# Standard Operating Procedure 20: Reporting, version 1.0

This SOP gives instructions for reporting on macroinvertebrate data and associated stream habitat and water quality collected at Shenandoah National Park (SHEN). The SOP describes the procedure for formatting a report, the review process, and distribution of completed reports. Efficient reporting of monitoring results is critical in assisting park Resource Managers in management decisions.

**Report Format**

The report template for national natural resource publication series will be followed. The templates for natural resource reports can be found at: (http://www.nature.nps.gov/publications/nrpm/templates.cfm). The Natural Resource Report Series (NRR) is used to disseminate information and analysis about natural resources and related topics concerning lands managed by the National Park Service. The NRR series supports the advancement of science, informed decisionmaking, and the achievement of the National Park Service mission. The series also provides a forum for presenting lengthy results that may not be accepted by publications with page limitations. The Natural Resource Data Series (NRDS) is a non-scholarly series intended for the timely release of basic data sets and data summaries. Standards for scientific writing as recommended in the CBE Style Manual (1994) should be followed. Reports should be direct and concise. For style, refer to NPS guidance (http://www.nature.nps.gov/ParkScience/archive/PDF_Downloads/Editorial%20Style%20Guide%20Revised%208-4-2008/Editorial_Style_Guide_Revised_8-4-2008.pdf).

Resource brief templates are more variable but a number of templates are available from the NPS Mid-Atlantic Network.

**Types of Reports and Review Procedure**

A variety of reports may be produced at different times during a monitoring program, such as following a monitoring year, or following acquisition of new information. In general, two types of reports will be completed for the aquatic macroinvertebrate monitoring program – annual reports using the Natural Resource Data Series (NRDS) format, and comprehensive reports every five to ten years using the Natural Resource Reports (NRR) (see Table 1 for details). Ideally, for each report, a resource brief will be produced that more concisely summarizes the information.

**Distribution Procedure**

Annual reports and resource briefs will be provided to the interested park staff and the Superintendent's Office. Reports will be made available to all interested parties upon request, posted on the MIDN website (http://science.nature.nps.gov/im/units/midn/index.cfm), and also posted to the national Integrated Resource Management Applications Data Store (https://irma.nps.gov/Portal/). Park staff will ensure that copies are included in Shenandoah's central files and in the Natural and Cultural Resources Library. With few exceptions (i.e. sensitive data), data collected by Shenandoah National Park is public property and subject to requests under the Freedom of Information Act (FOIA).

Table 1. Summary of types of reports produced and review process.

| Type of Report | Purpose of Report | Primary Audience | Review Process | Frequency |
|---|---|---|---|---|
| Resource Brief | Highly visual and less technical summary of report results | Park resource managers and the public | Internal peer review by SHEN staff | As needed |
| Annual Summary Report and Resource Brief | Summarize monitoring data collected during the year and provide an update on the status of selected natural resources (see data analysis for metrics). Document related data management activities and data summaries. Resource brief should provide 1-2 page summary of data report. | Park resource managers and external scientists | Internal peer review by SHEN staff | Every year monitoring is conducted. |
| Comprehensive Trends and Analysis and Synthesis Reports | Describe and interpret trends in individual vital signs. Describe and interpret relationships among observed trends and park management, known stressors, climate, *etc*. Highlight resources of concern that may require management action. | Park resource managers and external scientists | Internal peer review by SHEN staff and external review by relevant cooperators, scientists, academics, etc. | Every 5-10 years |

# SOP Revision History

All protocols, regardless of how sound they are originally, require modification as new and different information becomes available. SOP version numbers increase incrementally by tenths (e.g. version 1.1, version 1.2…etc.) for minor changes. Major revisions should be designated with the next whole number (e.g., version 2.0, 3.0, 4.0 …). Small changes or additions to existing methods will be reviewed in-house by Shenandoah or Mid-Atlantic Network staff. However, if a complete change in methods is sought, an outside review is required.

**Revision History Log:**

| Prev. Version # | Revision Date | Author | Changes Made | Reason for Change | New Version # |
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