Final Report: Formatting Guidelines for Texas Water Development Board Reports[1]

Texas Water Development Board Contract #[2]

Prepared for:

Texas Water Development Board

Prepared by:

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Merry L. Klonower[3]

November 2019

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[1] On the cover page, you may use artistic license in choosing a typeface and font size for the title. You will also want to include some sort of graphic. Please note if the report is a draft or final in the title; for example, *Draft Report: Conceptual Model Report for the __ Aquifer* or *Final Report: Groundwater Availability Model for the __ Aquifer*.

[2] Include the Texas Water Development Board contract number.

[3] List all authors here. If outside contractors wrote the report, their names should appear here without noting their affiliation. Affiliations will be displayed on the title page.

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[4] This sentence should appear on every blank page in 10-point Cambria italic.

[5]Final Report: Formatting Guidelines for Texas Water Development Board Reports

Texas Water Development Board Contract #[6]

By

[7]Robert E. Mace, Ph.D., P.G.

Sarah C. Davidson

Edward S. Angle, P.G.

Texas Water Development Board

Merry Klonower, Some other agency

November 2019

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[5] This is the title page and will be page i, but no page number will appear.
[6] The TWDB contract number will appear here.
[7] This is the list of authors. As an example, I have included names and agencies as if the authors were from both TWDB and outside organizations.

This project was funded in part by the U.S. Bureau of Reclamation's Water 2025 Challenge Grants for States and by the Texas Water Development Board.[8]

Geoscientist and Engineering Seal

This report documents the work of the following Licensed Texas Geoscientists and Engineers:[9]

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[9] If this is draft report, it should adhere to P.G. or P.E. requirements; for example, "This document is released for the purpose of (Examples: interim review, mark-up, drafting) under the authority of (Example: Leslie H. Doe, P.G. 0112) on (date). It is not to be used for (Examples: construction, bidding, permit) purposes."

Table of Contents[10]

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[10] The table of contents is typically on an odd-numbered page. Some reports may have special front matter pieces, such as a "Note from the Editor." These should precede the table of contents. The list of figures immediately follows the table of contents, followed by the list of tables.

List of Figures

List of Tables

Executive summary

To offer its readers professional, high quality reports, the Texas Water Development Board (TWDB) has developed formatting guidelines for its staff and contractors. These guidelines include information on text, graphic, and referencing standards.

Most reports will include an Executive Summary, which will be the first numbered heading in the report. An effective summary should be no longer than 10 percent of the document length. (In other words, an Executive Summary for a 100-page paper should be 10 pages or less.) Because some readers will only read the Executive Summary, write it so that it can be read independently of the report. Do not refer to tables and figures from the report text in the Executive Summary and always include any significant recommendations and findings.

More than one reader will share Winston Churchill's sentiment: "Please be good enough to put your conclusions and recommendations on one sheet of paper at the very beginning of your report, so that I can even consider reading it." Your Executive Summary may determine whether someone reads the rest of your report.

1 Introduction[11]

The purpose of this document is to describe the required format of Texas Water Development Board (TWDB) reports, both those written by in-house staff and those by contractors. Our reason for standardizing the format is to provide a consistent and, therefore, familiar format to our readers. Remember that your report will not only be seen by TWDB staff but also by any person interested in the results of your study. A professional and high-quality report will reflect well on the authors and TWDB.

We will provide a Microsoft Word template (used to write these instructions) that gives the fonts, spacing, and other specifications for the headings and text of the report. Please follow this template as closely as possible.

2 Formatting your report

The TWDB format is designed for simplicity. For example, we use Cambria for all text. (The exception to this is graphics. Please use Arial in all figures.) We use 12-point, single-spaced text, left justification for paragraph text, 16-point bold for first-level headings, and 14-point bold for second-level headings. Page numbers are centered at the bottom of the page. A header with the name of the report and TWDB contract number should appear at the top of each page, beginning with page ii.

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[11] This is a level 1 heading. Note: The header is 16-point Cambria.

2.1 Text[12]

The best way to format your document is to use the styles described and embedded in this template document. In addition, a list of the formatting styles is included in the appendix of this document.

Because different computers have different defaults, when you use this document, your computer may add its own default styles to the template. If that happens, it can make formatting your document more difficult. To be certain that you are using only the TWDB styles, compare the styles that appear in your Styles and Formatting window with those in the screen capture on the following page (Figure 2-1). *Delete any styles in your formatting window that do not appear in this screen capture to eliminate unwanted default styles.*

To ensure that your computer does not add its default styles to this document or to the template, before you open them go to Tools→Templates and Add Ins→Templates. Be sure that the box for "Automatically update document styles" is NOT checked.

