

Standard Operating Procedure 7: Post-Season Procedures

Version 1.0

In Protocol for Monitoring Mercury Resident Lake Fish

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Revision History Log

The following table lists all edits and amendments to this document since the original publication date. Information entered in the log must be complete and concise. Users of this Standard Operating Procedure (SOP) will promptly notify the Southwest Alaska Network (SWAN) project manager and/or data manager about recommended and required changes. The project manager must review and incorporate all changes, complete the revision history log, and change the date and version number on the title page and in the header of the document file. For complete instructions, please refer to SOP 8 (Protocol Revision).

Revision History Log:

Previous Version #	Revision Date	Revision Author	Revision Description and Location in SOP	Justification for Revision	New Version #
—	—	Bartz	Initial creation	—	1.0

Add rows as needed for each change or set of changes tied to an updated version number

Acknowledgments

This SOP was adapted from a similar SOP in the Great Lakes Network (GLKN) protocol for monitoring mercury in dragonflies and fish (VanderMeulen et al. 2018).

Introduction

In addition to the analysis and reporting requirements outlined in other SOPs, several end-of-season procedures must be followed. These procedures include proper storage of equipment and careful management of data, both of which are aspects of quality assurance/quality control (QA/QC).

Equipment Storage

The proper maintenance and storage of field equipment will prolong its lifespan as well as simplify start-up procedures for the next field sampling season. End-of-season care for equipment should include the following steps:

- Inspect and clean all equipment;
- Lay out all cleaned equipment to dry completely;
- Ensure that data collected using electronic equipment have been downloaded and backed up;
- Remove batteries from electronic equipment;
- Store equipment in protective cases to avoid damage;
- Ensure that all equipment is clearly marked;
- Return all equipment and supplies to the proper storage area;
- Keep the storage area organized so equipment and supplies can be inventoried easily; and
- Inventory equipment and supplies, and order needed replacements as soon as possible.

Data Management

There is no substitute for complete and accurate record keeping of field-derived data. The project manager and field crew share responsibility for collecting, verifying, and documenting data according to the guidelines in this monitoring protocol and all applicable Standard Operating Procedures (SOPs). Refer to the SWAN Data Management Plan (Mortenson 2006) for general guidance and to SOPs 3-6 for additional details, particularly SOP 4 (Data Entry and Management).

Quality Assurance/Quality Control

Quality assurance is the planned and systematic pattern of all actions necessary to provide adequate confidence, or assurance, that a project outcome optimally fulfills expectations. Quality control is the systematic evaluation of the various aspects of a project to ensure, or control, that the standards of quality are being met. Quality control involves specific tasks undertaken to determine the reliability of field and laboratory data. Together, quality assurance and quality control (QA/QC) are a substantial part of any monitoring program. Post-season activities, such as equipment storage and data verification, are a fundamental part of any QA/QC plan. Equipment not properly cared for will be more prone to malfunction or failure. Data not left unverified may propagate mistakes in the time series. Refer to the Data Quality Standards (DQSs) for additional details on QA/QC procedures (Bartz et al. 2018).

Literature Cited

Bartz, K. K., C. J. Sergeant, and D. D. VanderMeulen. 2018. Data quality standards for monitoring mercury in resident lake fish – Version 1.0: Southwest Alaska Inventory and Monitoring Network. Natural Resource Report NPS/SWAN/NRR—2018/1731. National Park Service, Fort Collins, Colorado.

Mortenson, D. 2006. Data management plan: Southwest Alaska Network, Inventory and Monitoring Program. National Park Service. Anchorage, Alaska.

VanderMeulen, D. D., B. Route, J. Wiener, R. Haro, K. Rolfhus, M. Sandheinrich, S. J. Nelson, A. Klemmer, C. Eagles-Smith, and J. Willacker. 2018. Protocol for monitoring mercury in dragonfly larvae and fish (version 1.0): Great Lakes Inventory and Monitoring Network. Natural Resource Report NPS/GLKN/NRR—2018/1726. National Park Service, Fort Collins, Colorado.