report naming convention described above was used, all versions of the report will automatically be associated and discoverable when searching for references in NRInfo.

- If the naming conventions above were not used on all versions, then linking the different versions together in an NRInfo Project will make the different versions more discoverable to users.
- The Reference Application records for new versions should always mention older versions in either the Brief Description or the Notes fields.
- The Reference Application records for old versions of reports should also be updated whenever a newer version is published. Suggested updates to the older references include:
 - Brief Description and/or Notes fields - let users know that a newer version is available, time limitations inherent in the information presented in the older version, etc.
 - Content End Date field – sets an end-date for report version content relevancy.
 - For active Holdings attached to that reference (digital files for download): update the Description field for older holdings, to let users know that a newer version is also available.

When a new version will completely replace the old version(s) of a report:

- The NRInfo metadata records should be updated to reflect the version change. Suggested updates to the NRInfo reference include:
 - Report Title – update the version name of the report as described above.
 - Brief Description and/or Notes fields - to denote what was updated from the previous version(s).
 - For Holdings attached to that reference (digital files for download):
 - Add and activate the new Adobe Acrobat version of the report. Make sure to fill in the Description field to describe which version of the report they are downloading.
 - Quarantine or inactivate the Holding that is being replaced. The report will no longer be discoverable or available to users.

Note: you will not actually be able to remove older versions from NRInfo. Instead, you will deactivate the old versions so that they are no longer visible to anyone but the owners of that reference in NRInfo, and the NRPC reference system staff.

6.5 Deleting/Hiding Reports in NRInfo

In rare cases, as when significant errors are found in a report, it may be appropriate to remove the report from further distribution. However, once a report has been made active or in review on NRInfo, it will not be removed entirely from the system. Instead, the reference, as well as all holdings attached to that reference, will be deactivated so that it is no longer visible to anyone but the owners of that report record on the NRInfo Portal, and the Reference Application management staff. Detailed procedures for deactivating a reference can be found on the [NRPM website](#).

7. Using Styles in NRPM MS Word Templates

The MS Word templates provided on the [NRPM website](#) were built using MS Word 2007 style formatting tools. All procedures in this section of the report are designed for use in MS Word 2007. People using other versions of MS Word are recommended to use the MS Word help tools, or contact the [NRPM](#) office for more assistance.

Using the MS Word styles embedded into the NRPM templates allows the user to assign pre-defined text formats to all text elements in a document. This is a sure way to make sure that your document uses NPS approved fonts, and maintains format and layout consistency.

The MS Word styles used in NRPM reports are especially useful for formatting potentially problematic areas such as the front cover and title pages, section and sub-section headings; and can be used to automatically add to or update lists of contents, figures, tables, and appendices (Table 3).

Table 3. The MS Word formatting styles embedded into NRPM report templates, the NRPM report format element that style is used for, and any added benefit of applying those styles in a report.

Template Style Name	NRPM Report Format	Added Benefit of Applying
nrps Title	Report Title	Perfect formatting/spacing on front cover and title pages.
nrps Subtitle	Report Subtitle	Perfect formatting/spacing on front cover and title pages.
nrps series name/number	Report Series Name/Number	Perfect formatting/spacing on front cover and title pages.
nrps Heading 1	First Order Heading	Automatically adds/updates headings in list of contents.
nrps Heading 2	Second Order Heading	Automatically adds/updates headings in list of contents.
nrps Heading 3	Third Order Heading	Automatically adds/updates headings in list of contents.
nrps Heading 4	Fourth Order Heading	
nrps Heading 5	Fifth Order Heading	
nrps Heading Appendix	Appendix Heading	Automatically adds/updates appendix headings in list of appendices/appendixes.
nrps Normal	Typing/Text	
nrps Figure caption	Figure Caption	Automatically adds/updates figure captions in list of figures.
nrps Table title	Table Caption	Automatically adds/updates table caption in list of tables.
nrps Table heading	Table Column Headings	
nrps TableCell	Table Cell	
nrps TableCell-Indented	Indented Table Cell	

7.1 Applying Styles to Text

To apply a style to a section of text that you have copied or typed into a NRPM MS Word template:

1. Select the text section to which you want to apply a style.
2. On the Home tab:
 - a. Use your mouse to click the icon in the lower right-hand corner of the Styles section of the *Home* menu bar.
 - b. When the Styles window opens, select the style you want from the list provided.

