Natural Resource Condition Assessment Program

General Formatting Guidance

This document provides guidance for organizing reports for publication in the National Park Service (NPS) Science Report (SR) series through the NPS Natural Resource Condition Assessment (NRCA) Program in Fort Collins, CO. It applies to assessments focused on a single resource, and serves as a content outline, including some standardized language, and illustrates options for optional content. The guidance is intended for both study investigators and authors who are preparing NRCAs, and is intended to be used in conjunction with the Science Report series template and user guide.

Notifications of errors or discrepancies and questions regarding the template are welcome and should be shared with the Fort Collins, CO, NRCA Program team.

This template includes the following:

- Boilerplate front matter including standardized NRCA Program content.
- Chapters 1–4 guidelines.

Things authors can do to make formatting by the Publication Team more efficient and consistent—BEFORE SUBMITTING FOR PUBLICATION

Author checklist:

- **Double check citations:** Make sure in-text citations match the literature cited section, and that citations that are not used in the text are deleted.
- **Personal communication sources** should be dated in the text with at least the year the information was gathered.
- **Figures and tables** that include others' work should have captions that include the source information (Smith et. al 2020; site data provided by NPS ARD, etc.).
- **Figures** must have descriptive alternative text.
- **All tables and figures should be referenced in the text** – preferably in the paragraph immediately preceding the table's/figure's first appearance.
- **Make sure there are no text boxes in the document** – including text boxes used as part of figures or for captions.
    - If your figures have text boxes and you are unsure how to format them otherwise, you may send them to the NRCA team as a file and we will format the figure and incorporate it into the report for you.
- **Ensure that web links**, if used, **are active** and that they lead to the correct site.
- **Briefly scan document** to fix any obvious text errors, and make sure units are used in a consistent format (i.e., abbreviated or spelled out – km vs. kilometer).

Boilerplate NRCA Front Matter

All NRCA reports will have an Executive Summary, Acknowledgments, and an Introduction. These sections are part of the Additional Front Matter Sections and Content portion of the SR series template, and are in addition to the required Abstract and Keywords sections in the template.

Executive Summary

The Executive Summary will serve as a "stand alone" section that summarizes the important facts discussed in the report and the conclusions reached in relation to study objectives. A well-prepared summary can be as short as one to two pages. It should be as brief as possible, yet cover the subject in a clearly written, non-technical style so that, on its own, the reader is informed about the project and the conclusions made.

The purpose of the executive summary is to inform potential readers of the important points of the report without having to actually read it. It can also serve as an "advertisement" for the report that readers use to determine whether they want to read the entire document.

Acknowledgments

Briefly acknowledge those who directly helped with research or writing, and include acknowledgement of the funding (and support, if applicable) provided by the National Park Service's Natural Resource Condition Assessment Program and other organizations as appropriate.

Introduction (Insert text below "as is" into the report)

The National Park Service's (NPS) Natural Resource Condition Assessment (NRCA) Program evaluates natural resource **conditions** in park units and delivers the results to park staff, scientists, strategic planners, and the general public through reports and associated products. All NRCA efforts strive to report resource condition information in a way that informs multiple levels of park stewardship activities. Stewardship activities may include partnerships, resource stewardship plans, and park management plans, and may inform on-the-ground actions that park management can readily implement.

Natural Resource Condition Assessments are short-term projects where a pressing issue or critical data or knowledge gap exists. They can be used to evaluate at least one park natural resource, characterize landscape or watershed-scale condition, conduct vulnerability assessments, plan resource restoration, and/or conduct effectiveness evaluations resulting from park management activities. As short-term projects, NRCAs primarily rely on the use and synthesis of existing science and data. They are intended to strengthen our understanding of current resource conditions and their relationship to environmental processes across the landscape, and to improve the delivery of best available science for park management.

Standard products include a detailed project report and associated products. Associated products may be data summaries, resource briefs, geospatial maps and information, story

maps, and others. All reports and associated products are available via the NPS DataStore (https://irma.nps.gov/DataStore/).

