Arizona Water Protection Fund
Guidelines for Final Report Development

Purpose of These Guidelines

The purpose of these guidelines is to assist Arizona Water Protection Fund (AWPF) grantees in preparing a Final Report. The guidelines are not meant to dictate to grantees on the style and content of their Final Report. The type and scope of AWPF projects is broad. Portions of these guidelines apply to every AWPF project, but not in their entirety.

These guidelines are a compilation of ideas from AWPF staff, based on previous and current AWPF projects. Specific information that may be included in the Final Report is discussed. Use your judgement regarding the content of your report, but be aware of general and project-specific contractual requirements regarding the Final Report. Consult AWPF staff early in your project to discuss the actual content of the Final Report.

Several tips are provided that may help in the preparation of your report. This is a living document. Your suggestions are always welcome.

Purpose and Scope of the Final Report

The Final Report is the grantee's opportunity to showcase their project. For some projects, the Final Report may serve as a draft of a formal publication outside of the grant contract. The Final Report is not an administrative report like progress/preliminary reports submitted to the AWPF during the course of the project. The Final Report should be written to a broader audience than AWPF staff: AWPF Commissioners, other grantees, legislators, and the general public.

The scope of the Final Report will vary with each AWPF project. The AWPF does not dictate a set length for the Final Report of a given project. The length of the document is gauged by the reader's ease in accessing information. A poorly organized 10-page document may be "longer" than a well-written, well-organized 200-page document. The scope and length of the report is generally proportional to the complexity of the project.

The Final Report will document and summarize the entire project, including a thorough discussion of methodology, and serve to tie all the tasks together. The report will present conclusions, and make recommendations. The Final Report should include all project data: data reports, field reports, etc. Extensive data sets can be submitted in electronic format. The intent of the Final Report should be to document your entire project so that it can be used to duplicate your successes.

> **Tip** – There are many styles of reports for business, science, academia, etc. The AWPF does not recommend any particular style. Consult a style manual of your choice and follow the guidelines. Most importantly, be consistent.

Final Report Content

Below is a suggested format for a Final Report. The Final Report should contain the following sections, other than those sections identified as optional. You should have an idea of what your Final Report will contain early in your project. This will help direct your data collection efforts, collecting the right data, and in an appropriate format.

A. **Title Page** – The title page includes important information. It should identify the document as a Final Report, and state the project title as shown in the grant contract, the AWPF contract number, task number, and the grantee name. Always include the date submitted and be sure to include the following disclaimer as required by AWPF contract general provisions:

"The Arizona Water Protection Fund Commission has funded all, or a portion, of this report or project. The views or findings represented in this deliverable are the Grantees and do not necessarily represent those of the Commission or the Arizona Department of Water Resources."

B. **Table of Contents** – The table of contents is useful as an index to find information and should be accurate and descriptive. The reader should be able to determine what information is in the section based on the section title. List the section titles exactly as found in the text. List figures, tables, and appendices, including page numbers. Section, figure, and table titles should be listed exactly as they appear in the body of the report.

C. **Executive Summary** (optional; though strongly encouraged) – A Commissioner or a Legislator may not have the time to read the full report. The Executive Summary presents a brief synopsis of the entire report. This section should state the objectives of the project, summarize results, and present conclusions.

Include specific important results and conclusions. For instance, rather than stating generalizations, such as:

"stream turbidity was reduced as a result of bank stabilization efforts"

be more specific by stating that:

"stream turbidity decreased by 75% as a result of bank stabilization efforts" or "mean stream turbidity decreased from 256 NTUs to 25 NTUs as a result of stream stabilization efforts."

Specific details add more punch to the Executive Summary.

D. **Glossary/List of Abbreviations and Acronyms** (optional) - Consider the broad audience of your report. If the report has many technical terms, consider the value of

a glossary of key terms. Sometimes, certain terms have different meanings, even within the same discipline. An alternative is to clearly define terms in the body of the text.

Abbreviations and acronyms are inevitable, however, they should be used sparingly, and for the benefit of the reader, not the writer. At a minimum, define all abbreviations and acronyms as they are used in the report. This is usually done by providing the full spelling of the term at its first usage in the report. The full term is followed by the abbreviation or acronym in parentheses. The abbreviation or acronym is used thereafter in the document. For instance, "Arizona Department of Water Resources (ADWR) records indicate that groundwater levels are declining in the basin…".

Consider the utility of a List of Abbreviations and Acronyms near the beginning of the report. This will allow the reader to reference the list when an abbreviation is encountered. Do not introduce an abbreviation or acronym if it is not used in the report.

> Tip – If any of these lists are used, make them easy to access, i.e. near the front of the report. You can minimize the use of abbreviations in your Final Report and still make it easy to write. Use abbreviations while writing your report. Use the "search and replace" feature of your word processor to replace the abbreviation with the full term.