2.1.1 Title[13]

Give your report a title that gives the reader an idea of the topic of your report but is not terribly long. In addition to the general subject (for example, "Droughts"), you may include a few additional words to describe a place, methodology, or other detail focused on throughout the paper (for example, "Droughts in the High Plains of Texas" or "Evaluating the Effects of Drought Using Groundwater Flow Modeling"). Please capitalize only the first letter of each major word (usually any word that is four letters or more). Do not capitalize words like "the," "and," "to," and "of."

2.1.2 Headings

Use headings to help the reader follow you through the main sections of your report and to make it easier for readers to skim through your report to find sections that might be the most interesting or useful to them. Headings for up to five levels of subdivision are provided in the template; however, we suggest not using more than three or four levels of subdivision except where necessary. Please avoid stacked headings (for example, a Heading 1 followed immediately by a Heading 2) and capitalize only the first word of headings—never use all caps.

Using the headings in the Styles and Formatting window allows Word to automatically number your headings and then renumber them if you add or delete headings. They are the basis for your table of contents and also comply with the accessibility requirements.

2.1.3 Table of contents

The table of contents can be automatically generated from the level 1 and 2 headings. To generate a table of contents, place your cursor where you want it to insert it, go to

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[12] This is a level 2 heading. Note: the head is 14-point Cambria.
[13] Level 3 heading

Insert→Reference→Index and Tables. Choose the table of contents tab and click on OK.

2.1.4 Margins

Use 1-inch margins on all four sides of the page.

Figure 2-1   TWDB formatting styles

2.1.5 Page numbers and page headers

Page numbers are centered at the bottom of the page in 12-point Cambria. Please use

roman numerals for the front matter of your report (the title page, Table of Contents, and lists of figures and tables). Begin with page 1 on the first page of text (normally the Executive Summary). Page headers are 10-point. italic Cambria, centered at the top of the page. (See the headers in this document for an example.) Headers on contract reports will read: *Texas Water Development Board Contract Report Number ###,* followed with the title of the report.

2.2 Front matter

The first few pages of your document should include in this order: title page and then table of contents (which will include a list of figures and list of tables). Both of these pages typically begin on an odd-numbered page. Any special pages, such as a "Note from the Authors," should be inserted before the Table of Contents on an odd-numbered page.

2.3 Creating publication-quality graphics

When designing a graphic, make sure that it (1) emphasizes the important information and does not show unnecessary data, lines, or labels; (2) includes the needed support material for the reader to understand what you are showing; and (3) is readable (see figures at the end of this document for examples). Edward R. Tufte's books on presenting information (Tufte, 1983; 1990; 1997) are great references on good graphic design. Figure 2-2, Figure 2-3, and Figure 2-4 are examples of properly formatted, easy-to-understand graphics. Please do not include fonts that are less than 7 points.

For good-looking graphics, the resolution needs to be high enough to provide a clear image at the size you make them within the report. In general, 400 dpi will make a clear image. Try to create your figures at the same size they will be in the report, as resizing them in Word greatly reduces image quality. Photographs taken with at least a two-megapixel camera (if using digital) and with good contrast will make the best images. Please save the original, and then adjust color levels and size in a renamed image copy. Please print a draft copy of your report to double check that your figures and photographs have clear lines and show all the features that you want them to have, preferably in color and/or black and white.

Figures and photographs should be in grayscale. Also remember that your report may be photocopied, scanned, or downloaded and printed in black and white. For this reason, you should use symbols, patterns, and colors that print as different shades in black and white. All interval or ratio data (data measuring continuous phenomena, with each color representing an equal interval) need to be displayed in a graded scale of a single color (Figure 2-5). This way your figures will be useful even as a photocopy.

2.3.1 Figures and photographs

To publish professional-looking graphics, **we need all originals to be saved at 400 dots-per- inch** (dpi) and in grayscale, if possible, or in the CMYK color format if color is necessary. Excessive use of color, especially color graphics that do not also work in grayscale, are sometimes difficult for the reader to print in black and white (color

reproduction costs can be prohibitive). Preferred file formats for your original graphics are Adobe Illustrator (.ai), EPS with .tif preview, jpg, .png, or .tif files. Please do not submit Microsoft Excel graphics. Because it is difficult to create well-designed, polished graphics with this program, we prefer Adobe Illustrator. It allows us more flexibility in adjusting fonts, colors, positions, and other graphic characteristics.

