

Guidance for Generating Accessible PDF Documents for the NRTR, NRR, and NRDS Report Series; and the NPS Inventory & Monitoring Program

(2/27/2014)

Introduction

The examples and procedures outlined in this document work best with MS Office 2010 or later, Adobe InDesign CS6 or later, and Adobe Acrobat Pro 10 or later. Earlier versions of these software programs are not recommended.

This document provides guidance and procedures for generating accessible Adobe Acrobat (PDF) documents per [Section 508 of the Rehabilitation Act](#) (Section 508). It was written as an informal training and reference manual for NPS publication policy specialists working in the national NPS Inventory & Monitoring Division office. Other NPS Inventory & Monitoring Program offices may also use these procedures to generate accessible PDF documents.

The procedures outlined in this document show the user how to use existing tools that are built into MS Word, Adobe InDesign, and Adobe Acrobat Pro to automatically add, check, and update website markup tags into PDF documents. These PDF markup tags allow screen readers to correctly read the document aloud to the visually and cognitively impaired (per Section 508 policy). PDF markup tags do not change how pages print or look on the computer screen for sighted users.

This document is a work in progress. Please contact [Fagan Johnson](#) if you have any questions or see something that needs to be changed.

Outline of the Suggested Procedures

- 1) MS Word and Adobe InDesign documents should be formatted using the basic techniques outlined in this document. Working examples of these procedures are also found in our document templates.
 - a) NPS Inventory & Monitoring Program briefs and small documents. Available for download at: <http://science.nature.nps.gov/im/reports/index.cfm?tab=0&BriefsTemplates=open#BriefsTemplates>
 - b) NPS-wide Natural Resource Technical Report (NRTR), Natural Resource Report (NRR) and Natural Resource Data Series (NRDS) report series. Available for download at: <http://www.nature.nps.gov/publications/nrpm/nrrnrtr.cfm>
- 2) Use the PDF export techniques outlined in this document, and in our document templates, to help make sure that the required website accessibility tags are automatically exported into the final PDF version of the document.
- 3) Open the PDF document in Adobe Acrobat Pro and:
 - a) Use the **Tools / Accessibility / TouchUp Reading order** tools to check and update accessibility tags on each individual page.

- b) The document is ready when the only potential error message returned by the *Tools / Accessibility / Full check* diagnostic tool is: “**Tab order may be inconsistent with the structure order.**”

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MS Word Procedures

Working examples and additional guidance for most of the procedures outlined in this chapter are also provided in the latest MS Word templates for:

- NPS Inventory & Monitoring Program briefs and small documents. Available for download at: <http://science.nature.nps.gov/im/reports/index.cfm?tab=0&BriefsTemplates=open#BriefsTemplates>
- NPS-wide Natural Resource Technical Report (NRTR), Natural Resource Report (NRR) and Natural Resource Data Series (NRDS) report series. Available for download at: <http://www.nature.nps.gov/publications/nrpm/nrrnrtr.cfm>

When using MS Word 2010 or later (earlier versions are not recommended), making the final PDF file accessible for reports generated in MS Word is relatively easy. Just make sure to:

- 1) Use MS Word font Styles that are set to export to PDF format using accessibility tags (see subchapter: *MS Word Procedures / Use Font Styles for All Text Elements*).
- 2) Provide alternate text for all figures, images, and other graphic elements (see subchapter: *MS Word Procedures / Graphic Elements*).
- 3) Design tables to be accessible in the final PDF (see subchapter: *MS Word Procedures / Formatting Tables in MS Word for Accessibility*).
- 4) Export the final MS Word document to PDF format in a way that assures that accessibility tags are exported to PDF correctly (see subchapter: *MS Word Procedures / Exporting the Final MS Word Document to PDF Format*).

This document is a work in progress. Please contact [Fagan Johnson](#) if you have any questions or see something that needs to be changed.

Use Font Styles for All Text Elements

All text elements should be assigned to MS Word font Styles.

- Using font Styles is the simplest way to make sure that you use NPS-approved font faces (Times New Roman and Arial fonts for MS Word report documents; or NPS Rawlinson and Adobe Frutiger for resource briefs, brochures, etc.), and consistently apply text attributes throughout MS Word documents.
- The only instances where other fonts are allowed in documents that were generated using MS Word are for:
 - Text found inside figures and/or images (especially dynamic images controlled in an external computer program like MS Excel, SigmaPlot, etc.).
 - Complicated mathematic formulas (suggest you use the ***Insert / Symbol*** or the ***Insert / Equation*** tools).
 - Raw computer program output and/or emphasizing procedural steps (use Courier New font).
- Please avoid adding lines of text with no font Style assigned to them, because they will occasionally export to Adobe Acrobat format as Calibri and/or Cambria fonts (the default fonts

packaged with Windows 7-8 and MS Office 2010-2013). Calibri and Cambria fonts do not meet NPS Graphic Identity policy standards.

About the Font Styles Used for Document Headings

Font Styles should be applied to chapter headings that are based on (attached to) the default MS Office font Styles *Heading 1-3*. This arrangement helps to ensure that, in the final PDF, the report headings are tagged to be read as headings by software for the visually-impaired (per Section 508 of the Rehabilitation Act).

Note: using the default MS Office font Styles *Heading 1-3* themselves is not recommended, because they occasionally export to Adobe Acrobat format as Calibri font (the default heading font packaged with Windows 7-8 and MS Office 2010-2013). Calibri font does not meet NPS Graphic Identity policy standards.

As long as you use NPS-approved fonts, and assign that text to a heading font Style, you may edit and update the heading font and related text effects as desired.

If you decide to use your own custom font Styles for headings, make sure that they are also based on (attached to) the default MS Office font Styles *Heading 1-3* (per Section 508 of the Rehabilitation Act).

See the NPS MS Word document templates described above for working examples and additional guidance.

About the Font Styles Used for Regular Paragraph Text

A font Style that is based on (attached to) the default Microsoft Office font Style *Normal* should be applied to all regular paragraph text. This arrangement helps to ensure that, in the final PDF, the regular paragraph text is tagged to be read correctly by screen readers for the visually-impaired (per Section 508 of the Rehabilitation Act).

Note: using the default MS Office font Style *Normal* itself is not recommended, because it occasionally exports to Adobe Acrobat format as Cambria font (the default paragraph font packaged with Windows 7-8 and MS Office 2010-2013). Cambria font does not meet NPS Graphic Identity policy standards.

As long as you use NPS-approved fonts, and assign that text to a paragraph font Style, you may edit and update the paragraph font and related text effects as desired.

If you decide to use your own custom font Style for paragraph text, make sure that it is also based on (attached to) the default MS Office font Style *Normal* (per Section 508 of the Rehabilitation Act).

See the NPS MS Word document templates described above for working examples and additional guidance.

About Font Styles Used for Figure and Table Captions

Figure and table captions should be controlled using a caption-specific Styles, which are based on (attached to) the default Microsoft Office font Style *Normal* (just like the default MS Office font

Style *Caption*). This arrangement helps to ensure that, in the final PDF, the caption text is tagged to be read correctly by screen readers for the visually-impaired (per Section 508 of the Rehabilitation Act).

Note: using the default MS Office font Styles *Normal* or *Caption* is not recommended, because they occasionally export to Adobe Acrobat format as Cambria or Calibri fonts (the default paragraph and caption fonts packaged with Windows 7-8 and MS Office 2010-2013). Cambria and Calibri fonts do not meet NPS Graphic Identity policy standards.

As long as you use NPS proprietary fonts, and assign that text to a caption font Style, you may edit and update the caption font and related text effects as desired.

If you decide to use other custom font Styles for captions, make sure that they are also based on (attached to) the default MS Office font Style *Normal* (per Section 508 of the Rehabilitation Act).

See the NPS MS Word document templates described above for working examples and additional guidance.

Graphic Elements (Figures, Images, etc.)

All graphic elements in the final PDF document must have alternate text that is read aloud to screen readers for the visually-impaired. This includes all figures, photos, illustrations, flow-charts, etc.

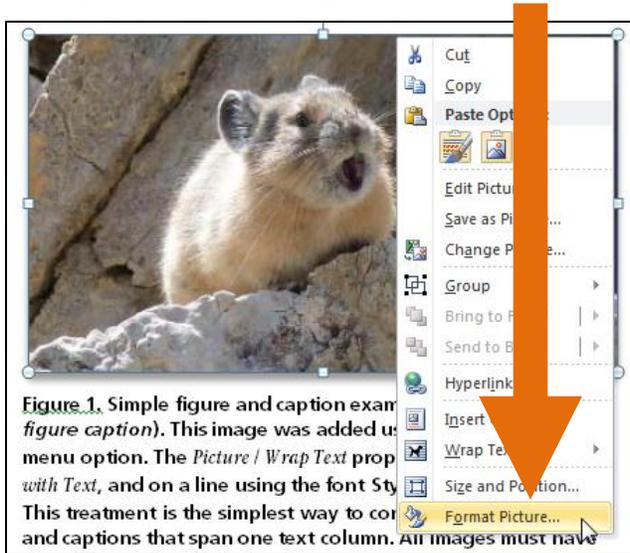
Furthermore, graphic elements should not be the only way that interpretive information is presented in a report. Such information should also be presented in a text format that can be read by text readers for the visually-impaired (written descriptions, tables, etc.).

Continued on Next Page

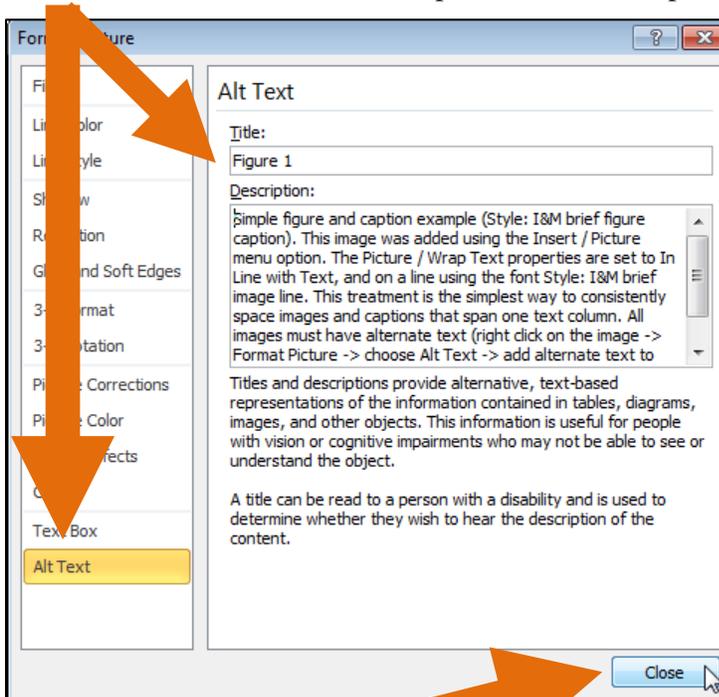
Add Alternate Text to All Graphic Elements

All graphic elements must have alternate text that can be read aloud by text readers for the visually-impaired (per Section 508 of the Rehabilitation Act). Adding alternate text in MS Word is recommended and can save you time and effort in making the final PDF file accessible.

- 1) Right click on the image with your mouse, and choose the **Format Picture** option.



- 2) On the **Alt Text** panel, add a short title for that image to the **Title** field (e.g., Figure 3, Photograph 2, etc.), and add a more detailed description to the **Description** field (this is the alternate text that will be exported to the final .pdf file).



- 3) Click the **Close** button.

See the NPS MS Word document templates described above for working examples and additional guidance.

Choosing Colors to Convey Information

One of the clearest Section 508 statements concerning using colors can be found on the Web Accessibility in Mind Section 508 checklist webpage (<http://webaim.org/standards/508/checklist>):

- *The use of color can enhance comprehension, but do not use color alone to convey information.*
- *Be especially cautious of red/green color combinations. Make sure that color contrast is strong, especially between text and background.*

Here are some online tools that can help you to check images and colors for potential color blindness issues.

Webaim Saturation Checker (<http://webaim.org/resources/contrastchecker/>): A more traditional, and very reliable, tool that allows you to check colors after they are converted to grayscale values.

Vischeck (<http://www.vischeck.com/>): An online tool that allows you to simulate colorblind vision for individual image files.

ETRE Color Blind Simulator (<http://www.etre.com/tools/colourblindsimulator/>): An online tool that allows you to simulate colorblind vision for individual image files.

Coblis — Color Blindness Simulator (<http://www.color-blindness.com/coblis-color-blindness-simulator/>): An online tool that allows you to simulate colorblind vision for individual image files.

Formatting Tables in MS Word for Accessibility Compliance

The tables found in the templates listed at the beginning of the *MS Word Procedures* chapter of this document provide working examples for the guidance and procedures below.

While we are very flexible with the format and layout of tables, we suggest that you follow the basic guidelines for adding tables to MS Word documents outlined below. For reports that require more complicated table layout options than the ones described below, we very strongly suggest that you use Adobe InDesign to generate the report. Why?

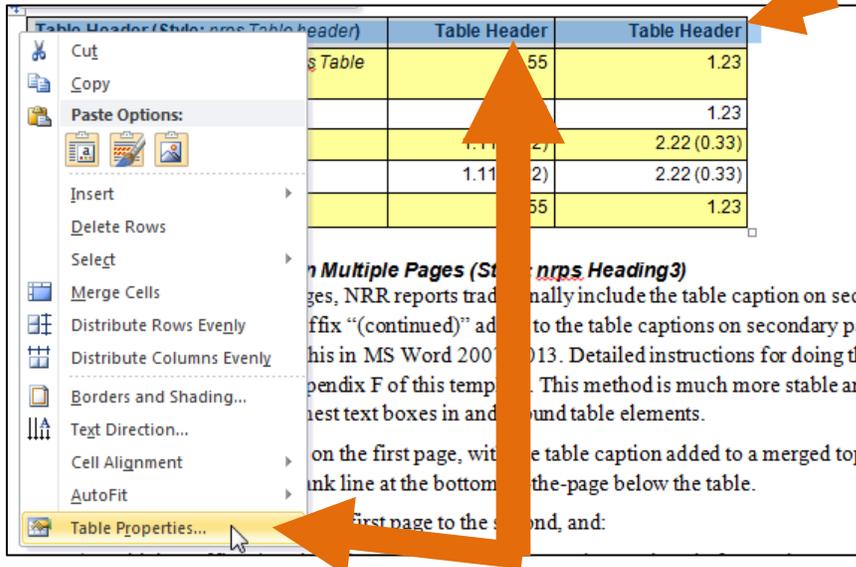
- As of April 1, 2014 all tables found in new PDF documents that are distributed to the public on I&M and NRPM websites must be made accessible to screen readers for the visually-impaired (per Section 508).
- The tools used to export accessible tables from MS Word to PDF are rather simplistic and unpredictable.
- The tools used to export accessible tables from Adobe InDesign to Pdf are much more robust and stable.

Format and Layout Guidelines for MS Word Tables

- 1) All tables with text or numerals should always be created inside MS Word using the **Insert / Table** menu option.
 - a) Tables housed in external files or programs (MS Excel, SigmaPlot, etc.) are not recommended, because they are very difficult to export to PDF in a format that can be read by screen readers for the visually-impaired. **A simple way to import tabular data from other files and/or programs, is to:**
 - i) Create a table in MS Word with the same number of columns.
 - ii) Select and copy all of the table cells from the other file or program.
 - iii) Paste the information into your MS Word table using the **Home / Paste / Merge Table** menu option (MS Word will automatically add new rows onto the bottom of the table).
 - iv) Format all other aspects of the table to meet your needs (row heights, column widths, background colors, etc.).
 - b) Please do not use an image or picture to depict tabular data that contains text and/or numeric values. Software for the visually-impaired simply cannot read text saved as images.
 - c) Please do not use traditional typewriter formatting techniques to build tables (manual tabs and spaces to separate columns). It is almost impossible tag such tables in the final PDF so that can be read correctly by software readers for the visually-impaired.
- 2) It is best to place tables in-line with text (default setting for tables in MS Word - where paragraph text does not wrap around the table).
- 3) Tables with text wrapping around them should:
 - a) Only be added to MS Word documents with single-column page layouts.
 - b) Never be used with multiple-column page layouts in MS Word (strongly suggest that you use Adobe InDesign instead of MS Word).
- 4) Never nest one table inside another table, or inside a text box.
- 5) Similarly, never nest a text box inside a table.
- 6) Design your tables to have as few cells that span multiple columns and/or rows as is possible.
 - a) Having one row with cells that span multiple columns, or one column with cells that span multiple rows is usually okay.
 - b) Having multiple rows with cells that span multiple columns, or multiple columns that span multiple rows is never recommended in MS Word (strongly suggest that you use Adobe InDesign instead of MS Word).

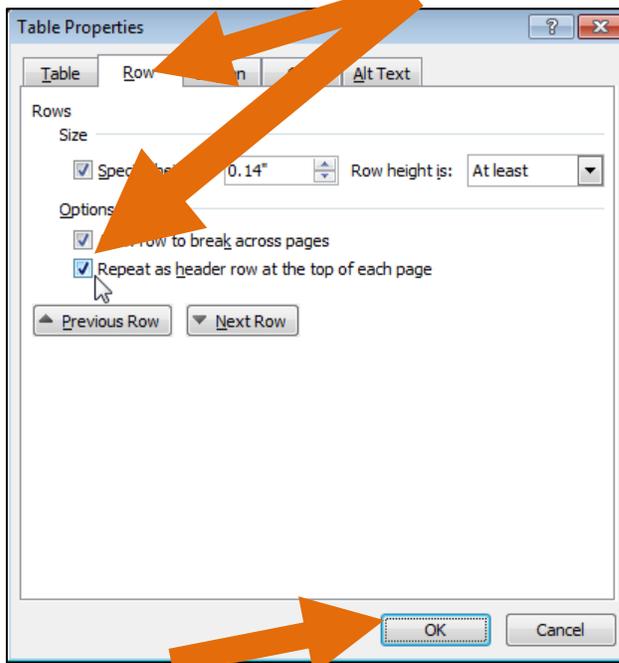
7) Make sure that the table header rows are marked in MS Word. This helps to ensure that they are identified as table header rows by software for the visually impaired in the final PDF file. To do this in MS Word:

a) Select /highlight all of the table cells that contain table row header information.



b) Right-click on the selected cells, and choose the **Table Properties** option.

c) On the **Table Properties** pop-up screen, go to the **Row** tab and check the **Repeat as header row at the top of each page** box.



d) Click the **OK** button.

Note: This is the only method in MS Word that will export and mark table header rows to Adobe Acrobat format to be read correctly by software for the visually-impaired.

See the NPS MS Word document templates described above for working examples and additional guidance.

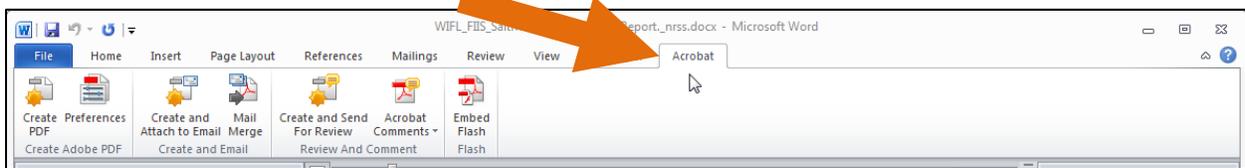
Exporting the Final MS Word Document to Adobe Acrobat Format (.pdf)

Option 1. Export to PDF Format Using the *Adobe PDF Maker Add-in (preferred)*

The *Adobe PDF Maker* add-in should be available on all 64-bit Windows 7 or Windows 8 computers with MS Office 2010-2013 that also has a fully-patched version of Adobe Acrobat Pro 10-11. Microsoft and Adobe no longer fully support this add-in in older versions of MS Office or Adobe Acrobat Pro.