7.2 Applying Styles on the Front Cover and Title Pages

NRPM reports have precise font and spacing requirements for the report title, subtitle, and series name/number on both the front cover page and the title report pages. An easy way to make sure that your fonts and spacing are correct is to apply the correct style to those lines using the procedures outlined below.

7.2.1 Report Title on the Front Cover and Title Pages

To make sure that your font and spacing are correct for your report title on the front cover and title pages:

1. Make sure that the title occurs on the very next line below the lower horizontal rule of the banner located at the top of the page (no blank lines between them).
2. Use the procedures outlined in section 7.1 above to apply the *nrps Title* style to the report title.

Note: a colon should only be used to separate the report title from the subtitle in the official bibliographic citation for all NRTR, NRR, and NRDS reports. Please do not use a colon for additional text separations to either your report title or subtitle.

7.2.2 Report Subtitle on the Front Cover and Title Pages

To make sure that your font and spacing are correct for your report subtitle on the front cover and title pages:

1. Make sure that the subtitle occurs on the very next line below the title (no blank lines between them).
2. Use the steps outlined in section 7.1 above to apply the *nrps Subtitle* style to the report subtitle.

Note: a colon should only be used to separate the report title from the subtitle in the official bibliographic citation for all NRTR, NRR, and NRDS reports. Please do not use a colon for additional text separations to either your report title or subtitle.

7.2.3 Report Series Name/Number on the Front Cover and Title Pages

To make sure that your font and spacing are correct for your report series name/number on the front cover and title pages:

1. Make sure that the series name/number occurs on the very next line below the line above it (no blank lines between them).
2. Use the procedures outlined in section 7.1, above, to apply the *nrps series name/number* style to the report series name/number.

7.3 Report Headings and the List of Contents

Using the template styles for all report headings not only ensures that you have consistent and NPS approved fonts for all headings, but will also simplify updating the list of contents. The suggested procedures for automatically updating your list of contents to the first through third order headings in your report template are:

1. Go through your report, and use the procedures outlined in section 7.1, above, to apply appropriate style to that report heading.
 - a. First order headings use style: *nrps Heading 1*
 - b. Second order headings use style: *nrps Heading 2*
 - c. Third order headings use style: *nrps Heading 3*

Note: we also suggest that you apply *nrps Heading 4* to all fourth order headings, and *nrps Heading 5* to all fifth order headings in your report; even though they do not automatically show up in the list of contents.

2. Go to each list of contents page and:
 - a. Using your mouse, right-click on the list of contents.
 - b. On the pop-up menu, left-click on the *Update Field* option.
 - c. On the update field pop-up box, select the *Update entire table* option.
 - d. Left click the *OK* button.
3. Check to make sure that all of your headings were added and/or updated in the list of contents. This is also a good time to make sure that all first order headings occur on odd-numbered pages for all NRTR and NRR reports.

Most problems with lists of contents can be fixed by reapplying the appropriate styles to problematic headings. If problems with the list of contents persist, or if the list becomes unstable, it is usually better to replace the entire list of contents with a fresh copy from a non-edited version of a NRPM report template, and updating the list using the procedures in step two above.

7.4 Figure and Table Captions and Lists of Figures and Tables

Using the template styles for all figure and table captions not only ensures that you have consistent and NPS approved fonts in your report, but will also simplify updating the lists of figures and tables at the beginning of your report. The suggested procedures for automatically updating your lists of figures and tables are:

1. Go through your report, and use the procedures outlined in 7.1, Applying Styles to Text, to apply the appropriate style to all figure and table captions in the report.
 - a. Figure captions use style: *nrps Figure caption*.
 - b. Table captions use style: *nrps Table title*.

Note: the suggested format protocols also call for you to bold the text for the figure or table name in the caption (e.g., “**Table 2.** Shows the...”, “**Figure 1.** Map of the...”).

2. Go to the list of figures and/or tables page:
 - a. Using your mouse, right-click on the list of figures/tables.
 - b. On the pop-up menu, left-click on the *Update Field* option.
 - c. On the update field pop-up box, select the *Update entire table* option.
 - d. Left click the *OK* button.
3. If any of your captions consist of more than one sentence, we recommend that you delete all but the first line of the caption in the lists of figures and tables or insert a Style Separator at the end of the first sentence.
4. Check to make sure that all figure and table captions were added and/or updated to that list.