Please refrain from using low resolution .jpg or .gif files. Internet images at 72 dpi are unacceptable for use in reports.

All graphics shall be submitted in two forms:

1. Inserted into the Microsoft Word document before you submit your report. Ideally, inserted graphics should be centered on the page. Format the picture to downsize to 6 inches wide if necessary. Please do not upsize a graphic in Word. Final reports should not have the graphics at the end of each chapter or section.
2. Saved in one of the formats listed above.

2.3.2 Consistency

As readers move within a graphic or from one graphic to the next, they expect to see consistent fonts and font sizes. In TWDB reports, all figures should use Arial, and point sizes should be the same throughout the document. Point sizes should be no smaller than 7 points. See Figures 2-2 and 2-3 for further information.

2.3.3 Using other people's graphics

Figures and photographs (and tables) need to be your own unless you have written permission from the publisher that allows us to reprint them (we will need a copy of this permission for our records). Avoid using any figures or photographs taken off the Internet or from newspapers or magazines. It is often time consuming and expensive to gain permission to reproduce them.

2.3.4 GIS and graphics

When exporting graphics or maps out of a geographic information system such as ArcInfo, please be sure to export your graphics and maps in a raster format such as .jpg or .tif (see guidance above). If you export in a vector format, such as Windows Metafile, there is a good chance that your graphics will not work on all computers. Because geographic information systems often use specialized font sets for symbols (such as for point data or north arrows), readers would have to have the same specialized fonts to see the graphics and maps properly. By saving your graphic and maps in a raster format, you have essentially turned them into photographs that no longer require specialized fonts.

2.3.5 Other graphics specifications

It is easiest to design your figures separately and add them in after the text of your report is more or less complete. Graphics should remain within the 1-inch page margins of the

template (6.5 inches maximum graphic width). Please avoid landscape orientation because it makes the report more difficult to read. Be sure that the graphics (as well as tables) are numbered in the same order that they are mentioned in the text. Figures should appear in the report after being called out in the text. Within the graphics, please use Arial typeface.

2.3.6 Captions

Because we cannot edit captions embedded in figures, please include a caption for each graphic in Word. For figures and photographs, the caption should appear below the graphic, flush left in 10-point boldface Cambria. Table captions, however, should appear above the tables, flush left also in 10-point boldface Cambria.

Automatic caption features and lists of figures and tables

This document is set up to take advantage of automatic caption features for lists of figures and tables. To generate a caption, go to Insert→Reference→Caption. You will need to select whether it is a table or figure caption. The menu will show you the appropriate caption number. Click on "OK" and the caption number will be inserted in your document in the correct format. Then type in your caption. It will generate the correct fonts as you type.

It is important to use this automatic feature because it will generate the lists of figures and tables for the table of contents. To create these lists, go to Insert→Reference→ Index and Tables. Then select the list of figures or list of tables and click on ok. This will fill in your lists for you.

Because this feature picks up the entire caption, most of the time you will have to edit the entries in the Lists of Figures/Tables to make them more concise. If you need to update these lists later to reflect changes, place your cursor outside the lists and press F9.

2.3.7 Figure formatting summary

- Place caption underneath figure, flush left.
- Capitalize the first word of the caption.
- Capitalize only the first word in the axis labels and tags (unless they are proper names).
- Place reference citations, if needed, within parentheses at the end of the caption. Do not cite TWDB if it is the only source of data.
- Use abbreviations, acronyms, and symbols sparingly. If needed because of limited space, please define them in legend or caption.
- Use Arial typeface.
- Use consistent point size for figure text, such as axis labels. Point sizes should be no smaller than 7 point.
- Use 400 dpi resolution for graphics.
- Use a maximum graphic width of 6.5 inches.