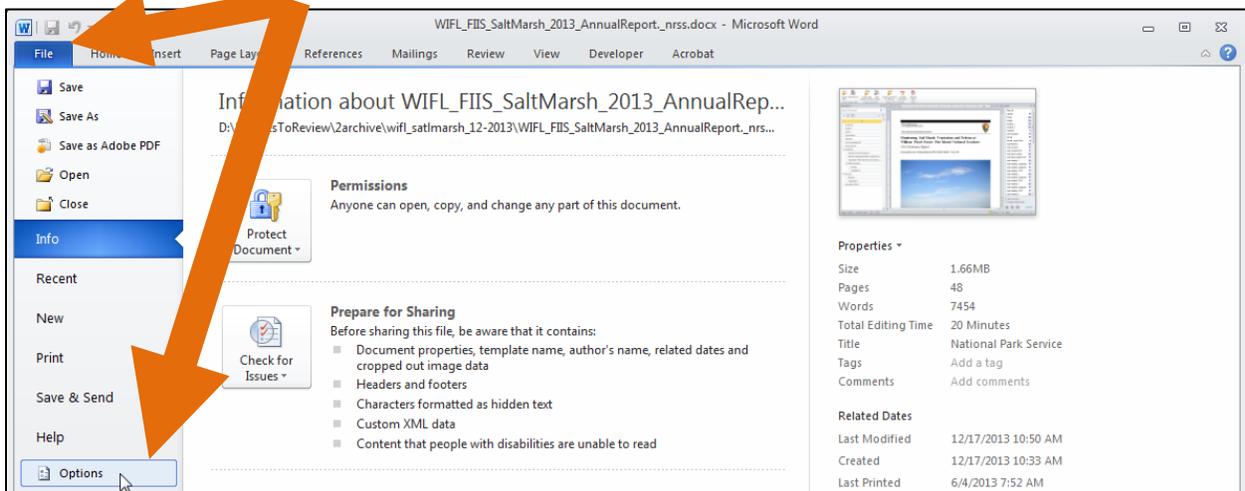
This export option is preferred, because it more accurately tags page elements in the final PDF to be read by software for the visually-impaired than with other export options.

- 1) If you see the *Acrobat* tab at the top of your MS Word screen, then the *Adobe PDF Maker* add-in has already been installed on your computer.

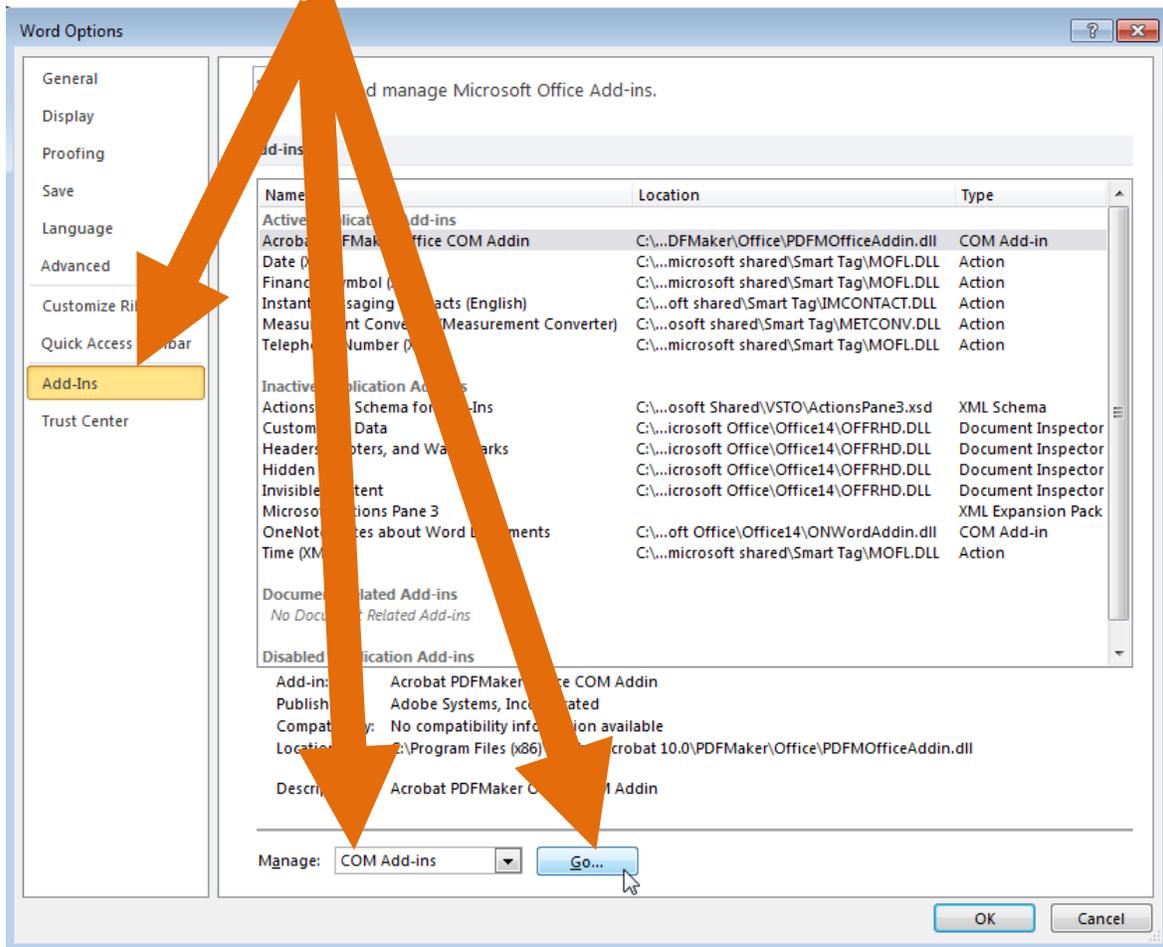


If you have Adobe Acrobat Pro 10 or later installed on your computer, and do not see the Acrobat tab, then the add-in has been disabled. To enable it:

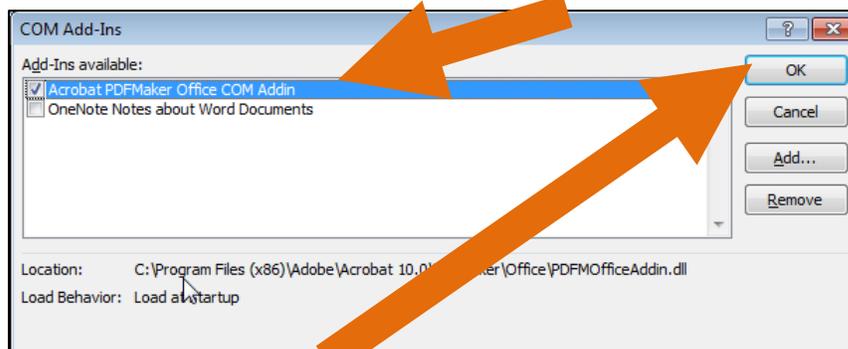
- a) Choose the *File / Options* menu option.



- b) On the next screen choose the **Add-ins / Manage: / COM Add-ins** option and click the **Go** button.



- c) Make sure that the **Acrobat PDF Maker Office COM Addin** box is checked.

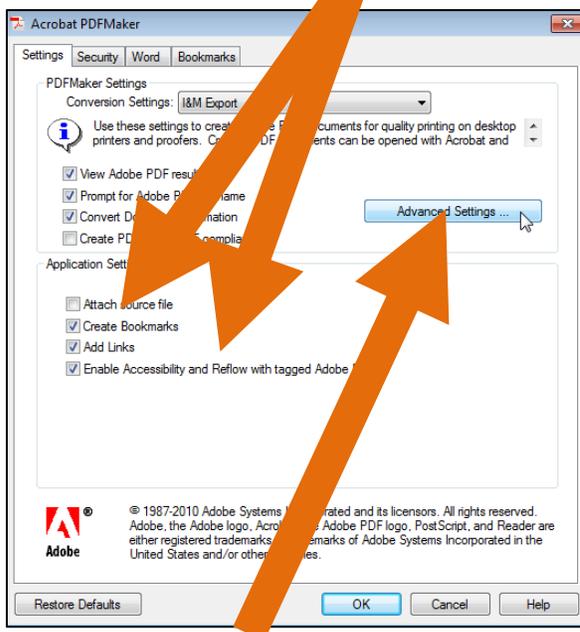


- d) Click the **OK** button.

- 2) The first time you use this add-in, it is a good idea to set up and save a set of custom export to PDF settings on your computer. To do this:
- a) Back on the **Acrobat** tab, click the **Preferences** menu option.



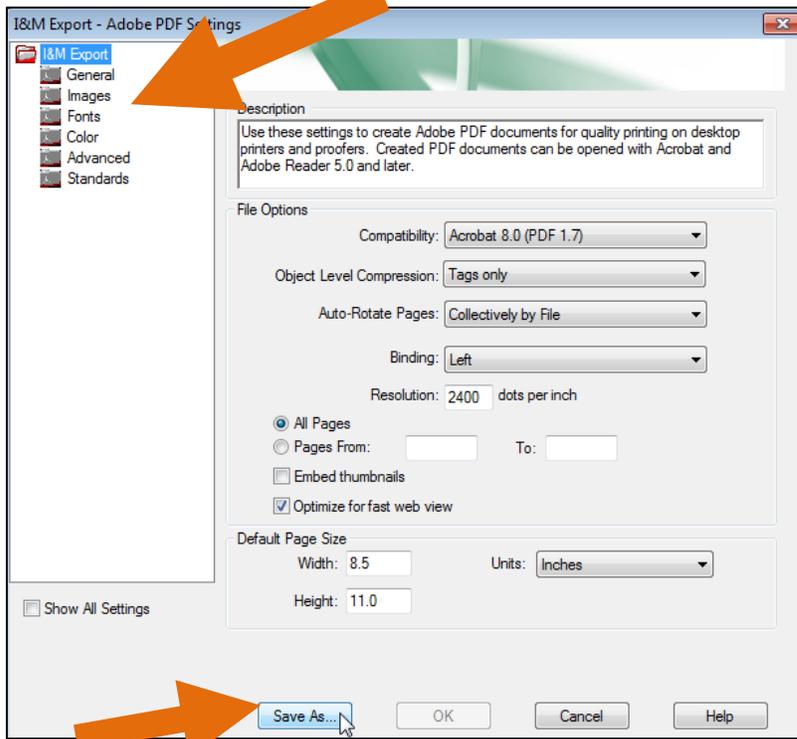
- b) On the next screen, make sure that the: **Create Bookmarks, Add Links, and Enable Accessibility and Reflow with Tagged PDF** options are checked.



- c) Click the **Advanced Settings** button.

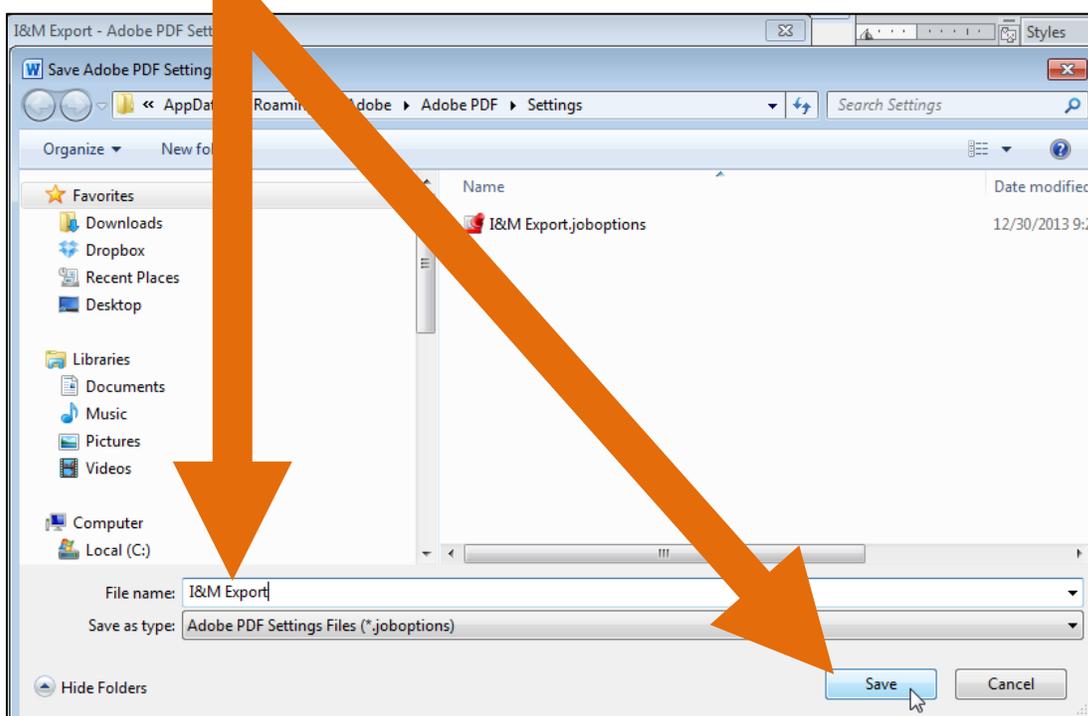
Continued on Next Page

d) On the next screen, update the **General, Images**, etc. settings to meet your needs.

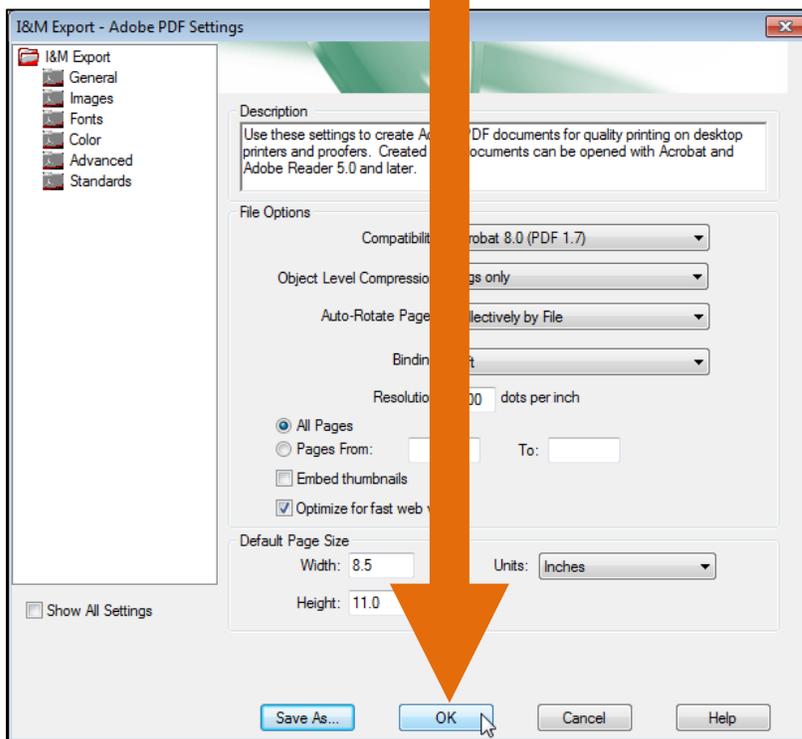


e) Click the **Save As** button.

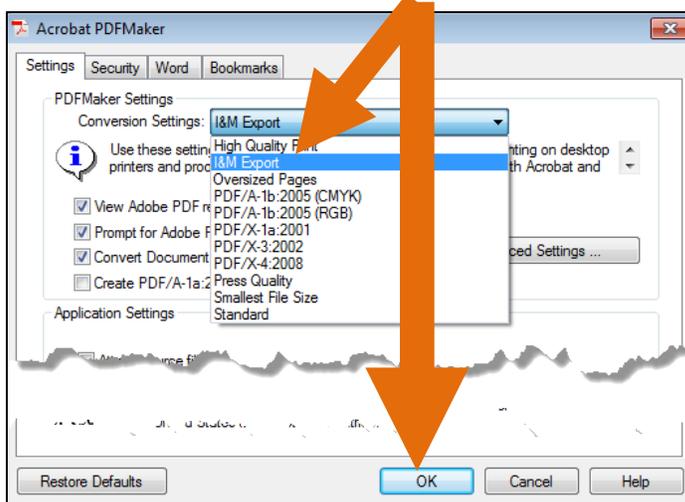
f) On the next screen, type in the PDF export file name into the **File Name** field, and click the **Save** button.



- g) Back on the **...Export - Adobe PDF Settings** screen, click the **OK** button to save those export preferences.

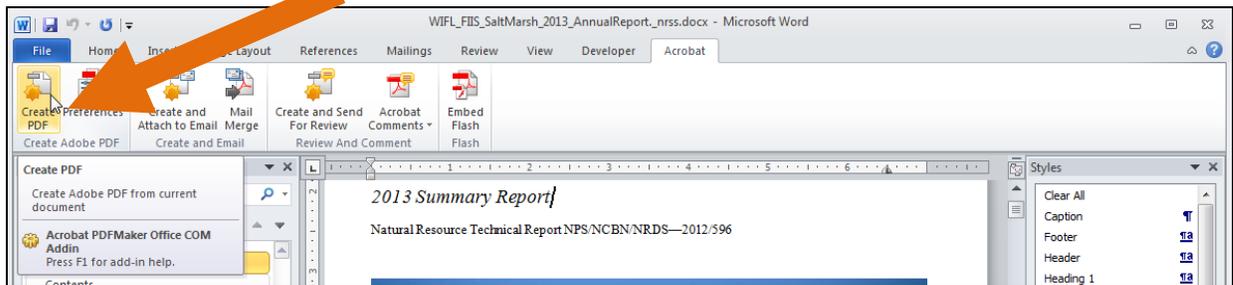


- h) Back on the **Acrobat PDFMaker** screen, use the drop down menu to select the name of your new custom **Conversion Settings** file, and click the **OK** button.



Note: The new **Conversion Settings** file is permanently saved to that individual computer, and be used to export any MS Word file to PDF format in the future.

- 3) To export the MS Word file to PDF format using the saved **Conversion Settings** file :
- a) Click on the **Acrobat / Create PDF** menu option.



- b) To save the entire document, on the **Save Adobe PDF File As** screen, name and save the file as you desire, and click the **Save** button.



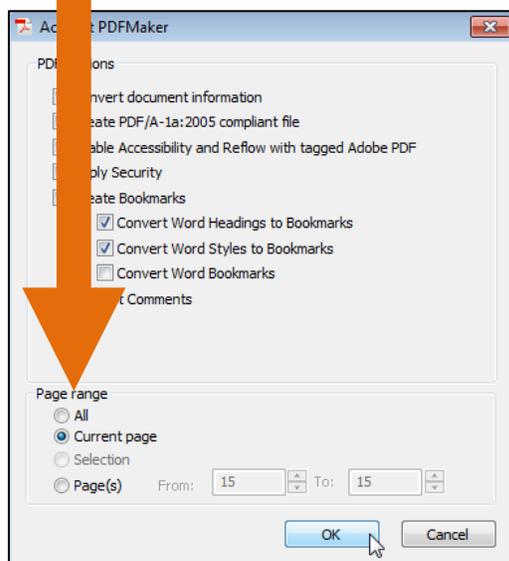
Note: It may take a few minutes to export your file to PDF format. The new file should automatically open in Adobe Acrobat Pro.

Continued on Next Page

- c) To save just one or more individual pages, on the *Save Adobe PDF File As* screen, click the *Options* button.



- d) On the next pop-up screen, set the desired *Page Range* options (*All*, *Current Page*, etc.), and click the *OK* button.



- e) Back on the **Save Adobe PDF File As** screen, name and save the file as you desire, and click the **Save** button.



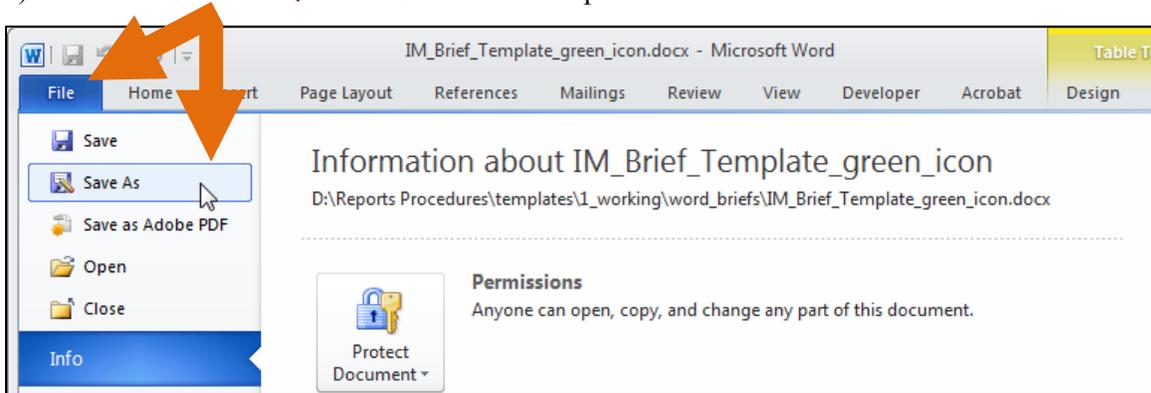
Note: It may take a few minutes to export your file to PDF format. The new file should automatically open in Adobe Acrobat Pro.