As with lists of contents, most problems with lists of figures and tables can be fixed by reapplying the appropriate styles to problematic captions. If problems with a list persist, or the list becomes unstable, it is usually better to replace the entire list with a fresh copy from a non-edited version of a NRPM report template, and updating the list using the procedures in steps two and three above.

7.5 Appendices and Lists of Appendices and/or Contents

Using the embedded style for the appendix headings not only assures that you have consistent and NPS approved fonts, but will also simplify updating either the list of appendices or list of contents.

If you have more than two appendices in your report, the suggested procedures for automatically adding to and/or updating your list of appendices in your report are:

1. Go through your report, and use the procedures outlined in section 7.1 to apply the *nrps Heading Appendix* style to the headings that begin each appendix.
2. Go to the list of appendices page and:
 - a. Using your mouse, right-click on the list of appendices.
 - b. On the pop-up menu, left-click on the *Update Field* option.
 - c. On the update field pop-up box, select the *Update entire table* option.
 - d. Left click the *OK* button.
3. Check to make sure that all of your appendix headings were added and/or updated in the list of appendices. This is also a good time to make sure that the beginning of your first appendix occurs on an odd-numbered page.

If you only have one or two appendices in your report, the suggested procedures for automatically adding your appendices to your list of contents are:

1. Go through your report, and use the procedures outlined in section 7.1 to apply the *nrps Heading 1* style to the headings that begin each appendix.
2. Go to the list of appendices page and:
 - a. Using your mouse, right-click on the list of contents.

- b. On the pop-up menu, left-click on the *Update Field* option.
 - c. On the update field pop-up box, select the *Update entire table* option.
 - d. Left click the *OK* button.
3. Check to make sure that all of your appendix headings were added and/or updated in the list of contents. This is also a good time to make sure that the beginning of your first appendix occurs on an odd-numbered page

Most problems with lists of appendices and/or contents can be fixed by reapplying the appropriate styles to problematic headings. If problems with the list persist, or if the list becomes unstable, it is usually better to replace the entire list with a fresh copy from a non-edited version of a NRPM report template, and updating the list using the procedures in step two above.

Literature Cited

- National Park Service (NPS). 1991. Natural resources publication management handbook. Publication NPS D-581. National Park Service; Office of the Associate Director, Natural Resources; Denver, Colorado.
- National Park Service (NPS). 2004. Editorial Style Guide for Park Science and Natural Resource Year in Review. Natural Resource Report NPS/NRPC/NRR-2006-/004. National Park Service, Fort Collins, Colorado.
- National Park Service (NPS). 2006. Instruction to authors—Natural Resource Report and Natural Resource Technical Report. Natural Resource Report NPS/NRPC/NRTR—2006/001. National Park Service, Fort Collins, Colorado.
- National Park Service (NPS). 2010a. National Park Service, Explore Nature website. <http://www.nature.nps.gov/> (accessed 14 July 2010).
- National Park Service (NPS). 2010b. Natural Resource Information Portal, Reference Application. <http://nrinfo/ReferenceDomain.mvc/Welcome> (accessed 14 July 2010).
- National Park Service (NPS). 2010c. Natural Resource Publication Management website. <http://www.nature.nps.gov/publications/nrpm/> (accessed 27 December 2010).
- National Park Service (NPS). 2010d. NPS Graphic Identity Program website. <http://www.graphics.nps.gov/> (accessed 14 July 2010).

Appendix A. Example of a figure and figure caption, which is placed on a separate page from the text.