2.3.8 Figure examples

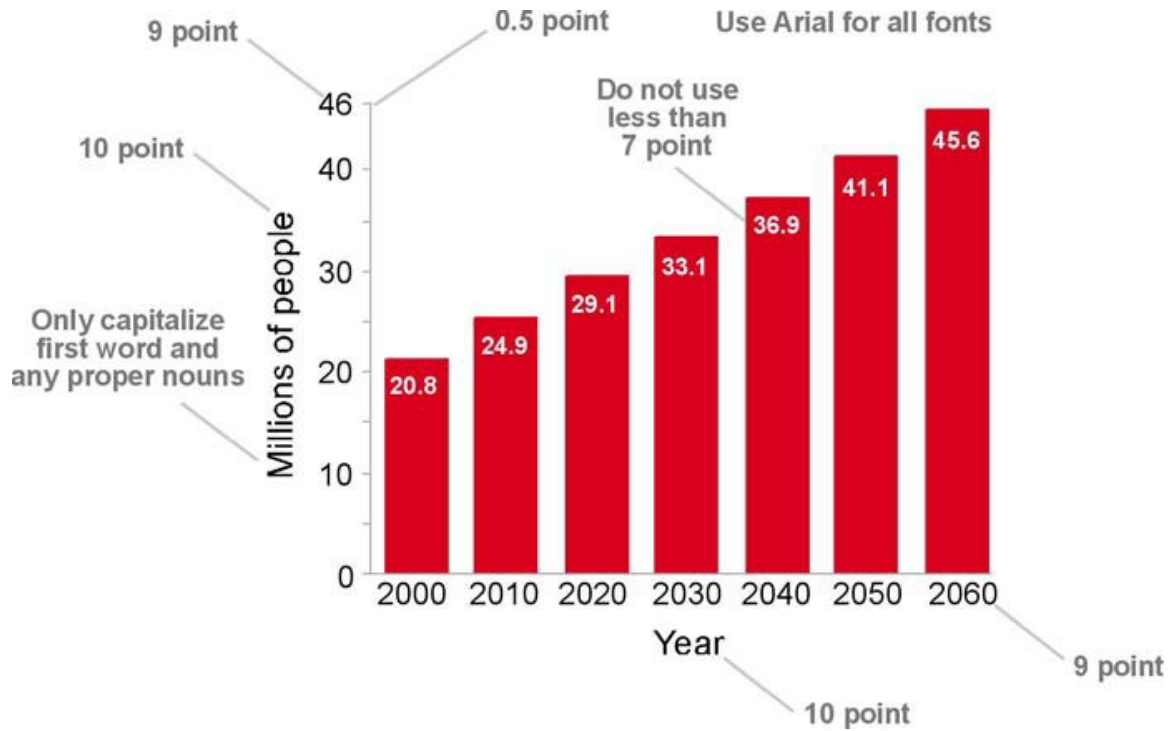The following figures provide examples for graphs, charts, and maps.

Figure 2-2   **Font and design expectations for a bar chart (author, date).**

Note that there are no grid lines. If a reference were necessary, it would go in parentheses before the period.
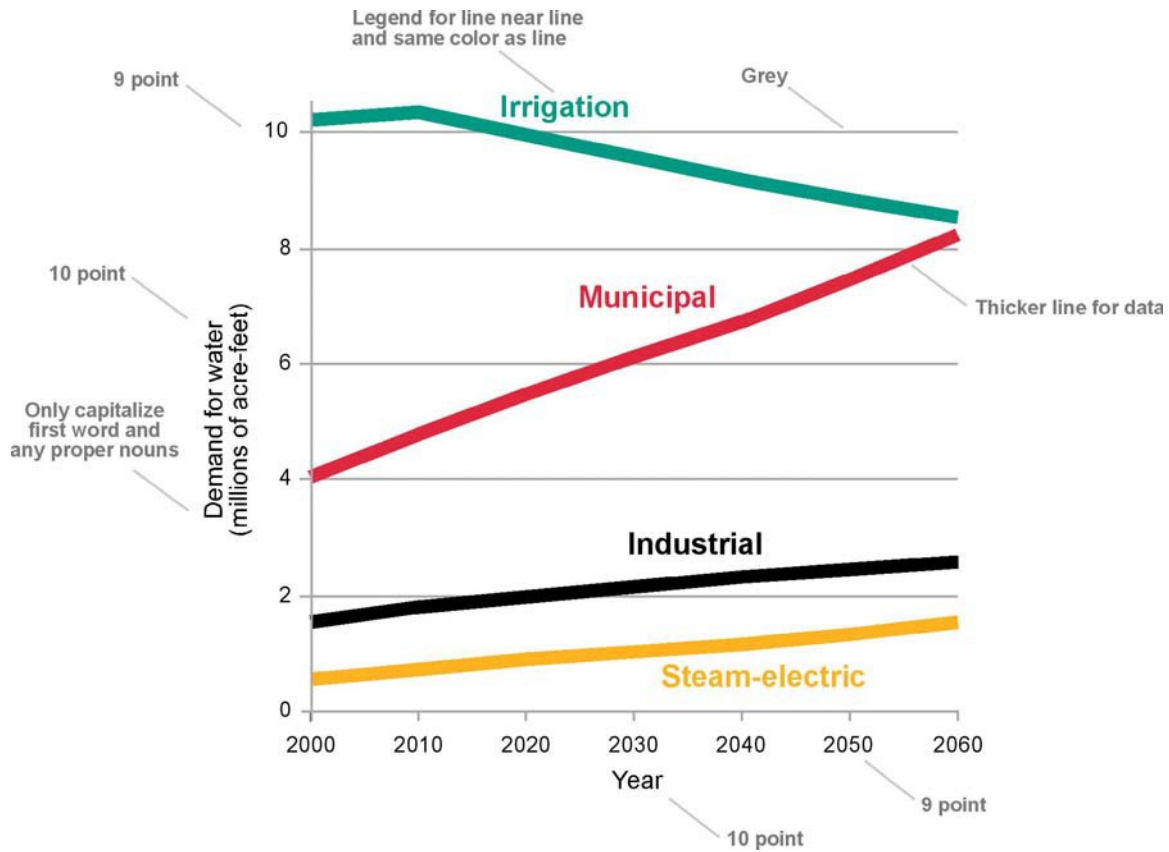
Figure 2-3.   **Font and design expectations for a line chart (data from TWDB and author, date; author, date).**