Option 2. Export to PDF Format Using the Default MS Word and Adobe Acrobat *Save As* Option

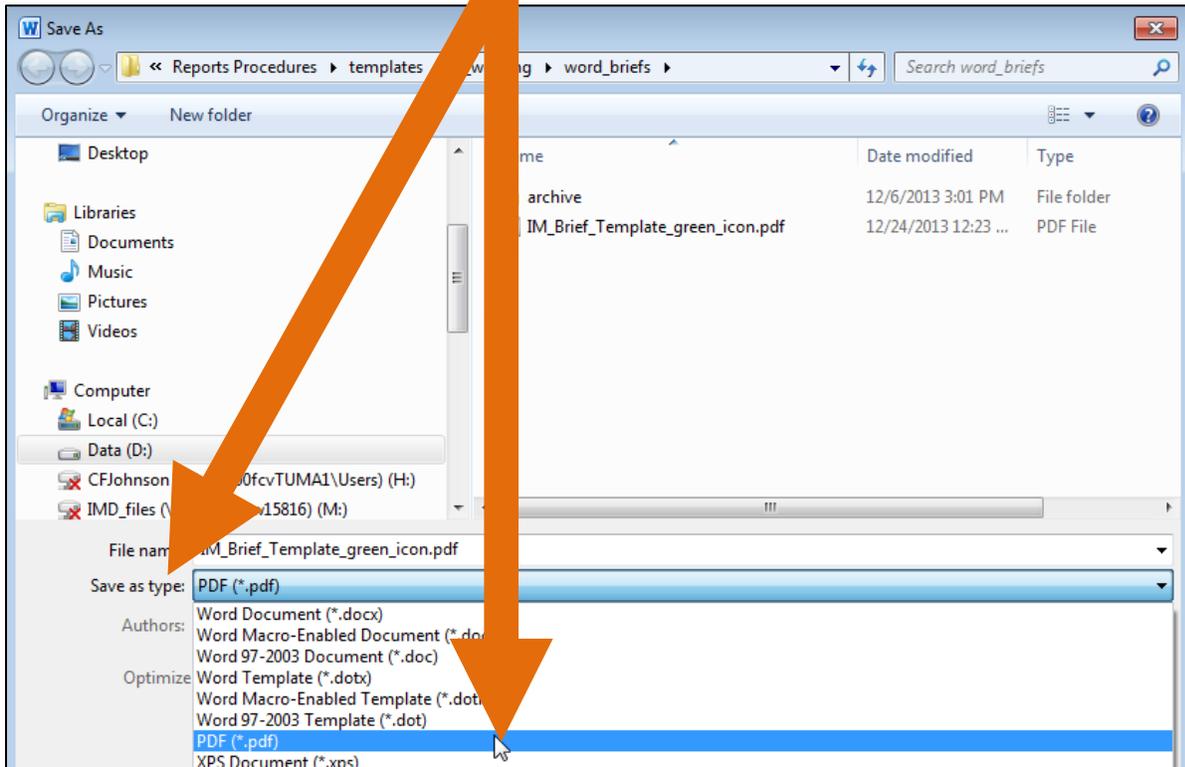
We only suggest this option when you cannot get the Adobe PDFMaker tools to work on your computer.

The basic steps in the procedures outlined below should work on any computer with MS Office 2010-2013 and Adobe Acrobat 10-11 running on computers running 64-bit Windows 7 or Windows 8. The procedures are also similar on Mac/Apple computers running MS Office 2011-2013. Earlier versions of these software programs are not recommended.

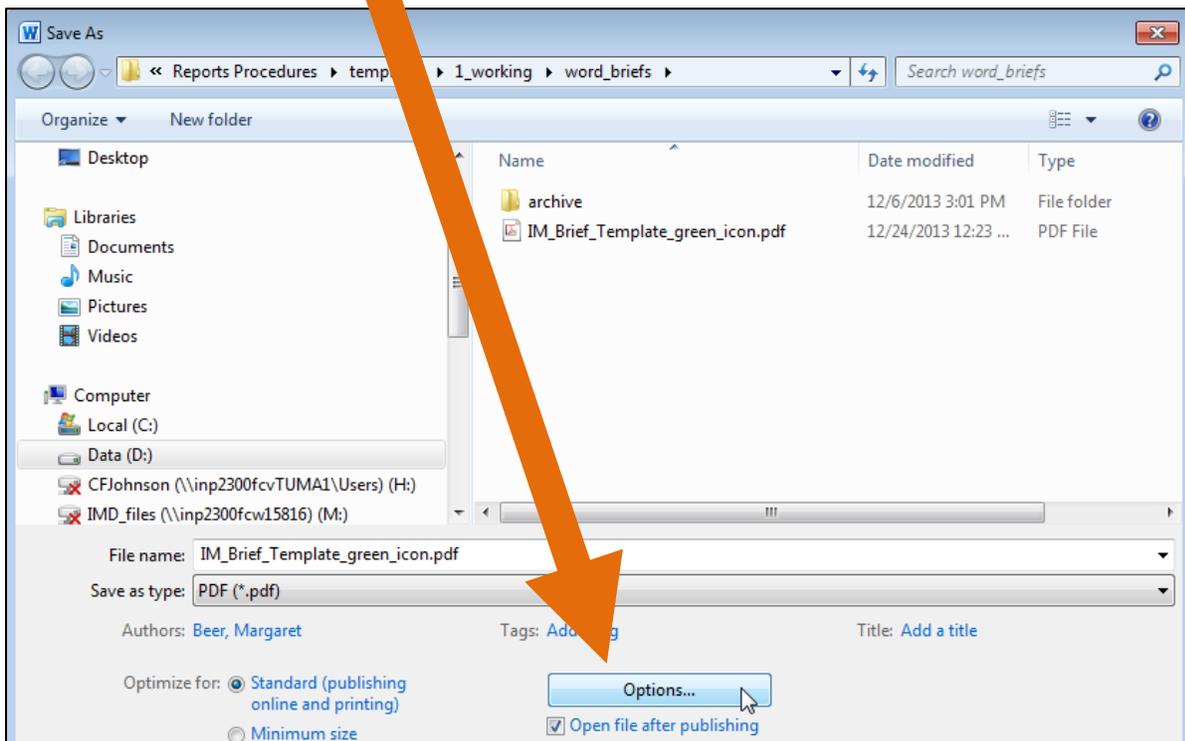
- 1) Choose the **File / Save As** menu option.



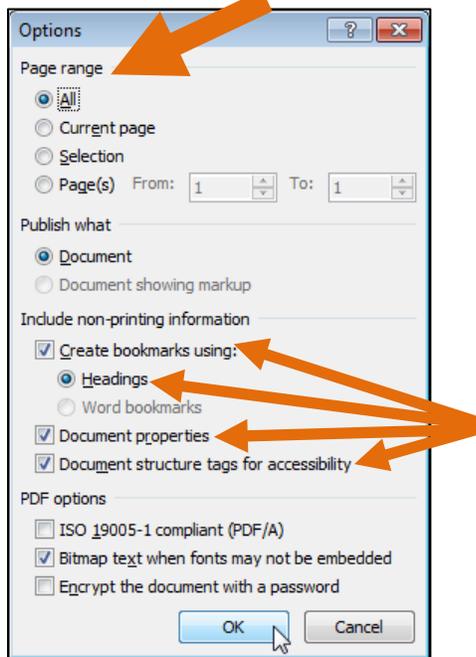
- 2) On the **Save As** screen, from the **Save as Type:** drop-down menu, select the **PDF (*.pdf)** option.



- 3) Click the **Options** button.

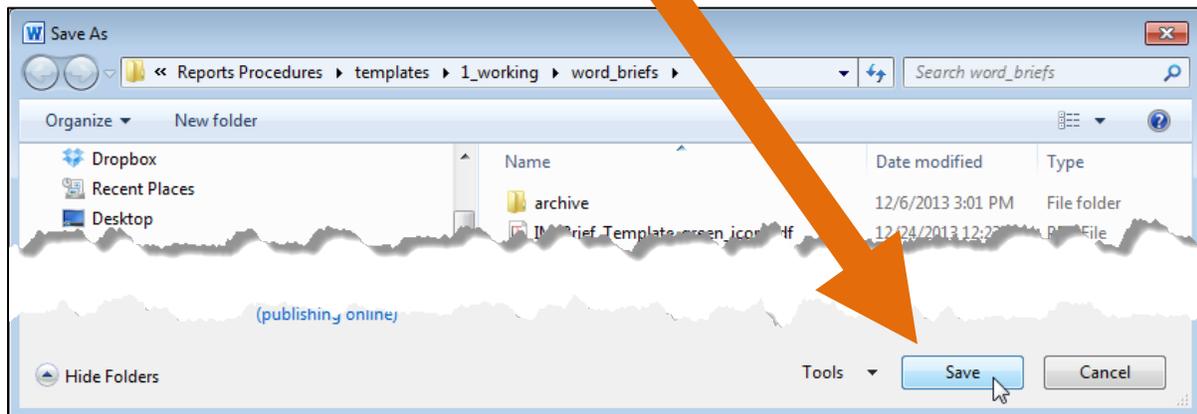


4) Set the desired **Page Range** options (**All**, **Current Page**, etc.).



5) On the next screen, make sure that the following options are checked: **Create bookmarks using:**, **Headings**, **Document propertings**, and **Document structure tags for accessibility**.

6) Back on the **Save As** screen, click the **Save** button.



Note: It may take a few minutes to export your file to PDF format. The new file should automatically open in Adobe Acrobat Pro.

Adobe InDesign Procedures

Working examples and additional guidance for most of the procedures outlined in this chapter are also provided in the latest Adobe InDesign templates provided for:

- NPS Inventory & Monitoring Program briefs and small documents. Available for download at: <http://science.nature.nps.gov/im/reports/index.cfm?tab=0&BriefsTemplates=open#BriefsTemplates>
- NPS-wide Natural Resource Technical Report (NRTR), Natural Resource Report (NRR) and Natural Resource Data Series (NRDS) report series. Available for download at: <http://www.nature.nps.gov/publications/nrpm/nrrnrtr.cfm>

When working with Adobe InDesign CS6 or later (earlier versions are not recommended) making the final PDF file accessible for reports generated in Adobe InDesign is relatively easy. Just make sure to:

- 1) Use Paragraph Styles that are set to export to PDF format using accessibility tags (see subchapter: *Adobe InDesign Procedures / Use Paragraph Styles for All Text Elements*).
- 2) Provide alternate text for all figures, images, and other graphic elements (see subchapter: *Adobe InDesign Procedures / Graphic Elements*).
- 3) Design tables to be accessible in the final PDF (see subchapter: *Formatting Tables in Adobe InDesign*).
- 4) Export the final Adobe InDesign document to PDF format in a way that assures that accessibility tags are exported to PDF correctly (see subchapter: *Adobe InDesign Procedures / Exporting the Final Adobe InDesign Document to PDF Format*).

This document is a work in progress. Please contact [Fagan Johnson](#) if you have any questions or see something that needs to be changed.

Use Paragraph Styles for All Text Elements

All text elements in I&M briefs, reports, and other documents generated using Adobe InDesign should use the proprietary fonts: [Adobe Frutiger LT Std](#) and [NPS Rawlinson OT](#) (click links to download and install these fonts as needed, NPS only).

To install these fonts on most Windows machines, simply unzip the zip files inside the `C:\Windows\Fonts\` folder. If you do not have permission to do this on your computer, contact your local NPS IT staff for assistance.

The only instances when non-proprietary fonts are allowed in I&M briefs, reports, and other documents produced in Adobe InDesign: are for text inside charts and/or figures, complicated mathematical formulas (use appropriate font symbols as required), and for computer output and application instructions (use *Courier New* font).

After installing the proprietary fonts, using the Paragraph Styles built into one of our document templates above, is the simplest way to consistently apply the NPS proprietary fonts throughout an entire document.

More About NPS Rawlinson Font Variations

There are three basic variations of *NPS Rawlinson OT* font. You may use any of these variations as you see fit inside your reports. Descriptions of these variations and some suggestions for use are below.

NPS Rawlinson OT Condensed (in MS Word: NPSRawlinsonOTCn): Was primarily designed to save print space. With regular paragraphs, many people also find this variation the easiest to read on a computer screen. We suggest that you use this font variation for regular paragraph text for most I&M briefs, brochures, and reports.

NPS Rawlinson OT (in MS Word: NPSRawlinsonOT): Was the basis for all other variations of this font. It was designed primarily for print distribution. Many people find it easier to read on printed pages than *NPS Rawlinson Condensed*. We suggest that you use this variation for regular paragraph text inside any report with a significant print distribution (more than 50 printed copies will be distributed).

NPS Rawlinson OT Oldstyle (in MS Word: NPSRawlinsonOTOld): Was designed to be a more ornate and elegant variation. Some people find this variation the easiest to read on printed pages, while others reserve it primarily for report titles, quotes, etc. This variation also works well as regular paragraph text for reports with a significant print distribution.

About the Paragraph Styles Used in Template Headings

Section heading examples provided in our I&M brief and brochure templates use Paragraph Styles *I&M brief H1 - H3*. Headings in Adobe InDesign templates for NRTR, NRR, and NRDS reports use Paragraph Styles *nrps Heading 1-5*. These heading Paragraph Styles are set to export to PDF format with standard HTML markup heading tags *H1 - H3*. This arrangement helps to assure that report headings will be read correctly by software for the visually-impaired (per Section 508).

As long as you use NPS proprietary fonts, and assign that text to a Paragraph Style that is also set to tag the final PDF with *H1-3* tags, as appropriate, you may edit and update the heading font and related text effects as desired.

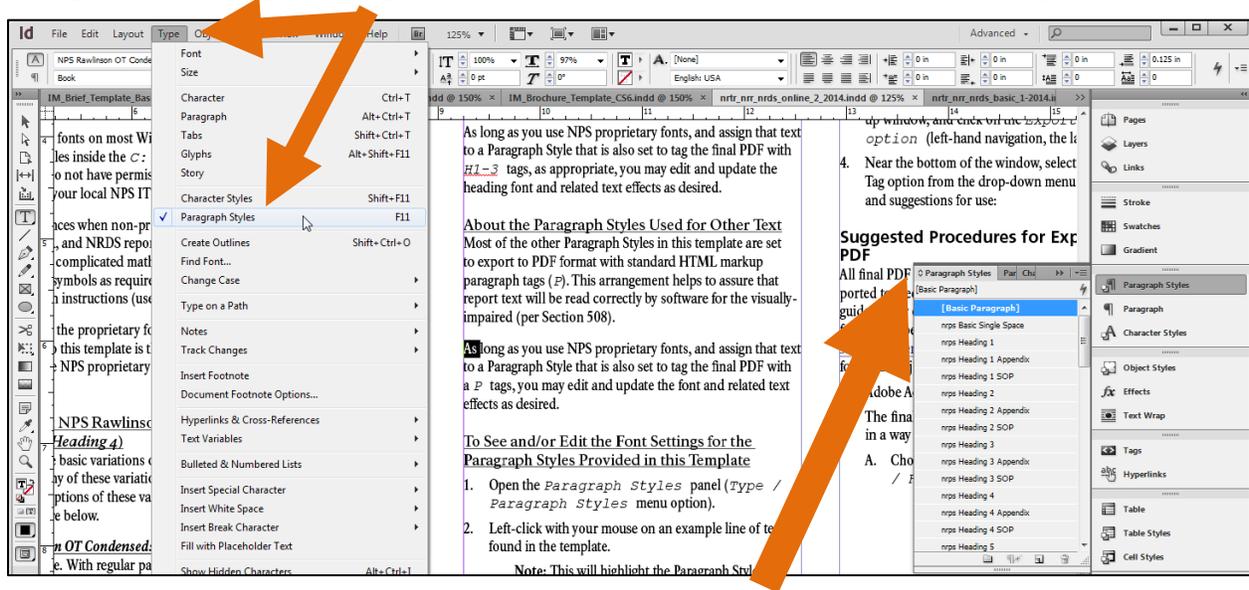
About the Paragraph Styles Used for Other Template Text

Most of the other Paragraph Styles in our document templates are set to export to PDF format with standard HTML markup paragraph tags (*P*). This arrangement helps to assure that report text will be read correctly by software for the visually-impaired (per Section 508).

As long as you use NPS proprietary fonts, and assign that text to a Paragraph Style that is also set to tag the final PDF with a *P* tags, you may edit and update the font and related text effects as desired.

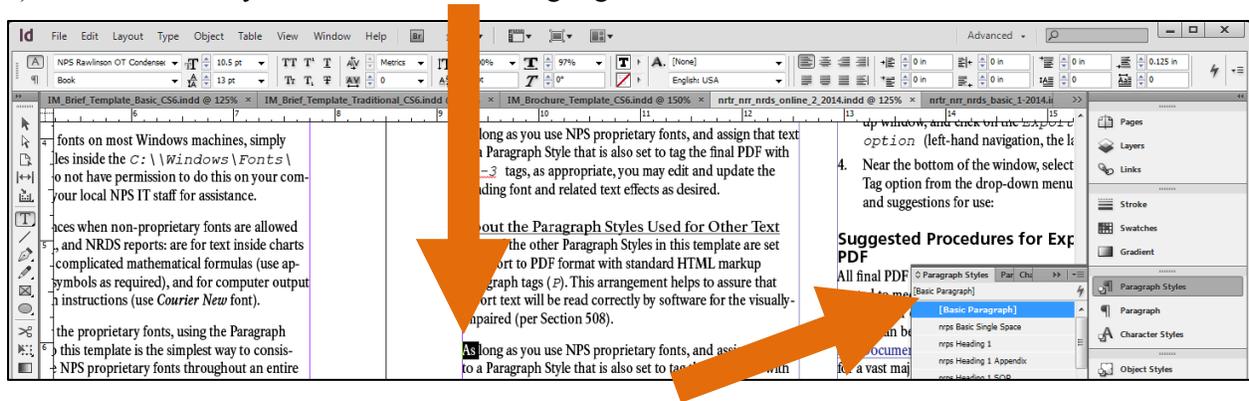
To See and/or Edit the Font Settings for the Paragraph Styles Provided in our Templates

1) Open the Paragraph Styles panel (*Type / Paragraph Styles* menu option).



This will open the *Paragraph Styles* menu. The computer displayed above has the Paragraph Styles menu docked along the right-hand side of the program screen (recommended).

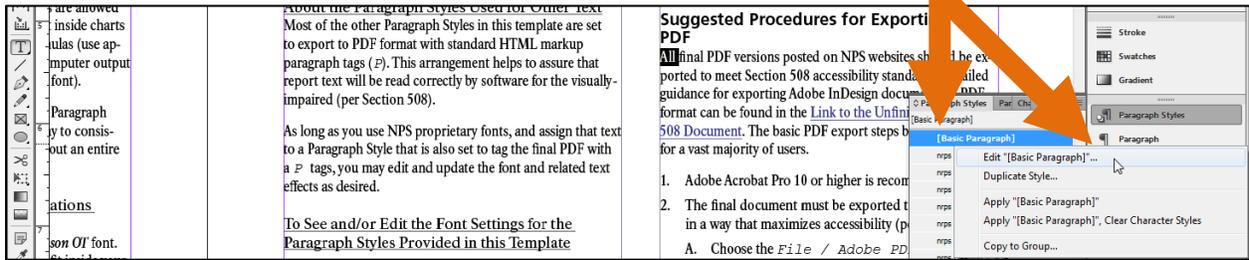
2) Left-click with your mouse and select/highlight the text of interest.



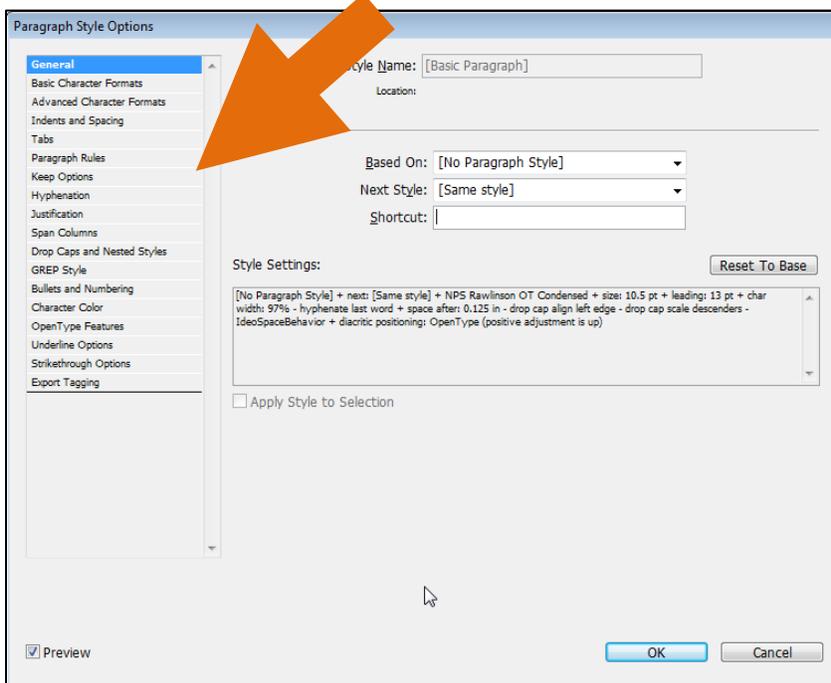
This will highlight the Paragraph Style used for that line of text in the *Paragraph Styles* panel.