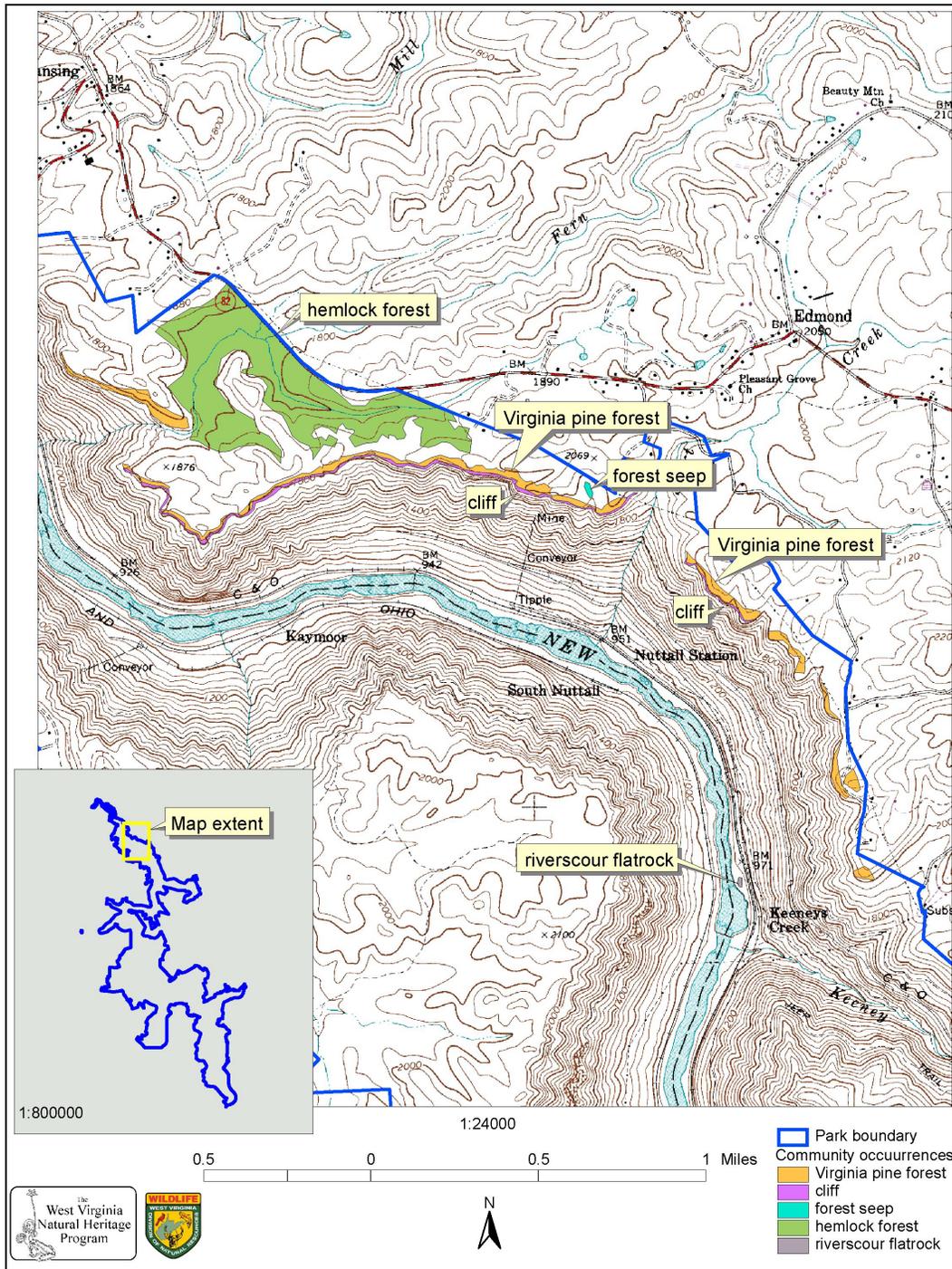


Figure 1. Map depicting the locations of cliffs, forest seep, hemlock forest, riverscour flatrock, and Virginia pine forests within the northern-most section of the park boundary.

Appendix B. Example of a table and table caption, showing how to format a table.

Table 8. Vertebrates (excluding birds) and invertebrates that have special concern conservation status in West Virginia and are known to occur in New River Gorge National River.