Note that there are grid lines in a line chart. Also note the use of multiple citations in the caption.
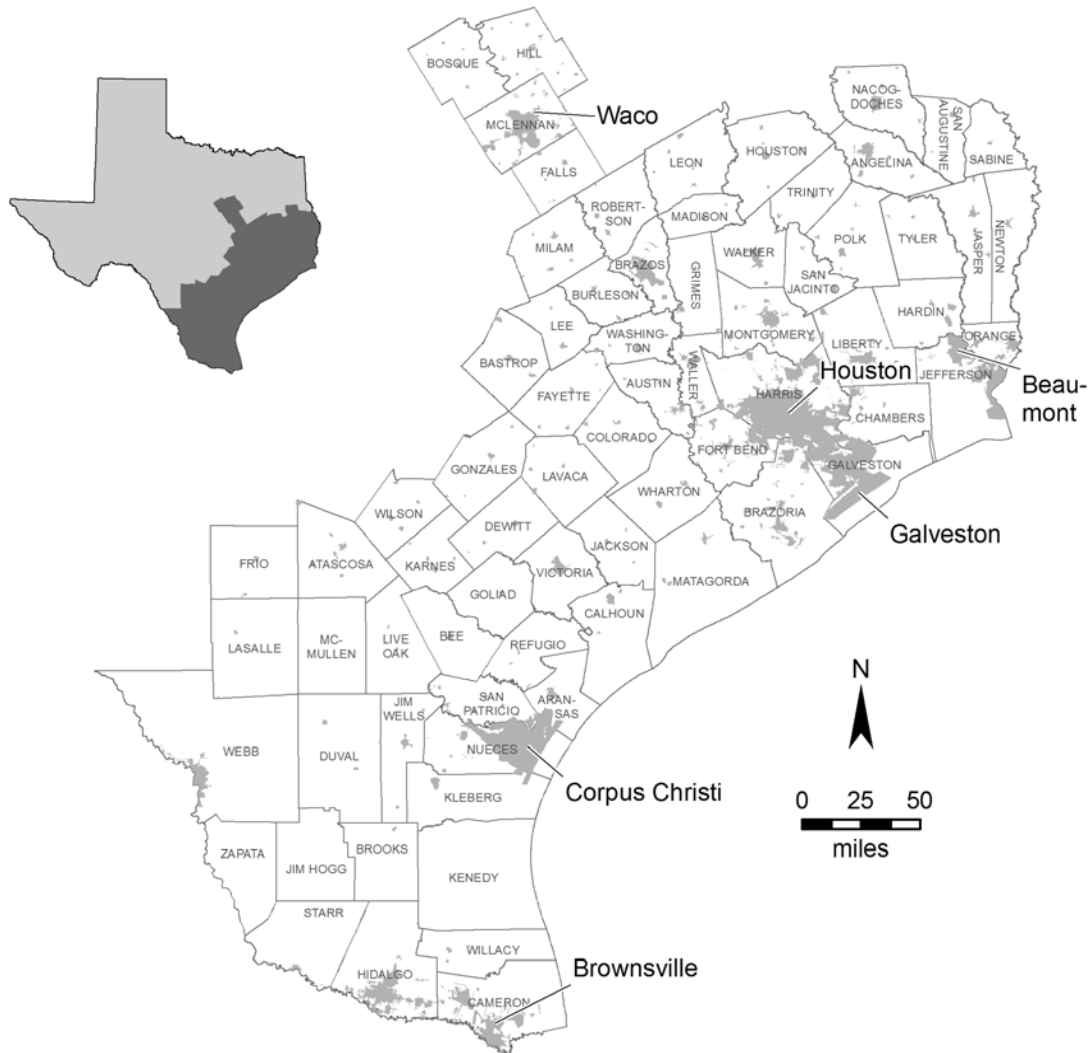
Figure 2-4. A sample subject area map, giving the reader enough information to understand the location being discussed in this conference. For map figures, be sure to include a north arrow to orient the reader, a scale, and, if needed, a submap that places the figure in greater geographic context. Be sure that text is readable and that any citations listed on the figure or in the figure caption are included in the reference list. Font size should never be less than 7 points.