Continued on Next Page

- 3) Right-click on the selected Paragraph Style, and choose the *Edit* “. . . .” option (the first option).



- 4) On the *Paragraph Style Options* pop-up window, use the left-hand navigation menu to see and/or edit the attributes for that Paragraph Style.



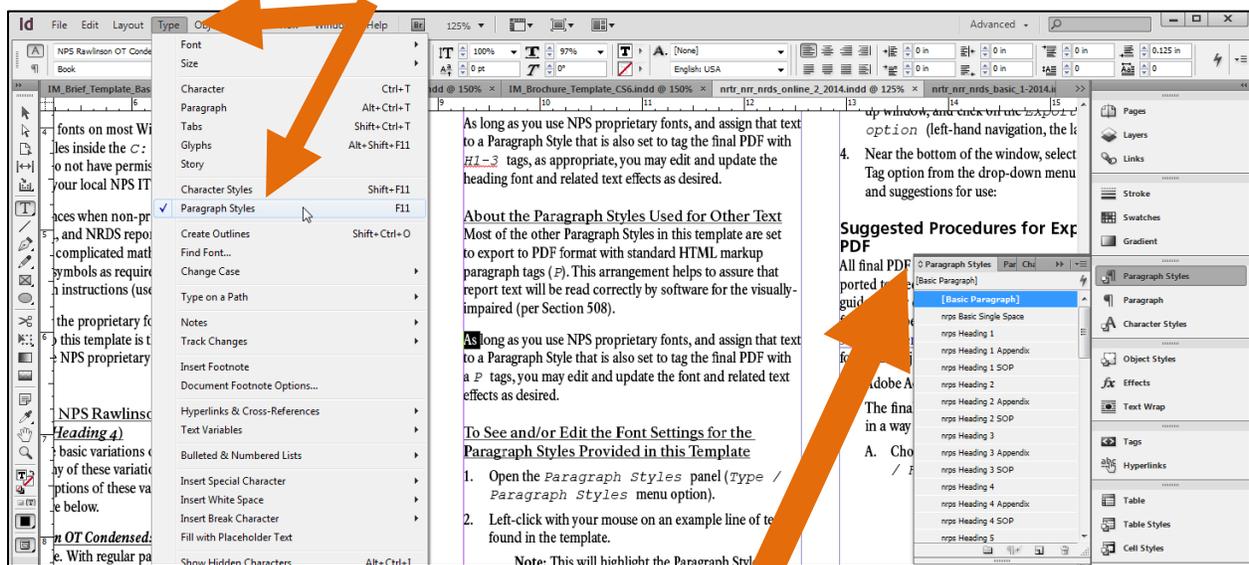
Continued on Next Page

Tagging Other Custom Paragraph Styles for Section 508 Accessibility Compliance

If you decide to use a custom set of Paragraph Styles, make sure that they are set to export to PDF format with the appropriate HTML markup tags (per Section 508).

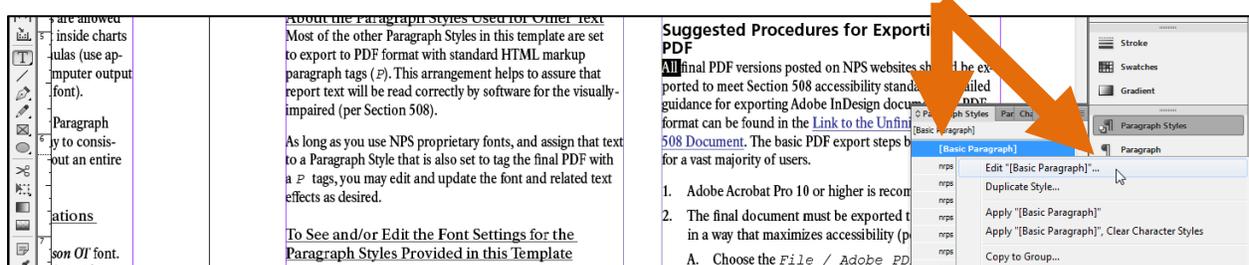
To do this for a single Paragraph Style:

- 1) Open the Paragraph Styles panel (*Type / Paragraph Styles* menu option).

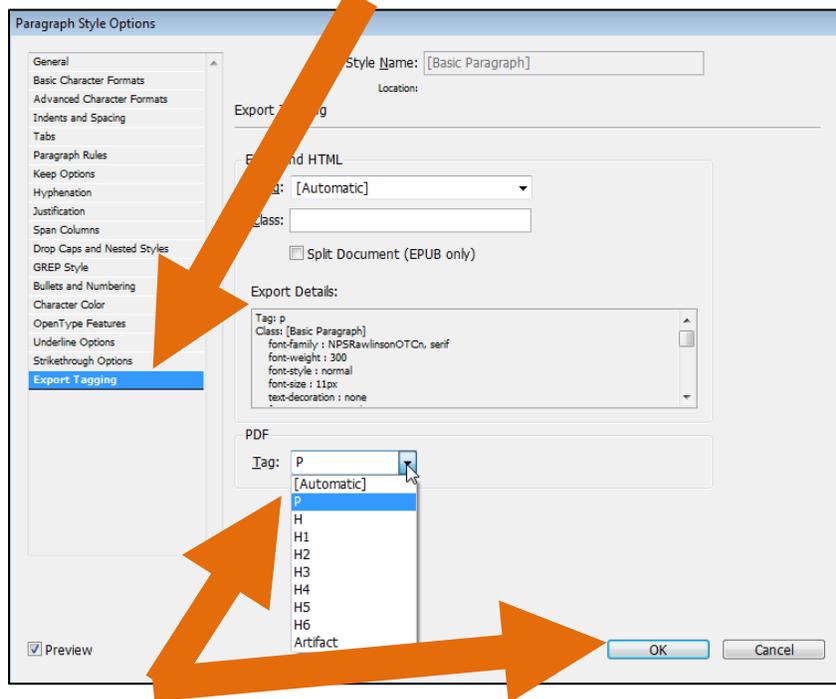


This will open the *Paragraph Styles* menu. The computer displayed above has the Paragraph Styles menu docked along the right-hand side of the program screen (recommended).

- 2) Right-click on the Paragraph Style of interest, and choose the *Edit "..."* option (the first option).



- 3) On the Paragraph Style Options pop-up window, left-click with your mouse to select the Export Tagging option (the last option) in the left-hand navigation menu.



- 4) Near the bottom of the window, select the desired *PDF* / *Tag* option from the drop-down menu, and click the *OK* button. Available options and suggestions for use:

P (paragraph tag): use this tag for all Paragraph Styles that will be used for any and all text that is not a Heading or an Artifact.

H1- H5 (heading tags): use these tags for all first through fifth order headings.

Artifact (background element that is skipped by screen readers): use this tag for all headers and footer text, and is sometimes used for figure captions.

Graphic Elements (Figures, Images etc.)

The figures, images, and photographs found in the templates listed at the beginning of the *Adobe InDesign Procedures* chapter of this document provide working examples for the guidance and procedures below.

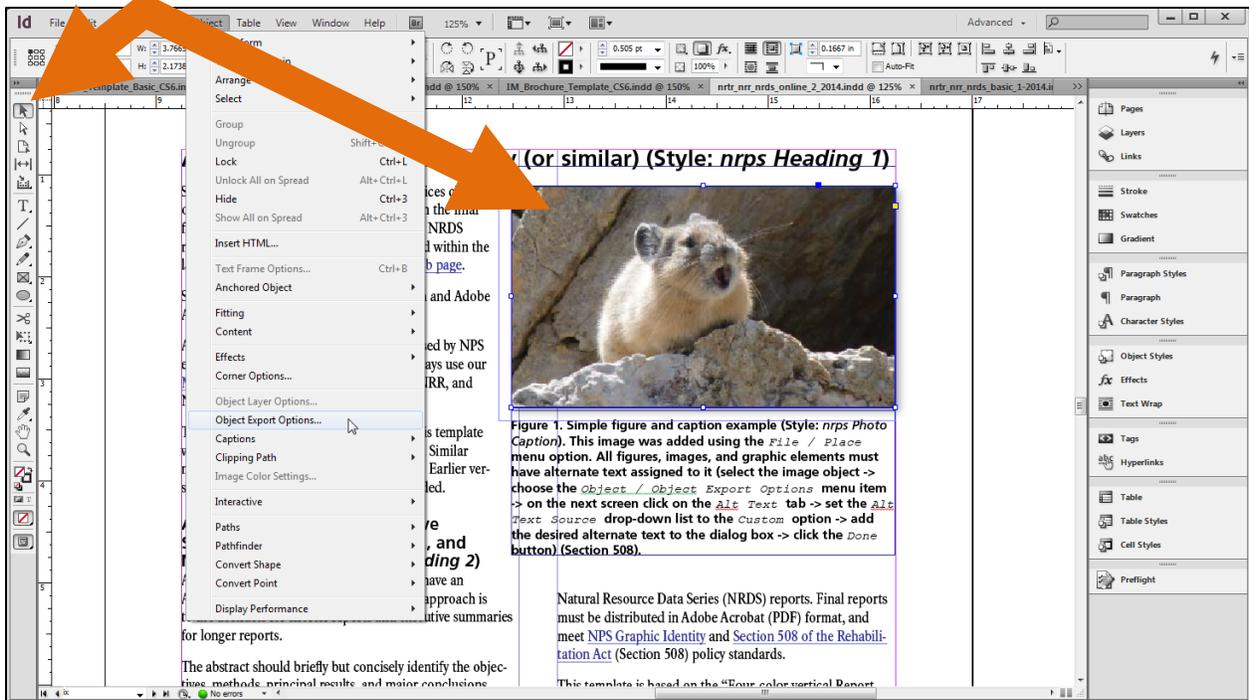
Adding Alternate Text to Graphic Elements (Mandatory for all Maps, Images, Photographs, Graphic Shapes, etc.)

While we are very flexible with the format and layout of graphic elements, they all must have alternate text (per Section 508). Alternate text is read aloud by screen readers to people with visual and certain cognitive disabilities. The alternate text should be descriptive enough to entirely replace the graphic element for users that cannot see the graphic element.

For documents that contain more than a handful of graphic elements, adding alternate text while in Adobe InDesign is the fastest and most efficient way to make sure that all graphics in the final PDF

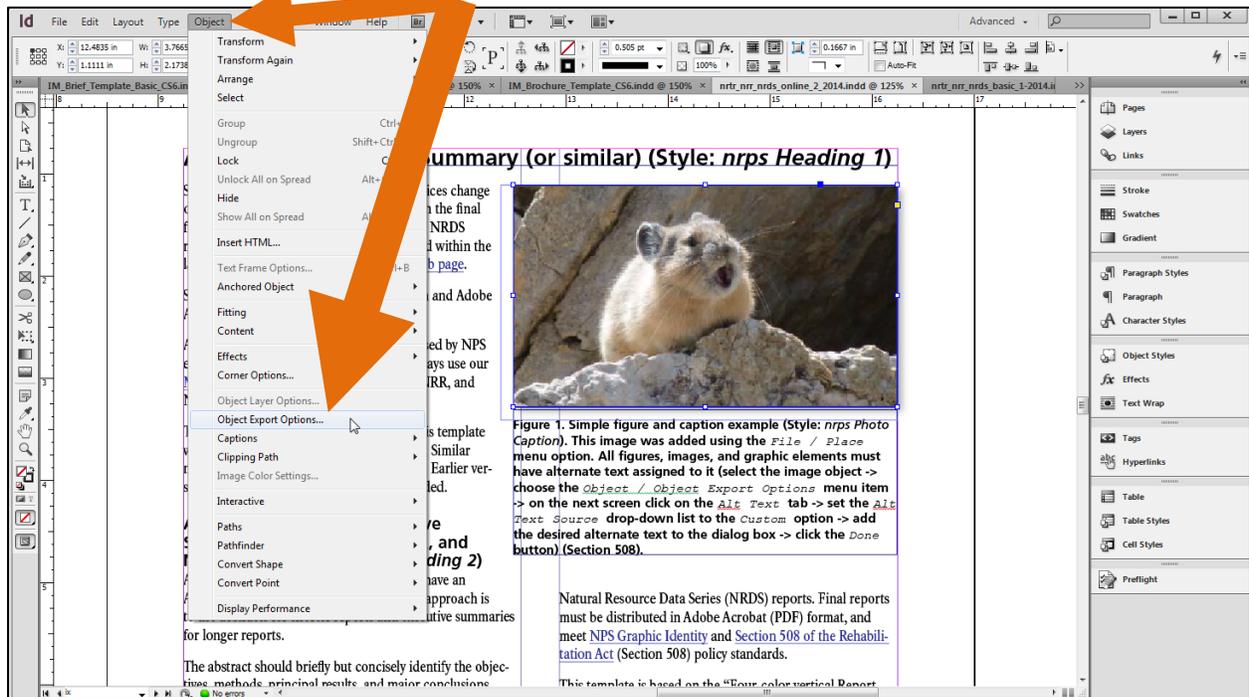
have alternate text. To add alternate text to a graphic element that was previously added to an Adobe InDesign page:

- 1) Left-click with your mouse on the *Selection Tool* option in the left-hand tool bar (usually the top-most option), and click on the *Image Frame* to select/highlight it.

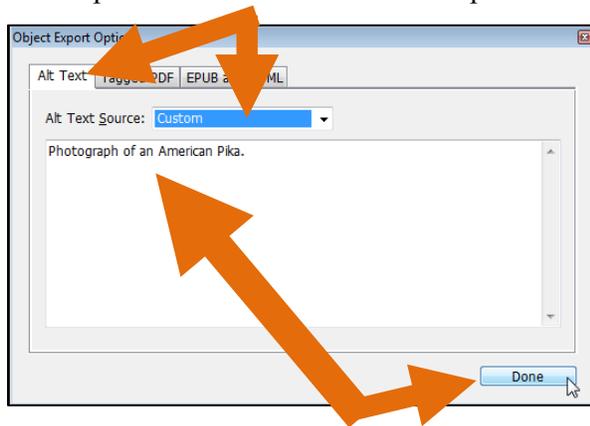


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2) Choose the Object / Object Export Options menu item.



3) On the next screen, left-click on the *Alt Text* tab and set the *Alt Text Source* drop-down list to the *Custom* option.



4) Add the desired alternate text to the dialog box, and click the *Done* button.

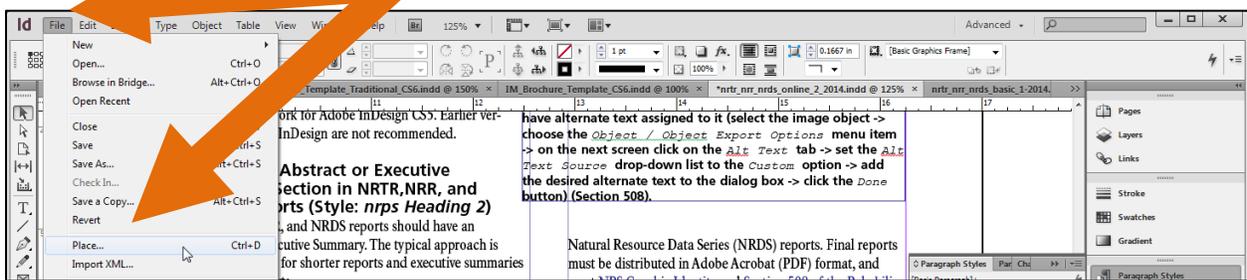
Importing Graphic Elements into Adobe InDesign

Graphic elements can easily be added to an Adobe InDesign document in multiple ways. Regardless of the type of image being imported, the original image should be relatively close to the print file size that will be used in the final page in Adobe InDesign. Image quality can degrade significantly whenever you enlarge the image size more than 10% - 15%, or shrink the image size more than 50%.

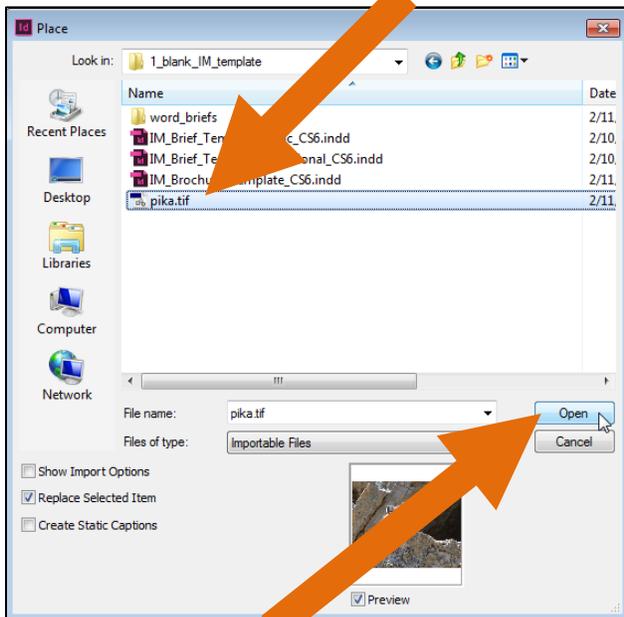
Importing Raster Image Files (.tif, .jpg, .png, .bmp, etc.)

This is the most common method used to import images to Adobe InDesign. Images should be saved to at least 1,200 dots per inch (dpi) or greater (many print shops now suggest 2,400 dpi or greater), and approximately the same print size as will be used in Adobe InDesign.

- 1) In Adobe InDesign, choose the *File / Place* menu option.

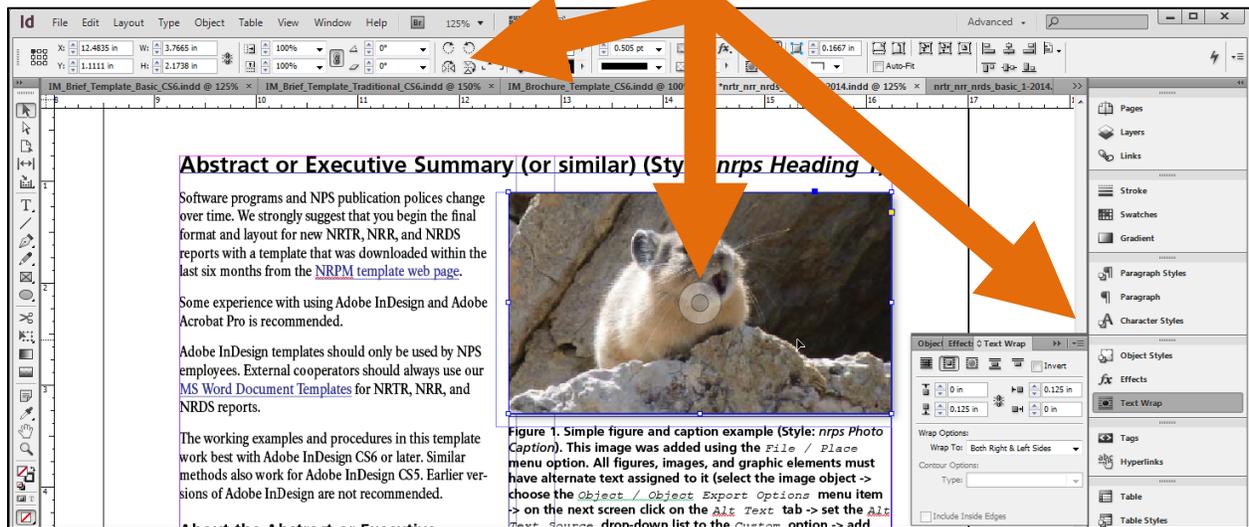


- 2) On the next screen, use the navigation tools to find and the desired file.



- 3) Click the *Open* button (this will place the full-sized image on the page).

- 4) Back on the Adobe InDesign page, edit and update the image position, size, and other settings as desired.



- 5) Make sure that there is alternate text for the new image (see the *Adding Alternate Text to Graphic Elements* section of this document).