Scientific Name	Common Name	State Rank ¹	Global Rank ²	Federal Rank
Amphibians				
<i>Ambystoma jeffersonianum</i>	Jefferson salamander	S ³	G ⁴	
<i>Desmognathus quadramaculatus</i>	black-bellied salamander	S ³	G ⁵	
<i>Eurycea lucifuga</i>	cave salamander	S ³	G ⁵	
<i>Pseudotriton ruber</i>	northern red salamander	S ³	G ⁵	
Fish				
<i>Nocomis platyrhynchus</i>	bigmouth chub	S ³	G ⁴	
<i>Notropis scabriceps</i>	New River shiner	S ²	G ⁴	
<i>Phoxinus oreas</i>	mountain redbelly dace	S ³	G ⁵	
Mammals				
<i>Myotis sodalis</i>	Indiana bat	S ¹	G ²	endangered
<i>Graptemys geographica</i>	common map turtle	S ²	G ⁵	

¹State rankings:

S1 Five or fewer documented occurrences, or very few remaining individuals within the state. Extremely rare and critically imperiled.

S2 Six to 20 documented occurrences, or few remaining individuals within the state. Very rare and imperiled.

S3 Twenty-one to 100 documented occurrences. May be somewhat vulnerable to extirpation.

²The Nature Conservancy Global Rankings (TNC_STATUS): global rankings assigned by NatureServe.

G1 Five or fewer documented occurrences, or very few remaining individuals globally. Extremely rare and critically imperiled.

G2 Six to 20 documented occurrences, or few remaining individuals globally. Very rare and imperiled.

G3 Twenty-one to 100 documented occurrences. Either very rare and local throughout its range or found locally in a restricted range; vulnerable to extinction.

G4 Common and apparently secure globally; though it may be rare in parts of its range, especially at the periphery.

G5 Very common and demonstrably secure, though it may be rare in parts of its range, especially at the periphery.

Appendix C. Example of a list of Figures.

Figures

	Page
Figure 1. Map of Shenandoah National Park indicating study area.	3
Figure 2. Location and size of survey plots established to survey and monitor Lepidoptera species in the study area.	15
Figure 3. Estimated number of Lepidoptera species per plots surveyed, January 1998 to December 1999.	21
Figure 4. Species distribution of Lepidoptera surveyed in study area, January 1998 to December 1999.	38
Figure 5. Wing venation of selected Lepidoptera species captured in study area, January 1998 to December 1999.	45
Figure 6. Illustration of <i>Itylos pnin</i> captured April 23, 1998 in Limberlost study area, Shenandoah National Park.	57

Appendix D. Example of a standard Acknowledgements page.

Acknowledgements

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Praesent pulvinar orci sit amet mauris vulputate non gravida lectus faucibus. Morbi eget vulputate tellus. Aliquam porttitor justo et mauris ornare eu volutpat ligula dapibus. Aliquam eget accumsan tortor. Quisque sit amet tellus ligula, non sagittis purus. Aenean sit amet magna ut libero rhoncus consequat eget at nisi. Sed facilisis justo in mi dignissim posuere. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Donec sed nunc in ipsum venenatis dictum eget a sapien. Etiam at diam non nisi suscipit gravida et vitae augue. Vestibulum luctus blandit nisi, quis volutpat mi pulvinar sagittis. Duis vestibulum, lectus ut euismod eleifend, augue turpis ornare ante, non feugiat mi lectus eget orci. Quisque tempus rutrum erat. Sed vestibulum, mauris eu porta ullamcorper, velit eros fermentum est, sit amet aliquet velit metus quis felis. Donec vehicula velit at diam lobortis eu volutpat felis ullamcorper. Nunc egestas viverra tortor at dignissim. Proin tempor enim vitae justo faucibus vitae ultrices magna vulputate. Donec quis arcu mi. Vestibulum rutrum dapibus dapibus.

Appendix E. Examples for citing literature within the Literature Cited section of the report (using the style of the journal *Ecology*).

Literature Cited

Explanatory text is shown in blue italic font, and should not be included in actual reports. Citations should be listed in alphabetical order by primary author's last name. Examples of the recommended syntax for common types of citations are shown below.

Agency as Author Examples

National Park Service. 2006. Instruction to authors—Natural Resource Report and Natural Resource Technical Report. Natural Resource Report NPS/NRPC/NRTR—2006/001. National Park Service, Fort Collins, Colorado.

U.S. Forest Service (USFS). 1993. ECOMAP. National hierarchical framework of ecological units. U. S. Forest Service, Washington, DC.

Journal Article Examples

Bradbury, J. W., S. L. Vehrencamp, K. E. Clifton, and L. M. Clifton. 1996. The relationship between bite rate and local forage abundance in wild Thompson's gazelles. *Ecology* 77:2237–2255.