Figure 2-5.   **Initial hydraulic heads used in model simulations for layer 1. Note the use of grayscale shading to show differences. MSL = mean sea level.**

Use abbreviations and acronyms only when necessary, and always define them.
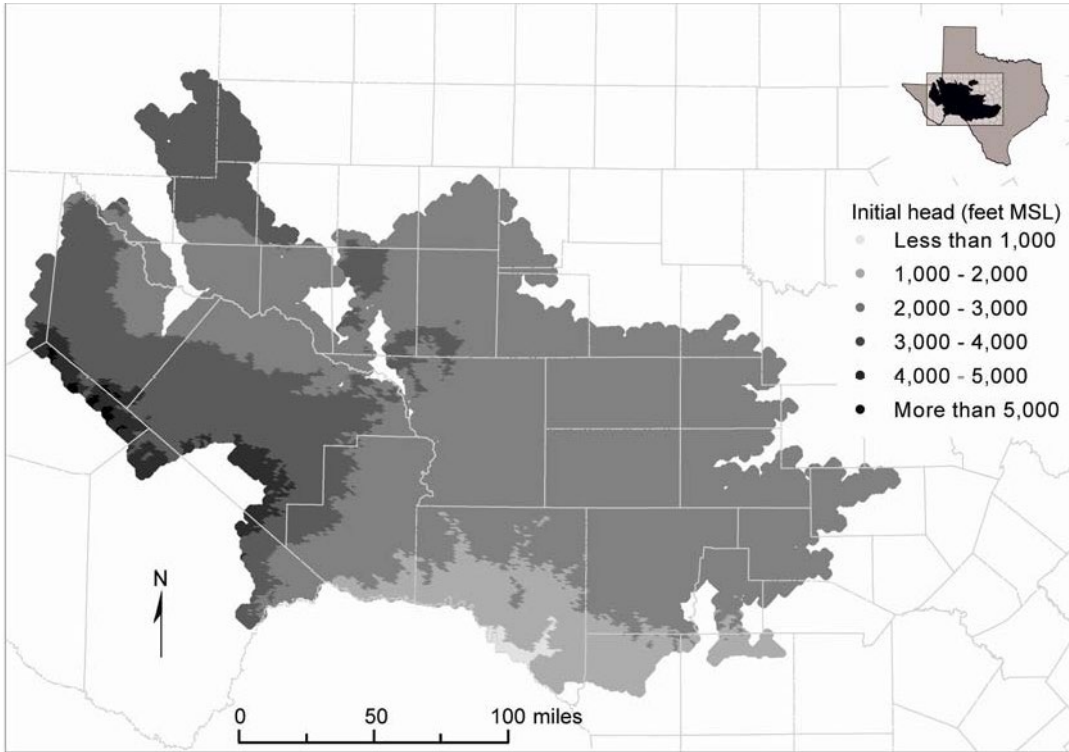
2.4   Tables

Tables should be created in Microsoft Word (Table 2-1). They should use outlining and bold font only to emphasize headings, totals, or other important points. All table text is in Cambria.

Table 2-1.   **A sample table. Note caption above table. Year and volume (acre-feet)[a]**

Column head	1950	1980	1990	2000	1980	1990	2000	%GW[b]
Table text	16,015	22,441	23,340	25,926	81,196	144,522	66,083	97.4
Winkler	10,064	9,944	8,626	7,173	8,356	3,171	5,516	99.9
Total:	255,811	549,592	660,934	754,099	621,194	310,308	447,935	

Note: Any explanatory table information should immediately follow the table.
Source: USGS (2000) Any table source should be next. (Please note this is not really USGS data.)
[a] Please use superscript letters for table footnotes. A footnote should look like this, using 10-point Cambria. Table headings are 12 point (the Year and volume heading). Table text is 10 point.
[b] %GW = percent groundwater. It is preferable to avoid abbreviations and acronyms. However, when they are necessary because of limited space, be sure to explain them.