Importing Vector Image Files (.ai, .eps, and .svg)

Vector images are often used for maps, logos, and to display mathematical and statistical charts. In vector images, text elements remain as standard font-based text and most line-type shapes are often exported as digital line elements (not converted to individual pixels). The text is almost always easier to read, and the line elements are more clearly defined than typically found with raster images. The three most commonly used vector image file formats are described below.

Adobe Illustrator Format (.ai): Is fully supported by Adobe InDesign CS6, often providing the cleanest import results for vector graphics.

Encapsulated Post Script Format (.eps): Has traditionally been the primary choice for vector image files. While this file format is slowly being phased-out by Adobe, it is still favored by many software programs. There are often problems with importing .eps files into Adobe InDesign. Fortunately, you can quickly and easily convert .eps files to .ai format using Adobe Illustrator.

Scalable Vector Graphic Format (.svg): Is an open source file format that is often favored by users of prominent statistical and related graphic programs (SAS, SigmaPlot, R, etc.). There are often problems with importing .svg files into Adobe InDesign. Fortunately, you can quickly and easily convert most .svg files to .ai format using Adobe Illustrator.

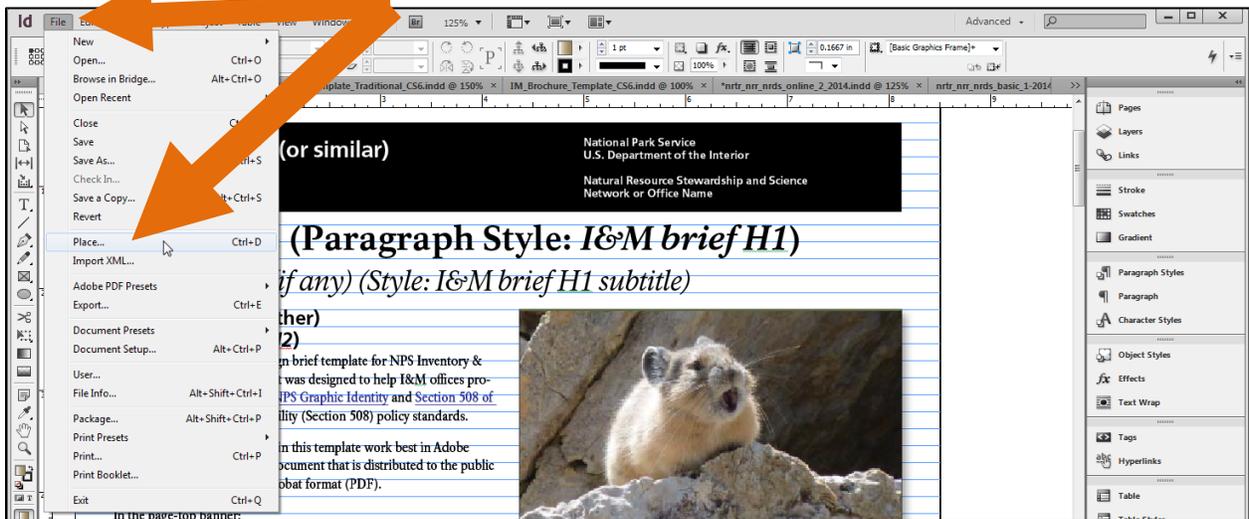
Suggested methods to import vector images into Adobe InDesign:

- 1) Make sure the vector image file that you want to import is in .ai file format.
 - a) If the file is in .eps or .svg formats, open the file in Adobe Illustrator CS5 or later.

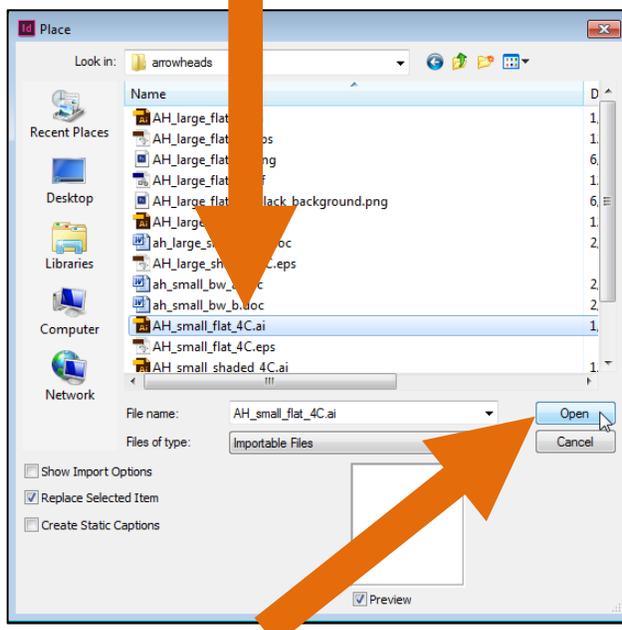
- b) Use the *File / Save* menu option to save a separate copy of the image to *.ai* format.

Note: If the new *.ai* file does not export with good enough quality to meet your needs, you may need to export the file to a raster format (*.tif*, *.jpg*, *.png*, *.bmp*, etc.) using the *File / Export* menu option (suggest *.tif* format at 1,200 dpi or greater).

- 2) When you have an image in *.ai* format, open Adobe InDesign and choose the *File / Place* menu option.

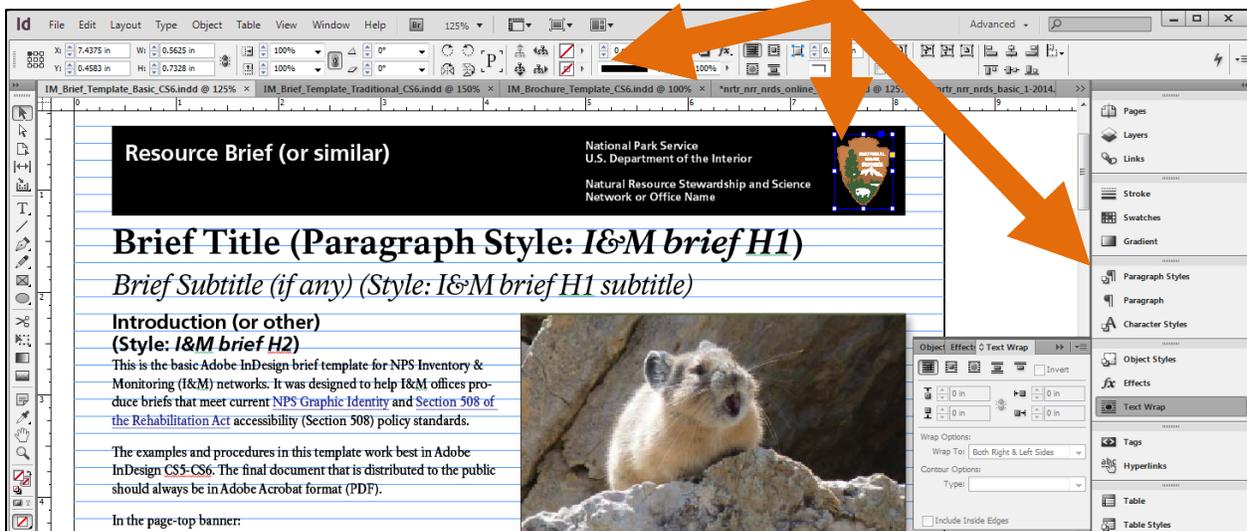


- 3) On the next screen, use the navigation tools to find and the desired file.



- 4) Click the *Open* button (this will place the full-sized image on the page).

5) Edit and update the image position, size, and other settings as desired.

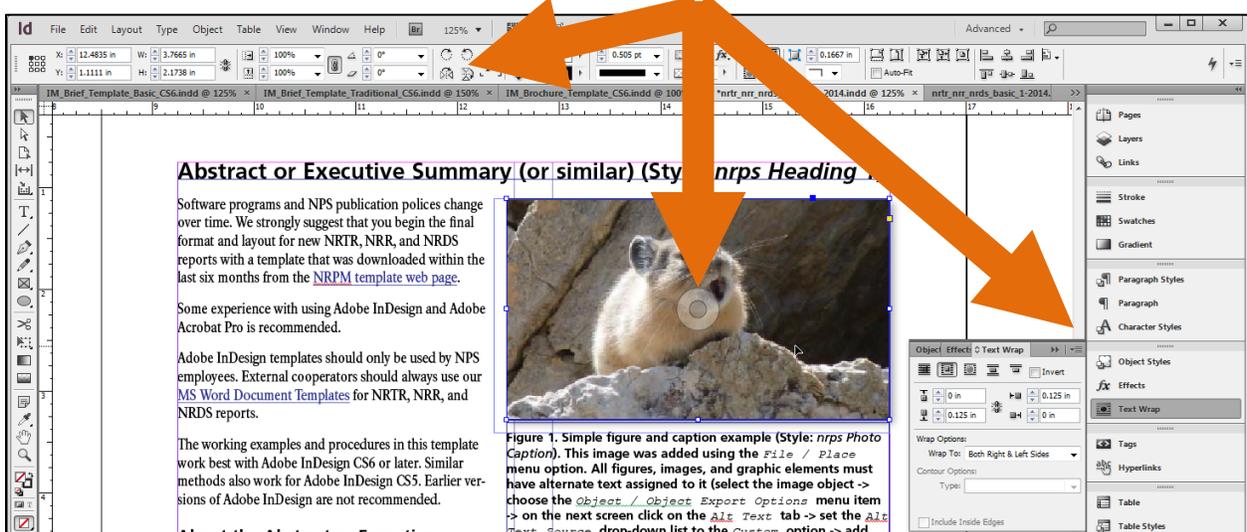


6) Make sure that there is alternate text for the new image (see the *Adding Alternate Text to Graphic Elements* section of this document).

Using the Copy-paste Method from Files Opened in Another Adobe CS6 (or later) Program

This is usually a good way to import images to Adobe CS6. Programs supported include: Adobe Illustrator, Adobe InDesign, and Adobe Photoshop. To import an image:

- 1) Open the file containing the image that you want it import in the desired Adobe CS6 (or later) program.
- 2) Select the image object(s) that you desire to import, and choose the *File / Copy* menu option.
- 3) In the target Adobe InDesign file window, use the *File / Paste* menu option to add the image to the desired page.
- 4) Edit and update the image position, size, and other settings as desired.

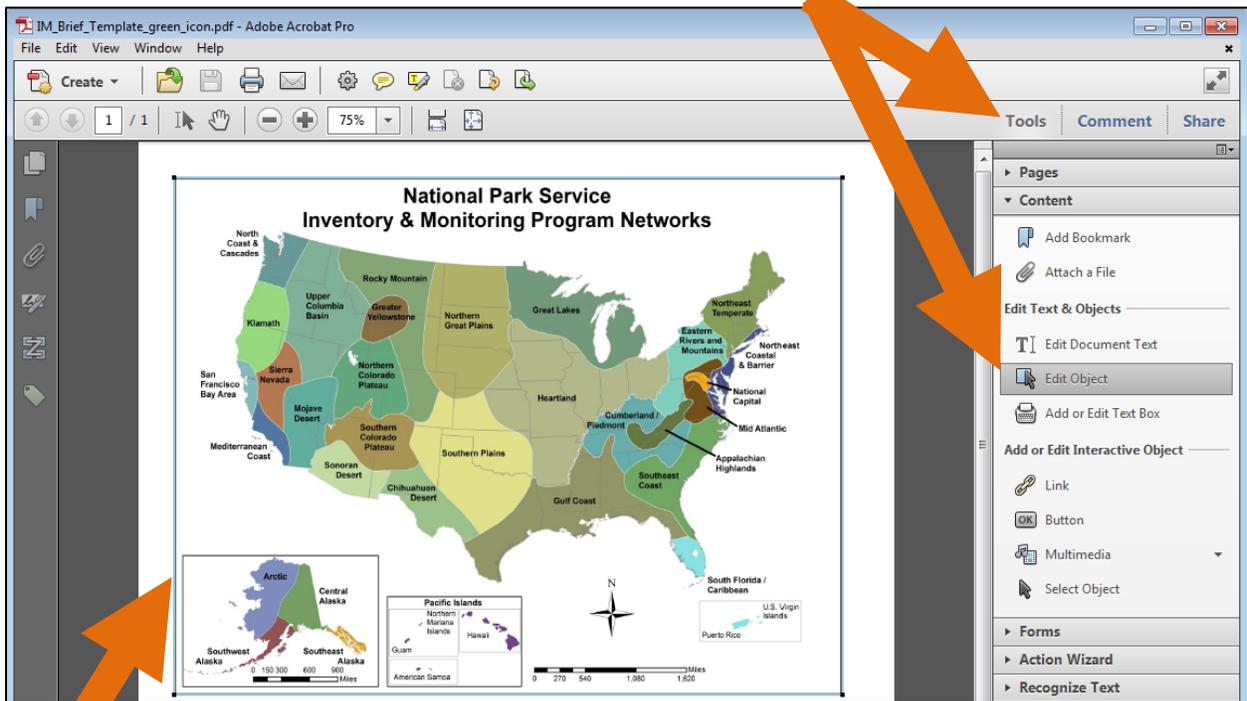


- 5) Make sure that there is alternate text for the new image (see the *Adding Alternate Text to Graphic Elements* section of this document).

Importing Images from PDF Documents

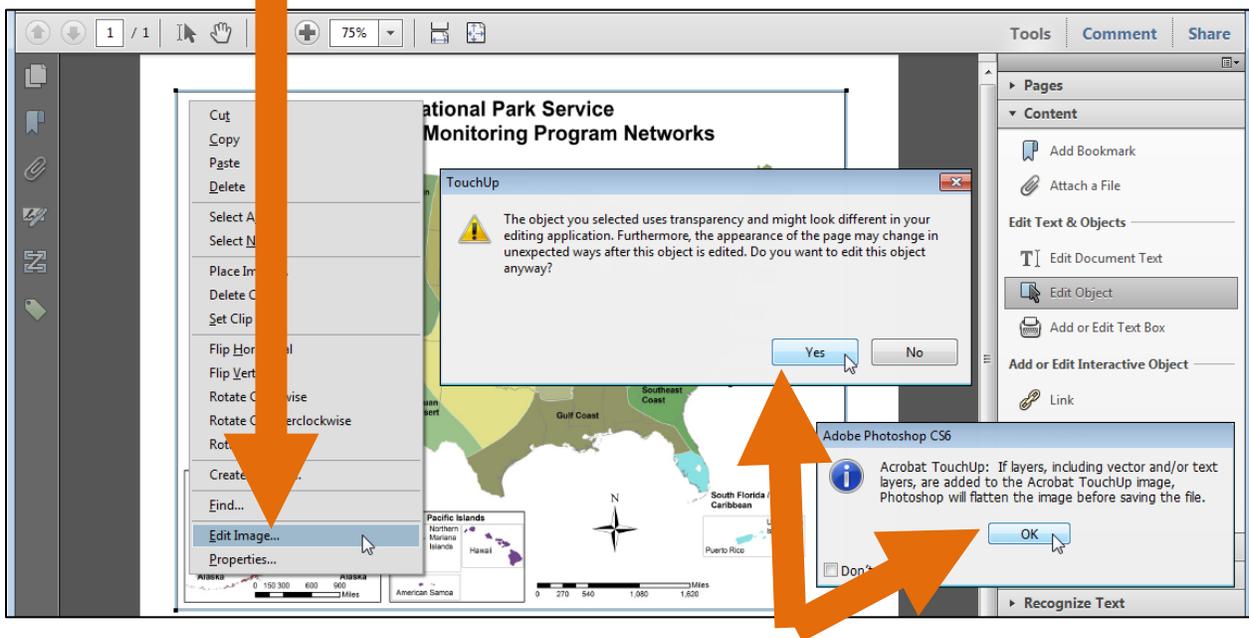
Importing images directly from PDF documents into Adobe InDesign almost always significantly degrades image quality, and is not recommended. To import images from PDF documents without significantly degrading the image quality, we suggest that:

- 1) With the document open the file in Adobe Acrobat Pro 10 or higher, select the *Tools / Content / Edit Object* menu option (located along the right-hand border of the program window).



- 2) Left-click with your mouse, and draw a polygon around the image object(s) that you want to import. Selected objects will be highlighted.

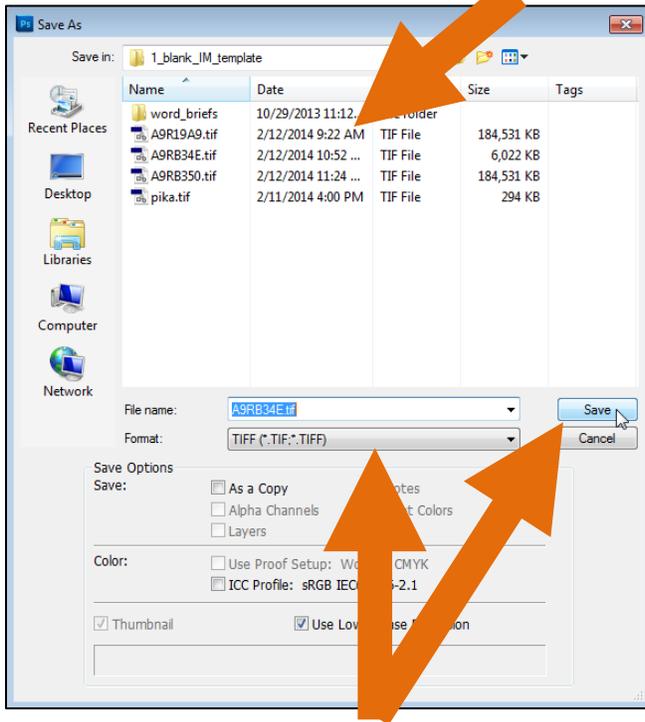
- 3) Right-click with your mouse on any of the selected objects, and on the next pop-up screen, choose the *Edit Object* option.



- 4) On the next couple of pop-up screens, click the *Yes* and *OK* buttons. This will automatically open the page in either Adobe Photoshop (if you selected a single raster image) or Adobe Illustrator (if you selected multiple page objects) (it may take a minute to finish loading).
- 5) Save the image to *.tif* format.
 - a) If the image opens in Adobe Photoshop (happens when you selected a single raster image):
 - i) Choose the *File / Save as...* menu option.



- ii) On the next screen, navigate to the desired file location (always defaults to a *Temp* folder on many computers).



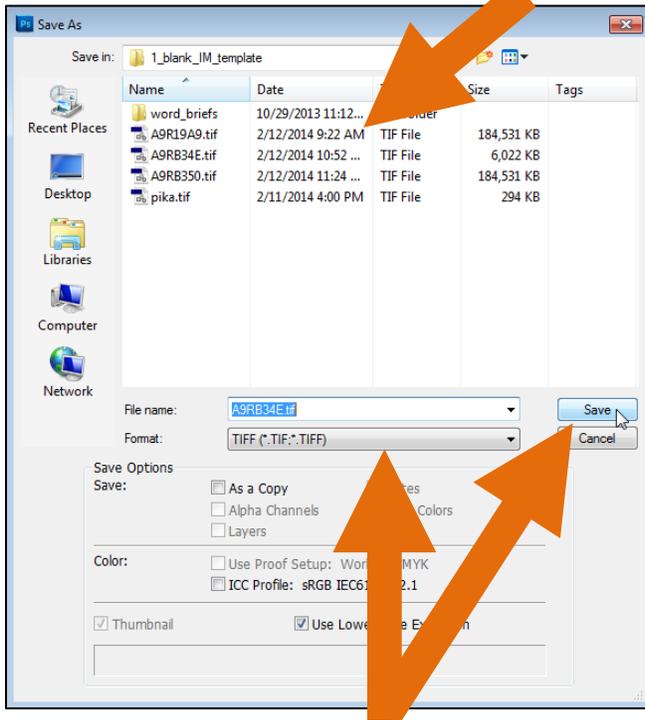
- iii) In the *Format* drop-down menu, select the *TIFF* (**.TIF*, **.TIFF*) option, and left-click on the *Save* button. This will save the image as a stand-alone *.tif* file.

- b) If the file opens in Adobe Illustrator (happens when you selected multiple page objects):

- i) Select all page elements that you want to import into Adobe InDesign, and choose the *File Export* menu option.



- ii) On the next screen, navigate to the desired file location (always defaults to a *Temp* folder on many computers).



- iii) In the *Format* drop-down menu, select the *TIFF* (*.TIF, *.TIFF) option, and left-click on the *Save* button. This will save the image as a stand-alone .tif file.
- 6) In Adobe InDesign, import the .tif file like normal (see the *Importing Raster Image Files* section of this document).
- 7) Make sure that there is alternate text for the new image (see the *Adding Alternate Text to Graphic Elements* section of this document).