E. **Text** – The text of the Final Report should be succinct. Some text may be extracted from progress/preliminary reports submitted to the AWPF previously, however, it should go beyond discussions from previously submitted documents.

Restate the project objectives/problem statement. Summarize the entire project in enough detail to be thorough. Cite references thoroughly, directing the reader to the location of further information such as other reports, the report appendices, or experts.

Provide a complete analysis of the data and discuss all figures and tables presented in the report. Summarize your procedures (reference your project work plan), discuss problems encountered, and explain all deviations from the work plan.

Present conclusions and recommendations for follow-on projects, and tips for other projects. Evaluate the project success against project purpose and objectives. Sometimes project objectives are not attained. In this case, the Final Report is an important place to document lessons learned.

Use consistently located page numbers in the text and throughout the document.

F. **Tables** – Tables are useful to summarize data, group data, present subsets of data, etc. Tables should reinforce the text and figures, and *vice versa*.

Tables should be constructed consistently throughout the report. Table titles or captions should be thorough and descriptive. List the table in the Table of Contents with the exact title as in the body of the report. Number/label tables and reference them in the text consistently.

An indication of a good table is the degree in which the table stands on its own, without supporting text. The table title, column headings, footnotes, etc. should be carefully chosen to give the reader a good idea of the purpose and context of the table, without supporting text.

Different conventions have been established for where to place tables within a document. The AWPF recommends that tables be embedded in the text or placed on a separate page after the first reference to the table in the text.

Each convention has its pros and cons. Place your tables in a manner appropriate for your report to make it reader-friendly.

> Tip: Spend time constructing tables prior to beginning writing text. The closer your table is to its final form, the easier it will be to write the accompanying text.

G. **Figures** – Figures, such as graphs, maps, photographs, and plates, also reinforce the text.

Number or label figures appropriately and consistently. Include dates where applicable, such as on aerial photographs, channel cross-sections, and stream profiles. Be sure the figure is consistent with the report text. For instance, references to project features in the text are shown on the figure.

Select the appropriate graph type (line graph, XY graph, bar graph, pie chart) for the data being presented. For instance, use an XY graph to display time series data. A line graph would be inappropriate for time-series data because the x-axis would not be proportional. Identify data points on graph with a symbol or label, if appropriate. This is particularly important when graphically depicting continuous data in which data gaps are present. Discrete data, such as monthly precipitation, may best be displayed as a bar graph to represent a discrete volume of precipitation by month.

Label all axes properly, and include the units. Color is useful for distinguishing multiple data series shown on the same graph for comparison. Incorporate different symbols for each data series so that if the figure is photocopied, information is not lost. The reader can distinguish between the data series. For instance, a red open circle can not be distinguished from a blue open circle of the same size when the figure is photocopied. A red triangle can be distinguished from a blue circle when the figure is photocopied. Include a legend when multiple data series are displayed in one figure.

Choose axes carefully, and select a scale that best presents data. Try to avoid excessive exaggeration of the axes (such as in channel cross-section where the y-axis is usually exaggerated).

Maps should be of an appropriate scale, include a scale, and be consistent with text, *i.*e. include all features discussed in text. For instance, if the text states that the project site is 2 miles east of Smallville, or the junction of Highway 82 and Hwy 90, include these features on the map. If the text references mileposts on a river, provide markers of river miles for the reader to reference. Always include a north arrow and scale.

As with tables, an indication of a good figure is how the figure stands on its own, without supporting text. The title, headings, footnotes, *etc.* should give the reader a good idea of the purpose of the figure without supporting text.

Again, as with tables, different conventions have been established for where to place figures within a document. Pros and cons exist for each convention. Use a convention that is appropriate for your report, makes it reader-friendly, and is consistent. The AWPF recommends that figures be embedded in text or placed on a separate page inserted after first reference to figure in the text.

Photographs should be clearly labeled with a description of the subject, the date, the orientation of the photograph, and any other pertinent information.

H. **References** – A thoroughly documented report will include a list of all references used to prepare the report. This includes other reports, books, Internet sites, personal communications, *etc.* Be consistent with reference citations and the full reference. A style manual may be useful to determine how to properly cite and reference material. Citations in text should be unique (that is, refer to one reference only) and refer to the listing in references section.

I. **Appendices** – Use appendices to include information that may be important, but is not essential to the readers understanding. Appendices are sort of a "for more information" section. Number/label appendices appropriately. Appendices are generally used to present complete supporting data: laboratory reports, field notes, complete data tables, boring logs, *etc.* List appendices in the Table of Contents and include a descriptive title.

Sample

Final Report Table of Contents

Executive Summary

List of Abbreviations and Acronyms

List of Tables

List of Figures

References

Appendices