2.4.1 Table formatting summary

- Justify numbers by their decimal points.
- Use commas beginning with thousands (1,000, 3,500, 10,000).
- Place reference information at the bottom of the table. If the table includes information generated solely by TWDB, it does not need a reference.
- Use Cambria for all text.
- Use 12 point for table headings and 10 point for table text.
- Capitalize only the first word of the caption and only the first word of any column and row heads and labels.
- Place caption flush left above the table in 10-point bold Cambria. Place a period at the end of the caption.
- Number tables consecutively (Table 1, Table 2). In long papers with numerous sections, number the tables with the section numbers (Table 1-1, 1-2, 2-1, 2-2, 2-3, and so on).
- Use acronyms and abbreviations sparingly. If you must use them because of limited space, define them at the bottom of the table.
- Avoid using vertical grid lines.
- Avoid merging fields, to be compliant with accessibility requirements.

2.5 Units

Measurements should be in English units. Metric units may be included in parentheses after the English units; however, if you include metric units, you should include them for all English measurements.

All units of geologic time should conform to the most recent geologic timescale (Gradstein and others, 2004). A summary of this timescale is available from the International Commission on Stratigraphy's website at http://stratigraphy.org/chus.pdf.

2.6 Citations and references

It is important to give credit where credit is due. Therefore, be sure to use the appropriate citations and include references in your paper.

2.6.1 In-text citations

Each piece of information you use in your report that comes from an outside source must be cited within the text using the author's last name and the year of publication. If there are two authors, list the last name of each followed by the year, and if there are more than two authors, list the last name of the first author followed by "and others" and the year. For example: the end of the Jurassic Period occurred approximately 145.5 million years ago (Gradstein and others, 2004). If the author is an organization you may use an acronym and then spell it out in the Reference list, for example (TGPC, 2000). See the last entry in the list of references for the bibliographic entry.

2.6.2 References

All sources that are cited within the report should be listed at the end of the paper under the heading References. The references should follow the guidelines in "Suggestions to Authors of the Reports of the United States Geological Survey" (Hansen, 1991). These are available online at http://www.nwrc.usgs.gov/lib/lib_sta.html (a link to the chapter "Preparing references for Survey reports," p. 234–241, is found here). Several examples of complete reference citations are listed at the end of these guidelines. Be sure that any citations that appear in tables or figures are included in the reference list. Also, before submitting the report, please check that all the citations in the report are included in the reference list and all references in the reference list are cited in the report. If at all possible, avoid web-based citations. These materials are often transient and, therefore, useless to future readers. However, if you do need to use them, please include a date accessed.

2.7 Acknowledgments

Be sure to acknowledge the people and entities that assisted you in your study and report. If there was an outside funding source, you will need to include them at the end of the report, as well as on page ii. For example:

We would like to thank the Keck Geology Consortium, the American Society of Civil Engineers, and the Texas Bar CLE for providing examples to use in developing these guidelines. In addition, we appreciate Mike Parcher for providing information on how to create publication- quality graphics and Ian Jones for providing Figure 10-1.

2.8 Submitting your report

Before you submit your report, proofread it. Look for spelling and grammatical errors. Also, check to see that you have structured the headings, paragraphs, and sentences in your paper so that it is easy to follow and understand (imagine you are a reader who does not already know the information you are presenting).

2.9 Conclusions

Following the instructions above and providing accurate and readable text, tables, figures, and citations will help to make your report useful to readers. Scientists may read your report, as well as water planners, utility providers, and interested citizens. If your report successfully conveys accurate scientific information and explanations to these readers, we can help to create more informed decisions about the use, development, and management of water in the state.

3 References[14]

[15]Gradstein, F.M., Ogg, J.G, and Smith, A.G., eds., 2005, A geologic time scale 2004: Cambridge, Cambridge University Press, 610 p.

Hansen, W.R., ed., 1991, Suggestions to authors of the reports of the United States Geological Survey (7th ed.): Washington, D.C., U.S. Government Printing Office, 289 p.

Tufte, E.R., 1983, The visual display of quantitative information: Cheshire, Conn, Graphics Press, 197 p.

Tufte, E.R., 1990, Envisioning information: Cheshire, Conn., Graphics Press, 126 p. Tufte, E.R., 1997, Visual explanations: Cheshire, Conn, Graphics Press, 156 p.

3.1 Examples of references

Arroyo, J.A., and Mullican, III, W.F., 2004, Desalination, *in* Mace, R.E., Angle, E.S., and Mullican, III, W.F., eds., Aquifers of the Edwards Plateau: Texas Water Development Board Report 360, p. 293–302.