Using the Copy-paste Method from Files Opened in Other External Programs (MS Office, SigmaPlot, SAS, screenshots, etc.)

This should be used as an option of last resort, because it almost always significantly degrades image quality in printed copies of the document. Text and lines inside images are the most vulnerable to degradation.

Importing Map Images Exported from ArcMap

ArcMap versions 10 and later provide much more robust image export tools than were available with previous versions of the software. The most significant changes for users importing map images to InDesign are: much higher file export resolutions (measured in dpi), and more reliable tools for exporting maps to .ai format.

Most maps can be successfully imported to Adobe Acrobat from *.tif*, *.jpg*, or *.png* files that were exported directly from ArcMap using a 1,200 dpi or greater image resolution.

For maps with more complicated layouts, or numerous vector elements (text labels, lines, polygons, etc.), many users have had good luck with exporting the maps directly from ArcMap 10 and later to *.ai* format (also with 1,200 dpi or higher resolution).

We suggest that you only import map images from PDF files as a last resort. While this was the industry standard for many years, the raster and vector options described above almost always produce better results.

Choosing Colors to Convey Information

One of the clearest Section 508 statements concerning using colors can be found on the Web Accessibility in Mind Section 508 checklist webpage (<http://webaim.org/standards/508/checklist>):

- *The use of color can enhance comprehension, but do not use color alone to convey information.*
- *Be especially cautious of red/green color combinations. Make sure that color contrast is strong, especially between text and background.*

Here are some online tools that can help you to check images and colors for potential color blindness issues.

Webaim Saturation Checker (<http://webaim.org/resources/contrastchecker/>): A more traditional, and very reliable, tool that allows you to check colors after they are converted to grayscale values.

Vischeck (<http://www.vischeck.com/>): An online tool that allows you to simulate colorblind vision for individual image files.

ETRE Color Blind Simulator (<http://www.etre.com/tools/colourblindsimulator/>): An online tool that allows you to simulate colorblind vision for individual image files.

Coblis — Color Blindness Simulator (<http://www.color-blindness.com/coblis-color-blindness-simulator/>): An online tool that allows you to simulate colorblind vision for individual image files.

Formatting Tables in Adobe InDesign for Accessibility Compliance

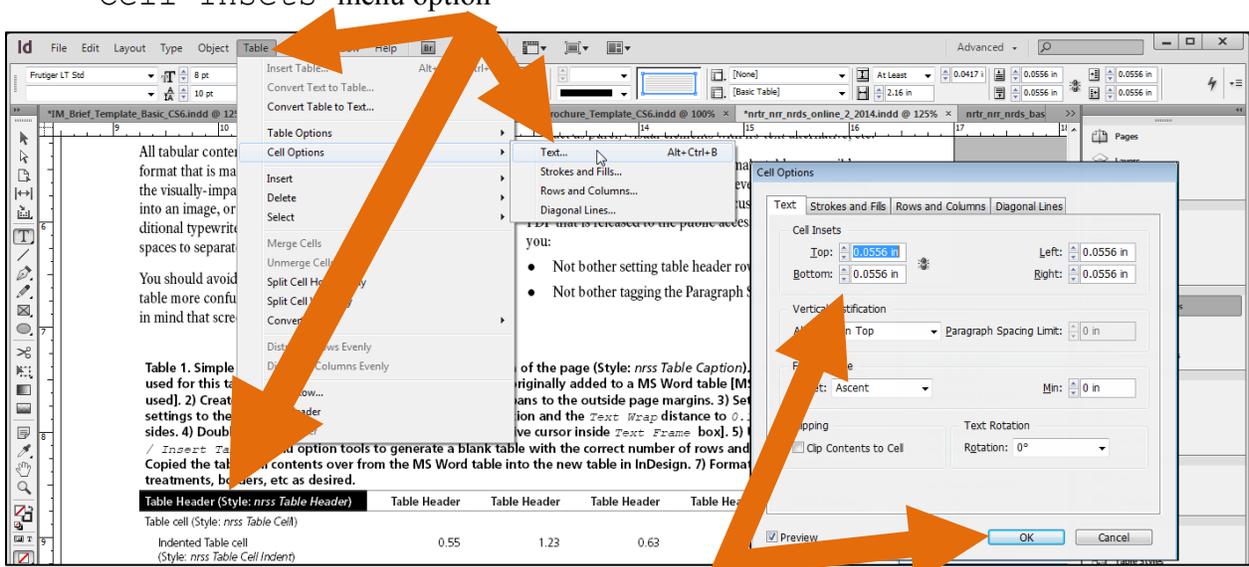
The tables found in the templates listed at the beginning of the *Adobe InDesign Procedures* chapter of this document provide working examples for the guidance and procedures below.

While we are very flexible with the format and layout of tables, they should always be accessible (per Section 508). Fortunately, the tools to export accessible tables from Adobe InDesign to PDF format are rather robust, and you only need to follow a small number of basic rules.

- a) Do not use graphic images or pictures of a table.
 - b) Do not use traditional typewriter formatting techniques (using tabs and spaces to separate columns).
- 2) Organize your table layouts to be read aloud by screen readers. Keep in mind that screen readers for the visually-impaired read the table aloud to the end user in a rather simplistic fashion:
- a) Starting with the top-most row, the contents of each individual table cell is read aloud from left-to-right.
 - b) This process is repeated on each row until all cells in the table have been read aloud.

Some Basic Table Layout Suggestions

- 1) Do not combine or split table cells, or add blank columns or rows for purely graphic layout reasons. Instead:
 - a) Select / highlight a table cell, and choose the Table / Cell Options / Text / Cell Insets menu option



- b) On the next screen, set the *Cell Insets* values on each side as desired, and click the *OK* button.
- 2) Avoid adding graphic elements to hide words or cells, act as purely visual elements with no text alternative, etc.

Most other things recommended to specifically make an Adobe InDesign file accessible do not export very well PDF format. Since our primary focus is to make the final PDF that is released to the public accessible, we suggest that you:

- Not bother setting table header rows.
- Not bother tagging any Paragraph Styles used for tables.

Adobe Acrobat Pro Procedures

The procedures below were generated using Adobe Acrobat Pro 10 on a 64-bit Windows 7 computer. The procedures are very similar for Adobe Acrobat Pro 11 on 64-bit Windows 7 and Windows 8, and on Mac/Apple computers. Earlier versions of these software programs are not recommended.

The basic process:

- 1) Make sure that the PDF document language is set to: *English* (see subchapter: *Adobe Acrobat Pro Procedures / Step 1. Make Sure that the PDF Document Language Is Set to: English*).
- 2) Check, update, and order the accessibility tags on each individual page (see subchapter: *Adobe Acrobat Pro Procedures / Step 2. Check, Update, and Order the Accessibility Tags on Each Individual Page*).
- 3) Run full accessibility checks, and fix remaining accessibility issues (see subchapter: *Adobe Acrobat Pro Procedures / Step 3. Run Full Accessibility Checks and Fix Remaining Accessibility Issues*).

Note: The PDF document is ready when the only potential error message returned by the **Tools / Accessibility / Full check** diagnostic tool is: *Tab order may be inconsistent with the structure order.*

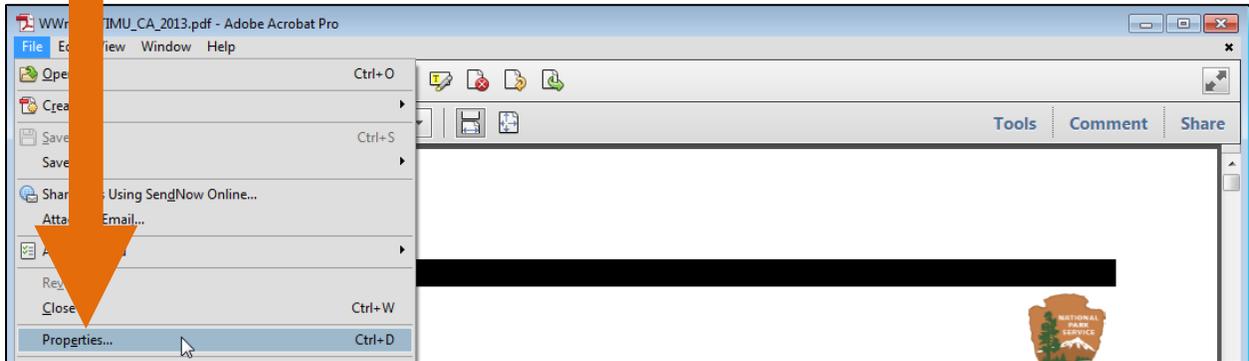
The MS Word and Adobe InDesign format and layout techniques found in earlier chapters of this document will automatically add HTML tags to the final document for you, and make checking and updating the tags in the final PDF much faster and easier. The document templates listed near the beginning of this document provide additional guidance and working examples of those techniques.

Of special concern are tables. Translating the information found in tables to a form that can be read aloud by screen readers for the visually-impaired is tricky. Some tables that do not follow the basic guidelines shown in this document must be completely rebuilt in MS Word or Adobe InDesign to meet Section 508 accessibility standards.

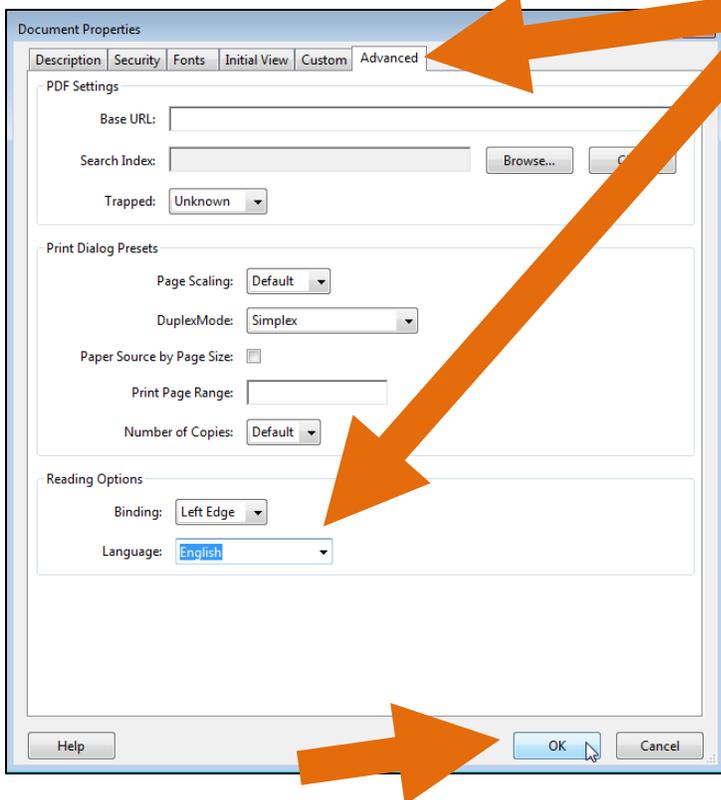
This document is a work in progress. Please contact [Fagan Johnson](#) if you have any questions or see something that needs to be changed.

Step 1. Make Sure that the PDF Document Language Is Set to: *English*

- A) Save two copies of the PDF file. One will be for editing and the other as a backup copy in case you need to replace individual pages in the version that you are editing, or start over.
- B) Open the PDF file in Acrobat Pro, and choose the ***File / Properties*** menu option.

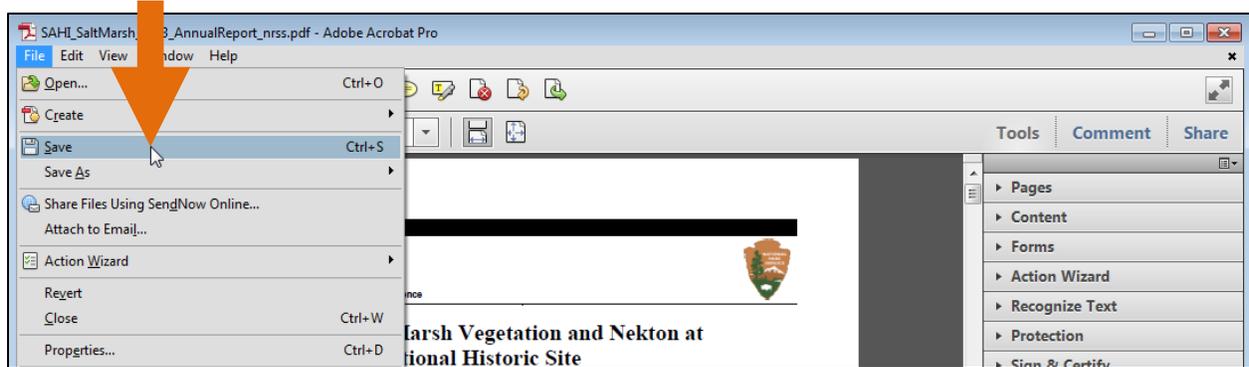


- C) On the next screen, click on the ***Advanced*** tab, and make sure that the ***Language*** option is set to ***English***.



- D) Click the ***OK*** button.

E) Before you go any further, save the file (**File / Save** menu option)

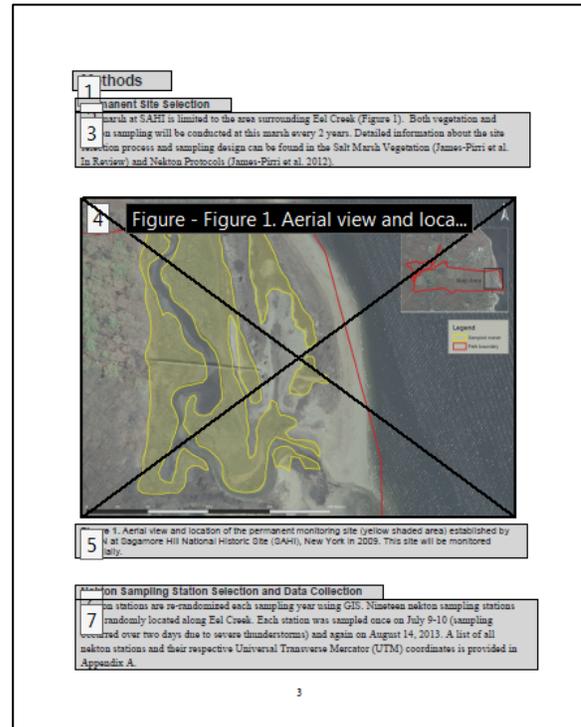


Step 2. Check, Update, and Order the Accessibility Tags on Each Individual Page

For pages that already have tags when viewed in the *TouchUp Reading Order* tools (author used the basic techniques outlined here and in our document templates:

A) Make sure that all page elements are tagged appropriately. All:

- a) Regular text is tagged as **Text**. See the *Text Tag Options* section of this document for more details.
- b) Images, photos, figures, etc. need to be tagged as **Figure** elements, and have alternate text. See the *Figure Tag Options* section of this document for more details.
- c) Chapter headings need to be tagged as appropriate (**Heading 1**, **Heading 2**, and **Heading 3**). See the *Heading Tag Options* section of this document for more details.
- d) Tables need to be tagged to be read by screen readers for the visually-impaired (**Table**, **TH**, **TD**). See the *Table Tag Options* section of this document for more details.
- e) Page elements that have no interpretive value for the visually-impaired need to be tagged as **Background** elements. See the *Background Tag Options* section of this document for more details.



B) Change the *Order* number of tagged elements to the desired reading order on the page (1 is read first, 2 is read second, etc.). See the *Changing the Page Order of Tagged Elements* section of this document for more details.

Note: Save often (every few pages)!

If the author used the basic guidelines outlined in our templates, then you will just be giving most pages a quick check to be sure, and spending most of your time on the pages with figures and tables. After the first handful of documents, most people can process such a 60-70 page document in one to two hours (depending on the number of figures, tables, etc.).

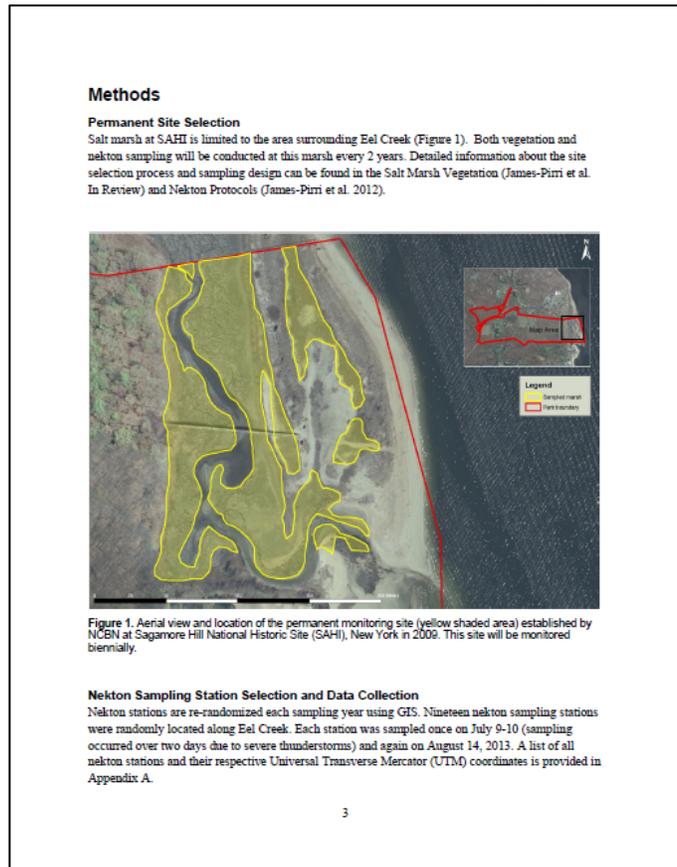
For pages that do not have tags when viewed in the *TouchUp Reading Order* tools (author did not use the basic techniques outlined here and in our document templates):

- A) Left-click with your mouse, and draw a polygon around all elements on the page to select/highlight them, and click the **Background** button.

Note: This step helps to ensure that any invisible page elements that were not manually tagged by you will be ignored by screen readers for the visually-impaired.

- B) Tag each page element on the page, making sure that all page elements are tagged appropriately. All:

- a) Regular text is tagged as **Text**. See the *Text Tag Options* section of this document for more details.
- b) Images, photos, figures, etc. need to be tagged as **Figure** elements, and have alternate text. See the *Figure Tag Options* section of this document for more details.



- c) Chapter headings need to be tagged as appropriate (**Heading 1**, **Heading 2**, and **Heading 3**). See the *Heading Tag Options* section of this document for more details.
- d) Tables need to be tagged to be read by screen readers for the visually-impaired (**Table**, **TH**, **TD**). See the *Table Tag Options* section of this document for more details.
- e) Page elements that have no interpretive value for the visually-impaired need to be tagged as **Background** elements. See the *Background Tag Options* section of this document for more details.

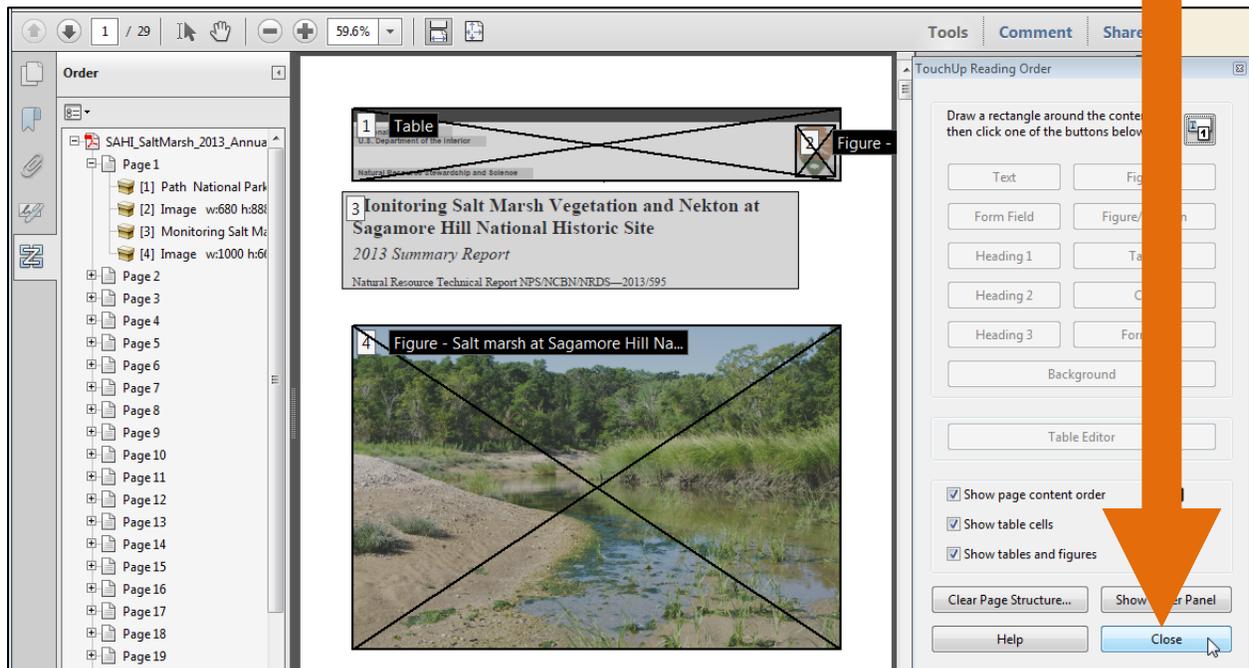
- C) Change the *Order* number of tagged elements to the desired reading order on the page (1 is read first, 2 is read second, etc.). See the *Changing the Page Order of Tagged Elements* section of this document for more details.