Chapter 1-4 Guidelines

Chapter 1. Management Issue and Approach

This section provides the background information necessary to understand why the described study was conducted, along with any background or other information necessary to provide a context for the information presented. It includes a description of the study approach, including what key resource(s) was studied and the indicator(s) and/or measure(s) used for condition assessment. This section also documents which data sets were used in the study, how new data were collected (if applicable), and how data analysis was performed.

1.1 Management Issue or Critical Information Need

This section provides the background information necessary to understand why the described study was conducted, as well as any background or other information necessary to provide a context for the information presented.

1.2 Study Approach

This section should describe the primary driving issue(s) behind the study, including what products or management actions the study results will inform.

1.2.1 Selection of Key Resources, Indicators, and Reference Criteria

This section should document how and why the selected key resources, indicators, and reference criteria are appropriate to answering the management questions.

Chapter 2. Study Methods

2.1 Data Sources

This section should describe what basic types of existing data sets were used, basic information on how data were collected, and a description of how the data are/are not appropriate to addressing the key resource.

2.2 Methodology/Analysis

This section should describe the methods used for new data collection, how the data were analyzed, and any other methods used in the study.

Chapter 3. Study Results

This section reports on the results of the study. It should include current condition reporting for the selected park resource(s), indicator(s) and/or measure(s) used in the study, including the reference criteria and rationale used for making that determination. Current condition reporting must include the table below. This section should maximize credibility and defensibility of study findings.

Rationale and Key Points: Include rationale for condition findings. What is the reference condition used? What are the remaining concerns or data gaps or next steps? Do these indicators say something about the condition of the resource? Identify primary threats or stressors to the resource if appropriate. BE BRIEF!

Table 1. Current condition reporting table example.

Resource	Condition Indicators Assessed	Condition Status/ Trend	Rationale & Key Points
Fire impacts along Big River watershed	Acres burned per year	Declining Condition/ Unknown Trend	10% more than average burned in 2018 (10-year average 2001–2011). Changing fire regimes are burning important ecosystem food sources and destroying plants critical for erosion control. Later seasonal rains due to climate fluctuation may be increasing fire frequency in the park. Later rains lead to fuel increases in erosion prone areas.
Big River volume	Annual average daily discharge	Variable Condition/ Stable Trend	While the volume of water flowing in the park's river shows large year-to-year fluctuations without distinct long-term change, recent timing of peak flow is more variable and occurs earlier in the spring.
	Average date of peak flow	Good Condition/ No Trend	While the volume of water flowing in the park's river shows large year-to-year fluctuations without distinct long-term change, recent timing of peak flow is more variable and occurs earlier in the spring.
	Volume at peak flow	Stable Condition/ Declining Trend	10-year average peak flow volume is 2500 cfs. Peak flow in 2018 was recorded at 2100 cfs, following smaller recorded declines in 2016–2017. Volume of upstream water diversion has not been quantified.
Pacific Willow (*Salix lucida*)	Number of plants per study plot	Good Condition/ Stable Trend	After a decrease in number of plants following fire and subsequent erosion events in 2002 and 2003, populations have recovered and are stable in 2018.
Elk (*C. canadensis roosevelti*)	Elk population	Good Condition/ Decreasing Trend	Number of elk counted in the Big River watershed has decreased annually since 2015. Number of animals in 2018 was 265 and the 5-year average (2011–2017, no data in 2012) was 285 animals. There is no clear correlation between food source availability as plant populations in the watershed have rebounded following fire in 2003, and the elk's primary browse (Pacific Willow) isn't scarce.

Chapter 4. Summary and Recommendations

This section is less about delivering rigorous scientific findings and more about providing useful interpretations and suggestions to park managers related to the management issue noted in Chapter 1. It can also help park managers think about logical next steps to take as part of ongoing efforts to protect and manage important park natural resources.