Bates, R.L., and Jackson, J.A., 1984, Dictionary of geological terms: Garden City, N.Y., Anchor Press/Doubleday, 571 p.

Blandford, T.N., Blazer, D.J., Calhoun, K.C., Dutton, A. R., Naing, T., Reedy, R.C., and Scanlon, B.R., 2003, Groundwater availability of the southern Ogallala aquifer in Texas and New Mexico–Numerical simulations through 2050: contract report by Daniel B. Stephens and Associates, Inc., and the Bureau of Economic Geology, The University of Texas at Austin to the Texas Water Development Board, variously paginated.

[16]FAS (Federation of American Scientists), 2006, Resolution comparison: Reading license plates and headlines, http://www/fas/org/irp/imint/resolve5.htm, accessed March 2007

Fenneman, N.M., 1931, Physiography of Western United States (1st ed.): New York, McGraw- Hill, 534 p.

Hubert, M., 1999, Senate Bill 1—The first big bold step toward meeting Texas's future water needs: Texas Tech Law Review, v. 30, no. 1, p. 53–70.

Kunianski, E.L., 1989, Precipitation, streamflow, and baseflow in West-Central Texas, December 1974 through March 1977: U. S. Geological Survey Water-Resources

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[14] For more examples of references, see p. 239–241 of "Suggestions to Authors of the Reports of the United States Geological Survey" at http://www.nwrc.usgs.gov/lib/lib_sta.html.

[15] Please note there are no spaces between author initials in the reference list
[16] This is not an actual webpage; it is provided as an example.

Investigations Report 89-4208, 2 sheets.

Mace, R.E., Chowdhury, A.H., Anaya, R., and Way, S.C., 2000, A numerical groundwater flow model of the Upper and Middle Trinity aquifer, Hill Country area: Texas Water Development Board Open File Report 00-02, 62 p.

Maclay, R.W., and Land, L.F., 1988, Simulation of flow in the Edwards aquifer, San Antonio Region, Texas, and refinements of storage and flow concepts: U. S. Geological Survey Water-Supply Paper 2336, 48 p.

TGPC (Texas Groundwater Protection Committee), 2006, Joint groundwater and contamination report—2004: Texas Commission on Environmental Quality Report SFR 056/05, variously paginated.

4 Appendix

If you have an appendix in your document, it should be the last numbered section of the report.

Samples of font, spacing requirements:

Title page TWDB heading 22 pt., bold

Title page title 18 pt.;

Author List title page: 12 pt.; 0.5" indent

Body text:

All text is Cambria 12 pt. font, indent left 0.07", right 0.09", space, After paragraph add 12 pt. font space

5 Heading 1

16 pt. bold; no left indent; hanging indent 0.25 inches; 12 pt. space before; 6 pt. space after; keep with next; outline numbered, numbering style 1,2,3

5.1 Heading 2

14 pt. bold; no left indent; hanging indent 0.4 inches; 12 pt. space before; 6 pt. space

after; keep with next; outline numbered 1.1, 1.2

5.1.1 Heading 3

12 pt. bold italic; no left indent; hanging indent 0.5"; 12 pt. space before; 6 pt. space after; keep with next; outline numbered 1.1.1, 1.1.2

Heading 4

12 pt. bold; no indent; 3 pt. space before; 3 pt. space after; no outline numbering

List paragraph

12 pt. Cambria, single space, 6 pt. before, 6 pt. after

Bulleted List

- Left indent 0.25 inches
- Hanging indent 0.25 inches
- 3 pt. space before and after Numbered list

Table 5-1. **Caption 10 pt. bold; hanging indent 1"; 18 pt. space before; 12 pt. space after;tabs 1"; automatically update. Table captions precede the table. Figure captions are placed below the figure.**

Year and volume (acre-feet)

Column head	1950	1980	1990	2000	1980	1990	2000	%GW[b]
Table text	16,015	22,441	23,340	25,926	81,196	144,522	66,083	97.4
Winkler	10,064	9,944	8,626	7,173	8,356	3,171	5,516	99.9
Total:	255,815	49,592	660,934	754,099	621,194	310,308	447,935	

Table text headings: 12 pt.; single spacing; centered

Table column heads: 10 pt. bold; single spacing

Table text: 10 pt.; single spacing

References: No left indent; hanging indent 0.25 inches; 6 pt. space before Header: 10 pt. centered (should contain title of report, shortened, if necessary)

Footer/Header: 12 pt. centered

Footnotes:10 pt.; 3 pt. space after