Note: Save often (every few pages)!

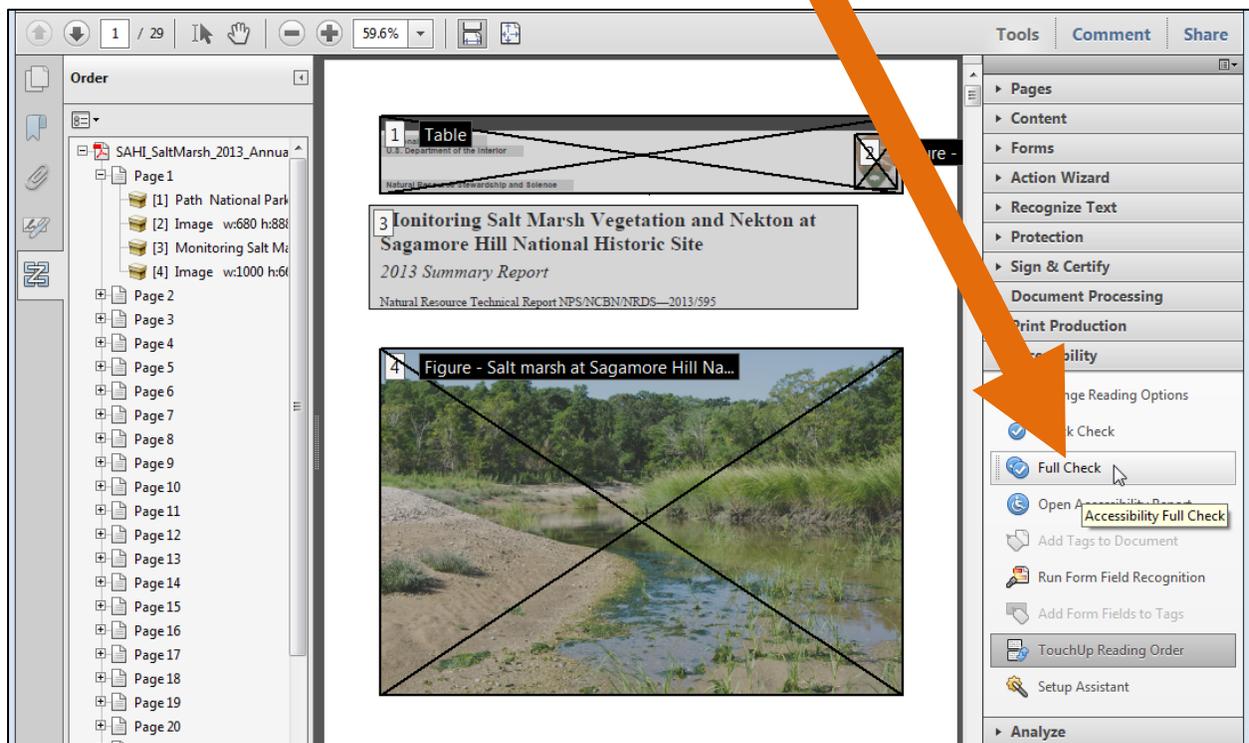
If the author did not use the basic guidelines outlined in our templates, especially for figures and tables, you will have to tag each text line, heading, figure (and adding alternate text), table, etc. on each and every page. After the first handful of documents, most people can process such a 60-70 page document in 2.5 – 4.0 hours (depending on the number of figures, tables, etc.).

Step 3. Run Full Accessibility Checks and Fix Remaining Accessibility Issues

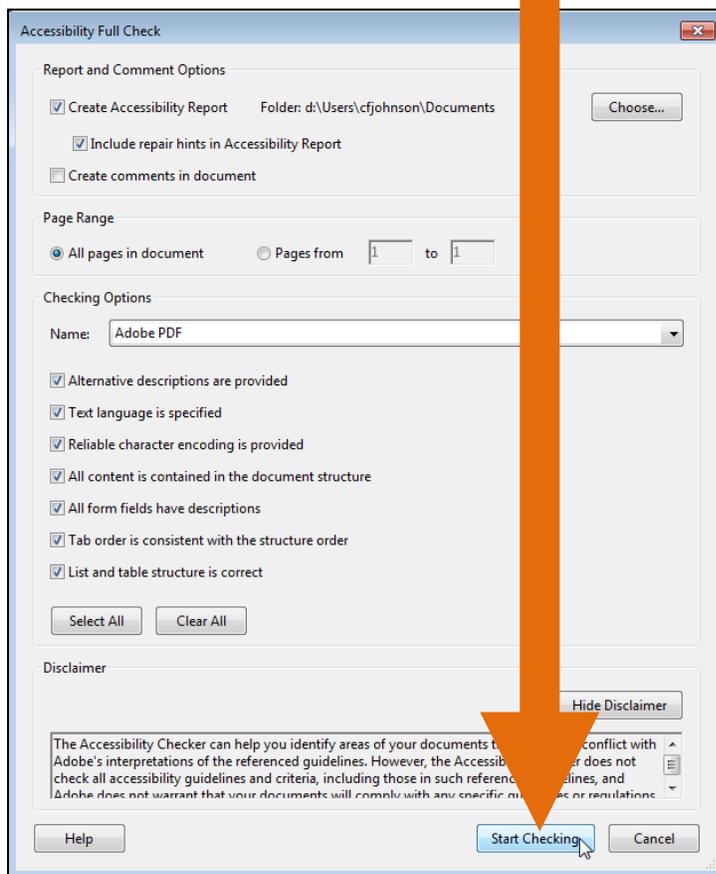
A) If the *TouchUp Reading Order* panel is still open, left-click on the *Close* button.



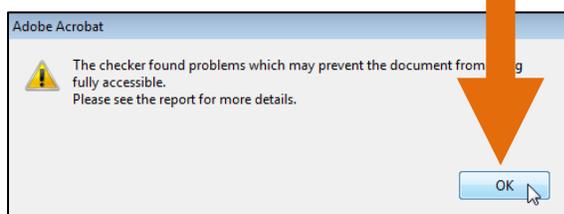
B) Left-click on the *Tools / Accessibility / Full Check* menu option.



C) On the next pop-up screen, left-click on the **Start Checking** button.



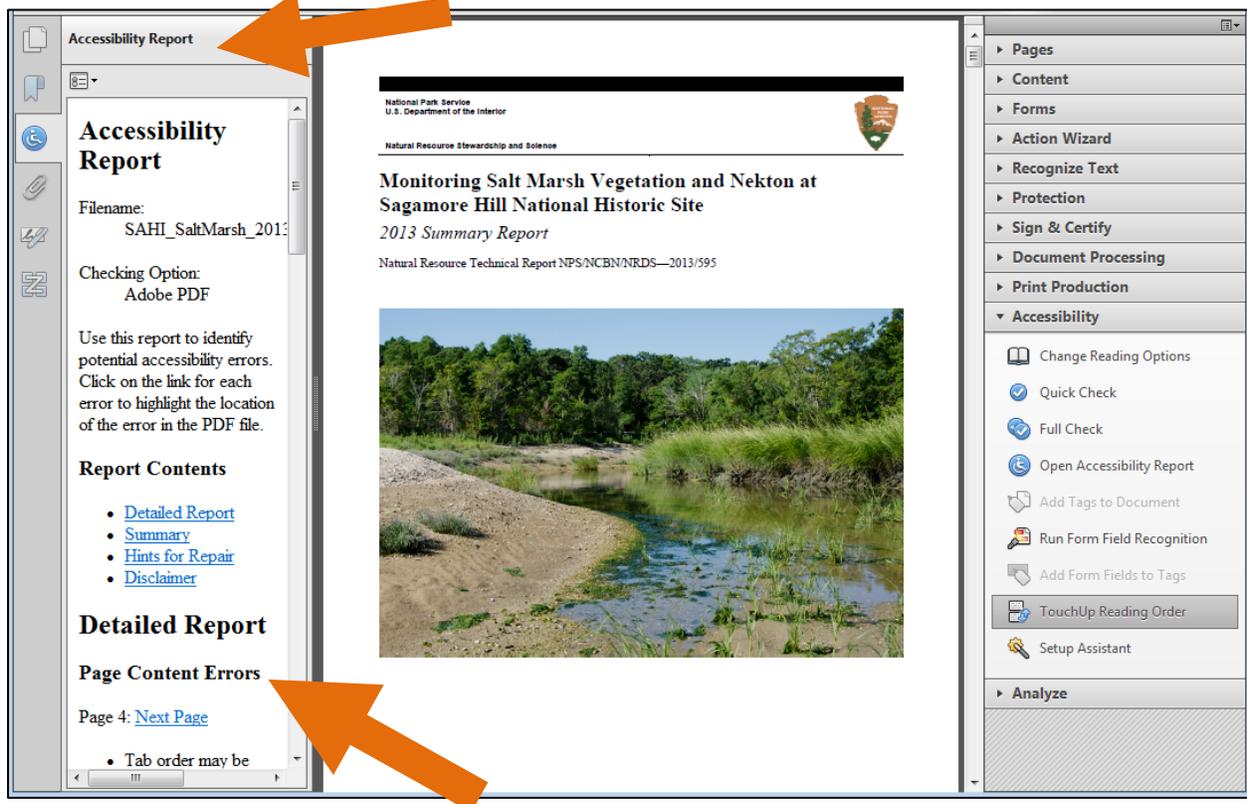
D) On the next pop-up screen, left-click the **OK** button.



Note: Using the default settings, this tool always finds potential errors with any and all documents.

Continued on Next Page

- E) An **Accessibility Report** panel will appear along the left-hand portion of the Adobe Acrobat program window.



- F) Scroll down to see the **Detailed Report / Page Content Errors** section.

- G) We will be fixing any and all accessibility errors listed in the **Page Content Errors** section, except for those marked as:

Tab order may be inconsistent with the structure order.

- H) For all other accessibility errors listed:

- a) Go to the page number given by the **Page Content Errors** section, and fix and/or re-do the accessibility tags on that page.
- b) Use instructions provided in this document to fix those tag issues.

- I) Repeat steps B through H above until the only errors listed in are **Tab order may be inconsistent with the structure order** errors.

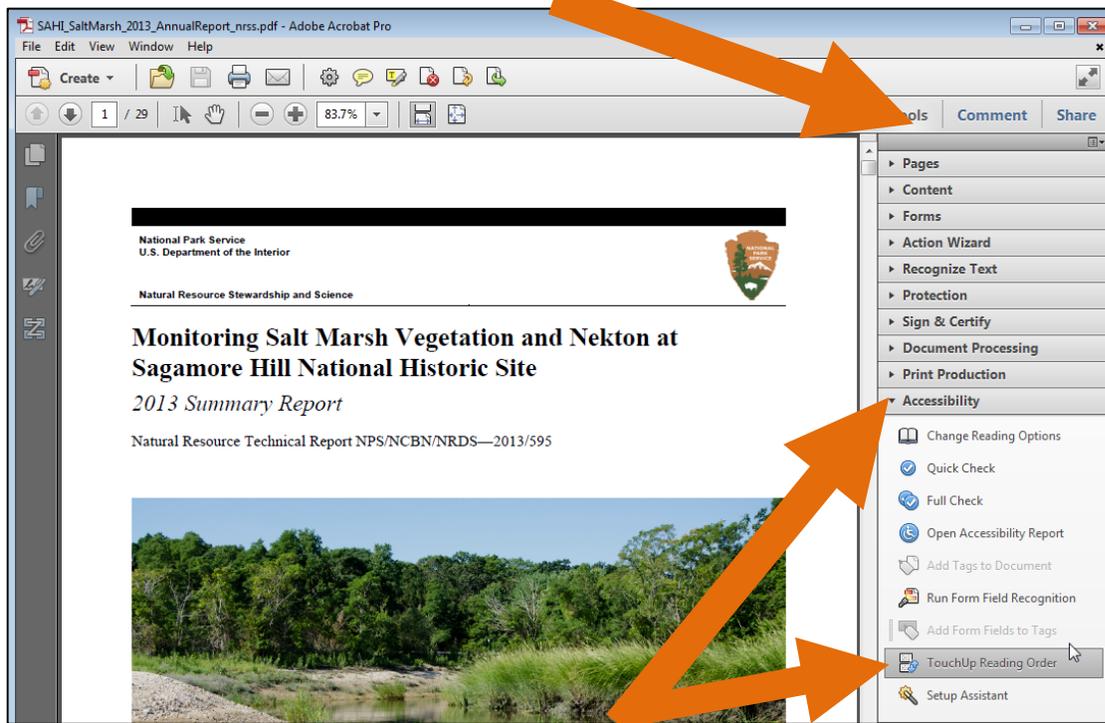
- J) Save the final document.

The document now meets current NPS accessibility standards, and is ready for public distribution.

Please contact [Fagan Johnson](#), if you have any questions or see something that needs changing.

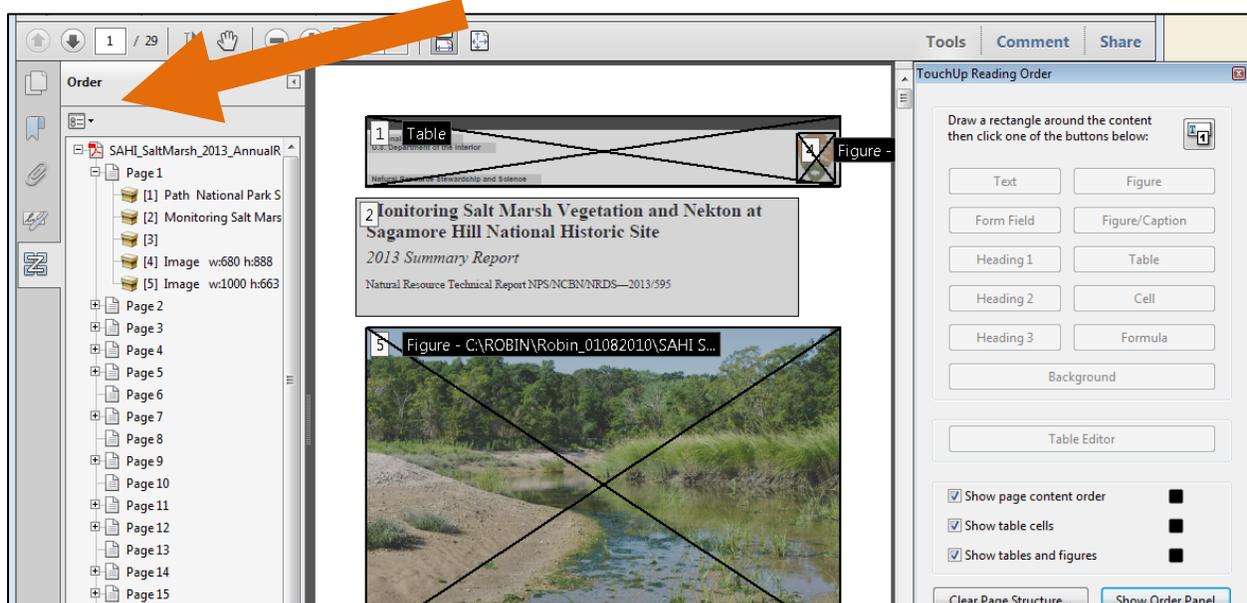
Detailed Instructions for Using the Adobe Acrobat *Accessibility* Tools

A) Click on the *Tools* menu option. This will open the main *Tools* menu panel along the right-hand margin of the program screen.



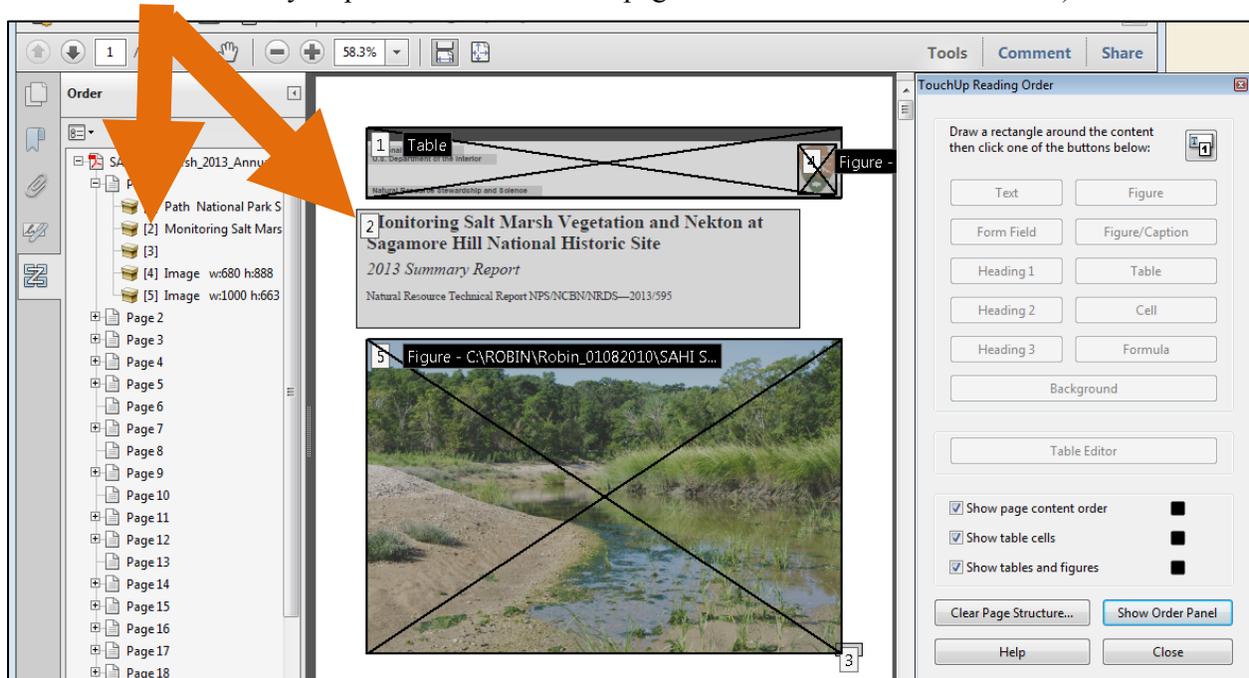
B) Select the *Tools / Accessibility / TouchUp Reading Order* option.

C) On the *TouchUp Reading Order* pop-up screen, click the *Show Order Panel* button. This will open the *Order* panel along the left-hand margin of the program screen.



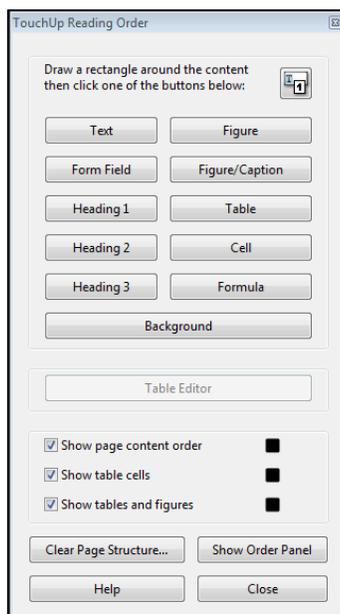
Getting Started with the *TouchUp Reading Order Tools*

For reports created using accessibility enhancements similar to those found in our document templates, each page element will be displayed with a black border around with a white square in the upper left-hand corner that displays the element *Order* number (corresponds to the reading order that software for the visually-impaired will use to read page elements aloud to the end-user).



See the Changing the Page Order for Tagged Elements section of this document for more details about ordering page elements.

At this point, it is okay if no page elements were marked upon export from MS Word or Adobe InDesign. It will just take longer to make the final report accessible.



TouchUp Reading Order Pop-up Screen Tagging Options

(from:

http://help.adobe.com/en_US/acrobat/X/pro/using/WS58a04a822e3e50102bd615109794195ff-7d05.w.html)

Text – Tags the selection as regular paragraph text. See the *Text Tag Options* section of this document for more details.