Smith, J., and J. Davis. 1990. Cougars and people. *Science* 4:12–56. Available from <http://ww.science.com/smith1990> (accessed 30 March 2004).

Book Example

Harvill, A. M., Jr., T. R. Bradley, C. E. Stevens, T. F. Wieboldt, D. M. E. Ware, D. W. Ogle, and G. W. Ramsey. 1992. Atlas of the Virginia Flora, 3rd edition. Virginia Botanical Associates, Farmville, Virginia.

Book Chapter Examples

McCauly, E. 1984. The estimation of abundance and biomass of zooplankton in samples. Pages 228–265 in J. A. Dowling and F. H. Rigler, editors. A manual on methods for the assessment of secondary productivity in fresh waters. Blackwell Scientific, Oxford, UK.

Watson, P. J. n.d. Of caves and shell mounds in west-central Kentucky. Pages 159–164 in *Of caves and shell mounds*. The University of Alabama Press, Tuscaloosa, Alabama.

Report Examples

Bass, S., R. E. Gallipeau, Jr., M. Van Stappen, J. Kumer, M. Wessner, S. Petersburg, L. L. Hays, J. Milstone, M. Soukup, M. Fletcher, L. G. Adams, and others. 1988. Highlights of natural resource management 1987. National Park Service, Denver, Colorado.

Holthausen, R. S., M. G. Raphael, K. S. McKelvey, E. D. Forsman, E. E. Starkey, and D. E. Seaman. 1994. The contribution of federal and nonfederal habitats to the persistence of the northern spotted owl on the Olympic Peninsula, Washington. General Technical Report PNW-GTR-352. U.S. Forest Service, Corvallis, Oregon.

Jackson, L. L., and L. P. Gough. 1991. Seasonal and spatial biogeochemical trends for chaparral vegetation and soil geochemistry in the Santa Monica Mountains National Recreation Area. U.S. Geological Survey, Denver. Open File Report 91-0005.

Unpublished Report Examples

Conant, B., and J. I. Hodges. 1995. Western brant population estimates. U.S. Fish and Wildlife Service Unpublished Report, Juneau, Alaska.

Conant, B., and J. F. Voelzer. 2001. Winter waterfowl survey: Mexico west coast and Baja California. U.S. Fish and Wildlife Service Unpublished Report, Juneau, Alaska.

Thesis/Dissertation Examples

Diong, C. H. 1982. Population and biology of the feral pig (*Sus scrofa L*) in Kipahulu Valley, Mau'i. Dissertation. University of Hawai'i, Honolulu, Hawai'i.

McTigue, K. M. 1992. Nutrient pulses and herbivory: Integrative control of primary producers in lakes. Thesis. University of Wisconsin, Madison, Wisconsin.

Conference Proceedings Examples

Gunther, K. A. 1994. Changing problems in bear management: Yellowstone National Park twenty-plus years after the dumps. Ninth International Conference on Bear Research and Management. Missoula, MT, International Association for Bear Research and Management, Bozeman, Montana, February 1992:549-560.

Webb, J. R., and J. N. Galloway. 1991. Potential acidification of streams in Mid-Appalachian Highlands: A problem with generalized assessments. Southern Appalachian Man and Biosphere Conference. Gatlinburg, Tennessee.

Internet Examples

Cane, J. H. 2001. Habitat fragmentation and native bees: A premature verdict? *Conservation Ecology* 5:3. Available at <http://www.consecol.org/vol5/iss1/art3> (accessed 1 April 2004).

Colwell, R. K. 1997. Estimates: statistical estimation of species richness and shared species from samples. Version 5. User's guide and application. Available from <http://viceroy.eeb.uconn.edu/estimates> (accessed 7 March 2001).

National Park Service. Natural Resource Publications Management web site. <http://www.nature.nps.gov/publications/NRPM/> (accessed 19 October 2007).

The Department of the Interior protects and manages the nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its special responsibilities to American Indians, Alaska Natives, and affiliated Island Communities.

NPS 999/105814, December 2010

National Park Service
U.S. Department of the Interior



Natural Resource Program Center
1201 Oakridge Drive, Suite 150
Fort Collins, CO 80525

www.nature.nps.gov

EXPERIENCE YOUR AMERICA™