Default tag for all text that is not part of a figure, table, page header, page footer, or heading.

Figure – Tags the selection as a figure. Text contained within a figure tag is defined as part of the image and is not read by screen readers.

Basic figure/image tag (default image tag exported from MS Word).
See the *Figure Tag Options* section of this document for more details.

Form Field – Tags the selection as a form field. See the Adobe site above for more details about this rarely-used element.

Figure/Caption – Tags a selected figure and caption as a single tag. Any text contained in the tag is defined as a caption. Useful for tagging photos and captions and preventing caption text from being incorrectly added to adjacent text blocks. Figures may require alternate text.

Can be used whenever the figures were not tagged in MS Word or Adobe InDesign. We copy-over the entire figure caption to the alternate text. See the *Figure Tag Options* section of this document for more details.

Heading 1, Heading 2, Heading 3 – Tags the selection as a first, second, or third level heading tag. You can convert heading tags to bookmarks to help users navigate the document.

Adobe Acrobat only has tags for the first three heading levels. We mark subsequent heading levels as Text. See the *Heading Tag Options* section of this document for more details.

Table – Tags the selection as a table after the selection is analyzed to determine the location of headings, columns, and rows.

All tabular content with text or numerals must be in table format that is made up of individual table cells, and with the header row(s) marked. Software for the visually-impaired cannot read text that was turned into an image, or correctly read tables were built using traditional typewriter formatting techniques (manual tabs and spaces to separate columns).

See the *Table Tag Options* section of this document for more details.

Cell – Tags the selection as a table or header cell. Use this option to merge cells that are incorrectly split. See the Table Options section of this document for more details.

We suggest that you avoid using the **Cell** tag option, because it is so difficult to use. See the Adobe site above for more details about this rarely-used element.

Formula – Tags the selection as a formula.

We suggest that you avoid using the **Formula** tag option, because it is so difficult to use. See the Adobe site above for more details about this rarely-used element.

Background – Tags the selection as a background element, or artifact, removing the item from the tag tree so that it doesn't appear in the reflowed document and isn't read by screen readers.

Also used for certain graphic and other page elements that have no interpretive value for the visually-impaired. See the *Background Tag Options* section of this document for more details.

Table Editor – Automatically analyzes the selected table into cells and applies the appropriate tags. The table must be tagged as a table before you can use the Table Editor command on it.

When you click this button, you enter the **Table Editor** mode, where all table cells must be tagged as either **Data Cells (TD)** or **Header Cells (TH)**. See the *Table Tag Options* section of this document for more details.

Show Page Content Order (checkbox) – Shows content elements as highlighted areas that contain numbers to indicate the reading order. Specify the highlight color by clicking the color swatch.

Show Table Cells (checkbox) – Highlights the content of individual table cells. Specify the highlight color by clicking the color swatch.

Show Tables And Figures (checkbox) – Outlines each table and figure with a crossed-out box. The box also indicates whether the element includes alternate text. Specify the box color by clicking the color swatch.

Clear Page Structure – Removes the tagging structure from the page. Use this option to start over and create a new structure if the existing structure contains too many problems.

Show Order Panel – Opens the Order tab to allow you to reorder highlighted content.

Edit Alternate Text – Available in the menu that appears when you right-click a highlighted figure. Allows the user to add or edit a text description about the figure properties that is read by a screen reader or other assistive technology.

Edit Form Field Text – Available in the menu that appears when you right-click a form field. Allows the user to add or edit a form field text description that is read by a screen reader or other assistive technology.

Edit Table Summary – Available in the menu that appears when you right-click a highlighted table. Allows the user to add or edit a text description about the table properties that is read by a screen reader or other assistive technology.

Text Tag Options

If you used the guidelines for using font Styles in MS Word, or using tagged Paragraph Styles in Adobe InDesign, most regular text will automatically be added to the final PDF document for you.

PDF **Text** tags are analogous to a paragraph tags (`<p>...</p>`) on a web pages.

While tagging the final PDF document, we also assign the Text tag to any page text that **THAT IS NOT PART OF A:**

- Figure (text should be inside the **Figure** tag for that image, photo, etc.).
- Table (text should be inside a **Table** tag).
- Page Header or Footer (text should be tagged inside a **Background** tag) (includes repeated text at the top or bottom of each page, page numbers, etc.).
- Formula (text should be inside a **Formula** tag).

Figure Tag Options (Figures, Images, Photos, Flow-charts, etc.)

Almost all figures in the final PDF document must have alternate text that can be read by screen readers for the visually-impaired. This includes all figures, photos, illustrations, flow-charts, etc.

If you used the guidelines for images, photos, etc. outlined here and in our document templates, these tags will automatically be added to the final PDF document for you.

PDF **Figure** tags are analogous to an image tag (`<img../>`) on traditional web pages (HTML 4.0 or higher), or to the figure tag (`<figure>...</figure>`) option found in the newer HTML 5.0 web page markup.

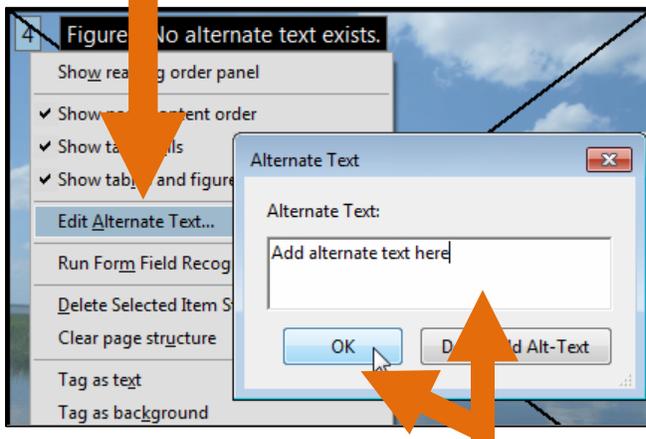
The alternate text should adequately describe the image for the visually-impaired. If available, we suggest that you use any document captions associated with that figure (figure, photo, etc.).

When the **TouchUp Reading Order** tools are open, images that are already tagged as figures will appear with a black border with an “X” through the center, and a black square with the word **Figure** inside it.



If the black-box shows **Figure - No alternate text exists:**

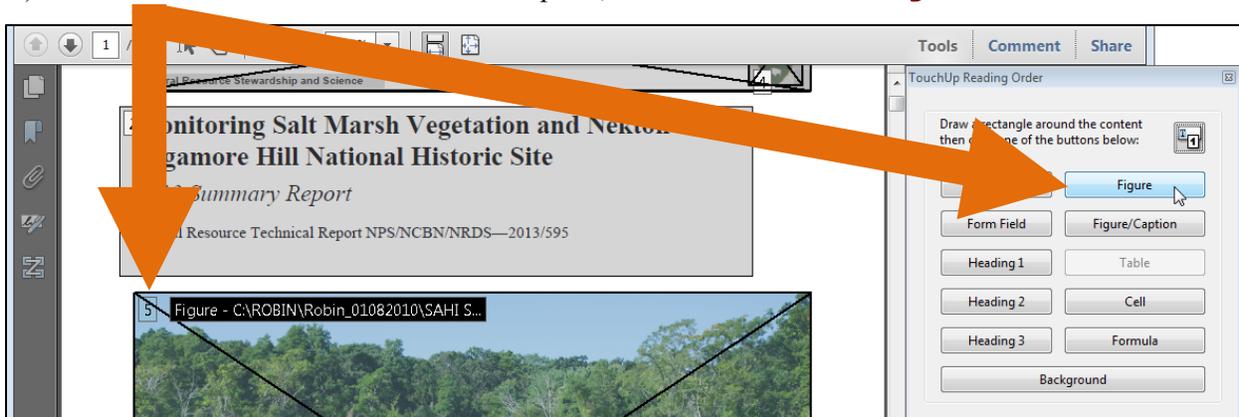
- A) Right-click on the white *Order* number square, and choose the **Edit Alternate Text** option.



- B) On the **Alternate Text** pop-up box, add the alternate text that you desire, and click the **OK** button (here, we copied-over the caption from the MS Word file).

If the black-box shows **Figure - Path/Filename** (example: *c:\FolderName\FileName*):

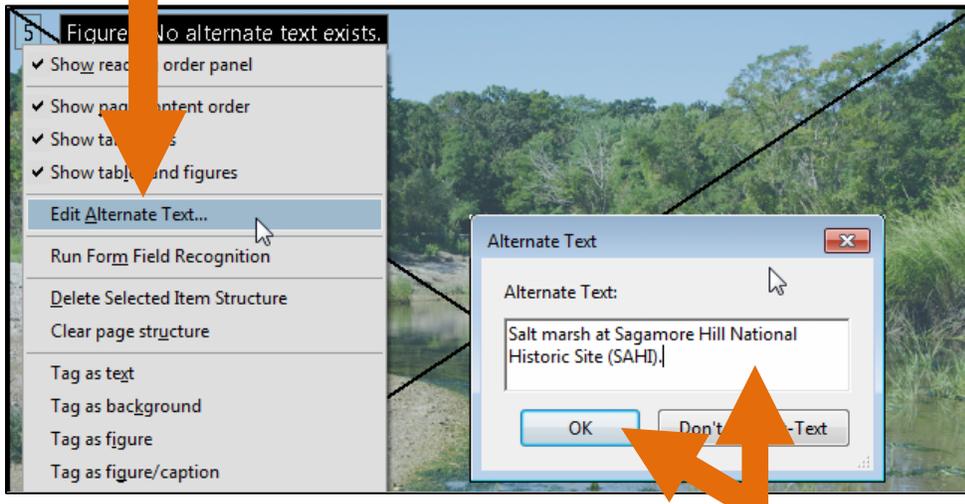
- A) Left-click on the white *Order* number square, and left-click on the **Figure** button.



This re-sets the figure to have no alternate text. Why do we do this?

Note: The file path and name value in the alternate text is usually put there by MS Word whenever images are added using the **Insert / Picture** tools, which is not descriptive enough to meet Section 508 standards, and is exported such that it cannot be updated in Adobe Acrobat.

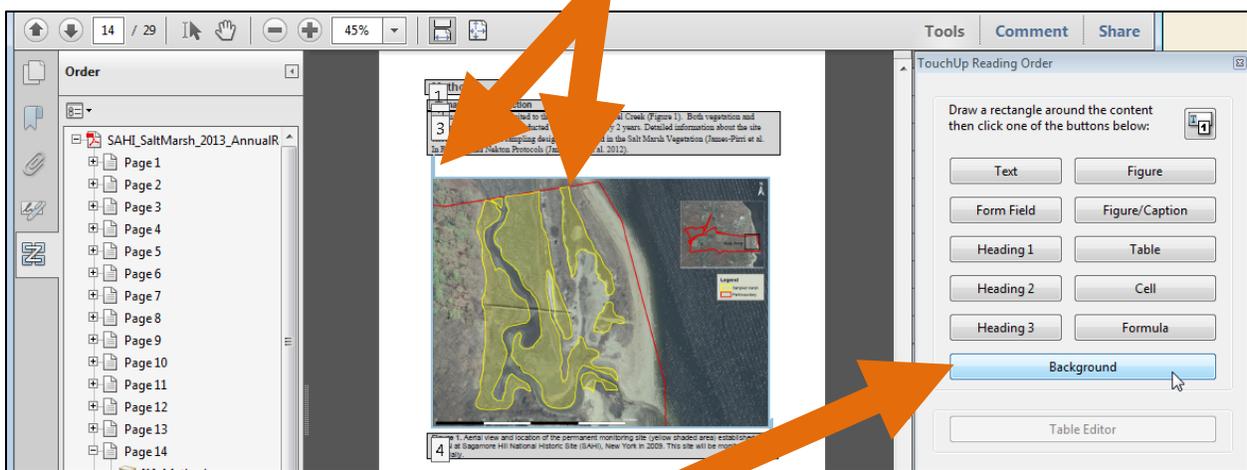
- B) Right-click on the white *Order* number square, and choose the **Edit Alternate Text** option.



- C) On the **Alternate Text** pop-up box, add the alternate text that you desire, and click the **OK** button (here, we copied-over the caption from the MS Word file).

If the image was not tagged as a figure (no black border around the image with an “X” through the center, and with a black square with the word **Figure** inside it.):

- A) Left-click with your mouse, and draw a polygon around the figure, and any blank lines just above or below it. Selected items should have a blue border.



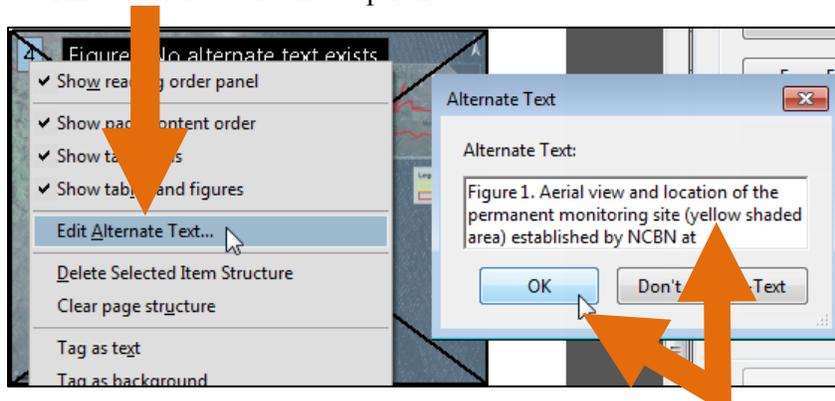
- B) Left click on the **Background** button. This step will make the page easier to parse by screen readers for the visually-impaired (makes sure that blank spaces/lines are not read aloud to the end-user as “*Unknown Text*” or “*Possible Export Error*”).

C) Left-click with your mouse, and draw a polygon around the figure to select it.



D) Left-click on the **Figure** button.

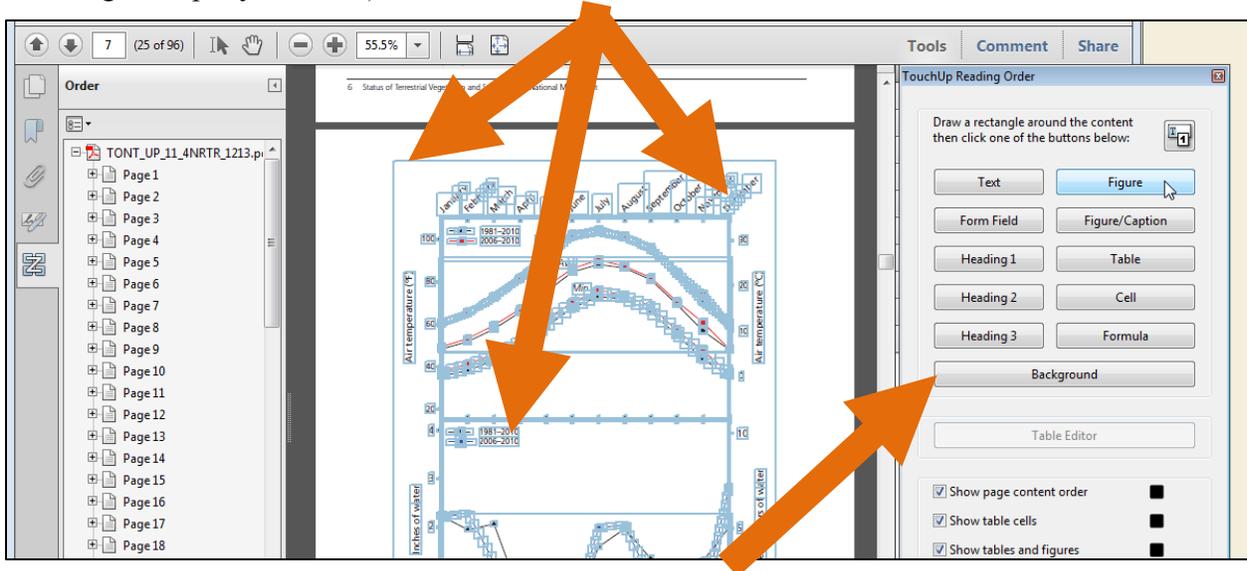
E) Right-click on the white *Order* number square for that image, and choose the **Edit Alternate Text** option.



F) On the **Alternate Text** pop-up box, add the alternate text that you desire, and click the **OK** button (here, we copied-over the caption from the MS Word file).

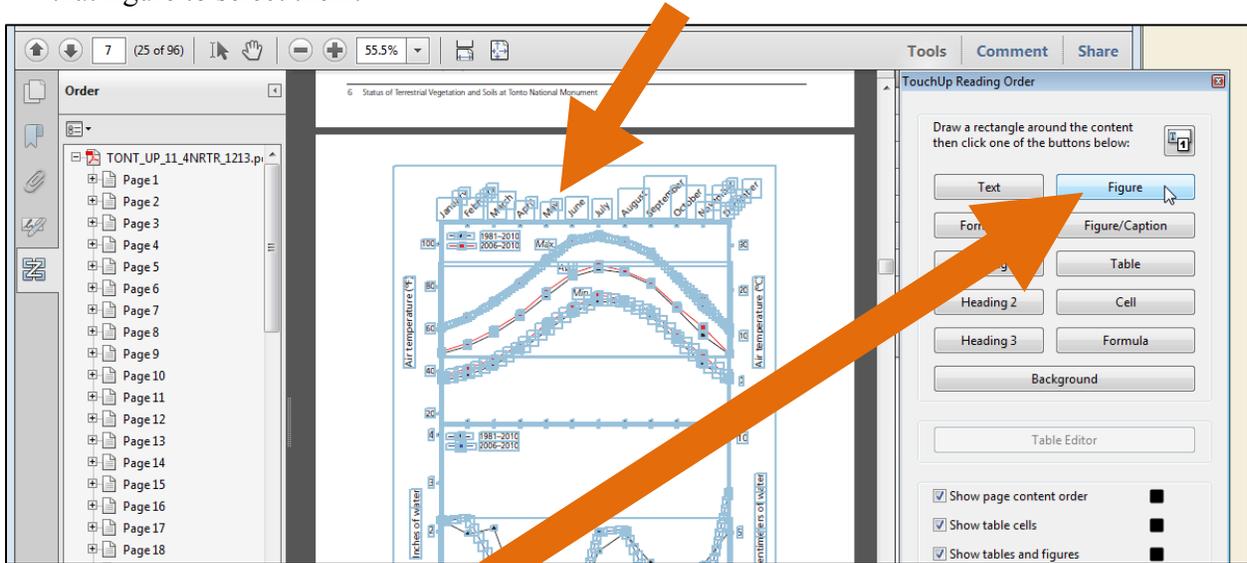
If the image includes embedded text that is not in image format (common with maps, statistical graphics generated with third-party software, flow-charts, and figure labels added by hand by the author inside MS Word or Adobe Acrobat):

- A) Left-click with your mouse, and draw a polygon around the figure, and any blank lines just above or below it. Selected items should have a blue border (example is a statistical graphic generated using third-party software).



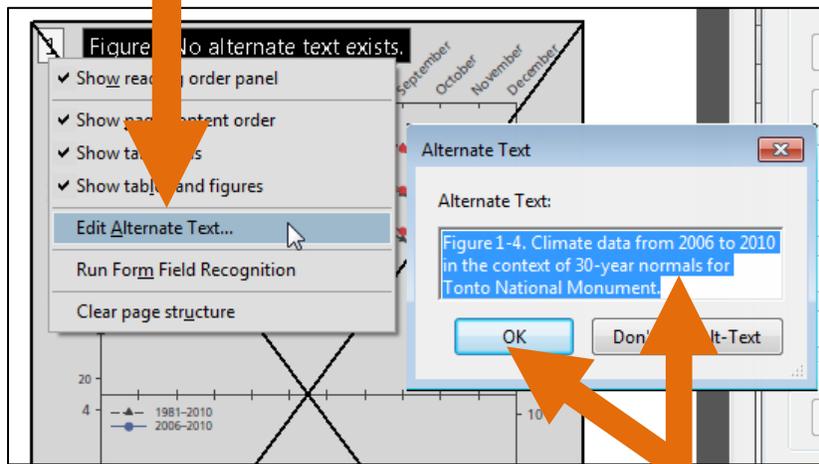
- B) Left click on the **Background** button. This step will make the page easier to parse by screen readers for the visually-impaired (makes sure that blank spaces/lines are not read aloud to the end-user as "Unknown Text" or "Possible Export Error").

- C) Left-click with your mouse, and draw a polygon around the figure and any embedded text inside that figure to select them.



- D) Left-click on the **Figure** button.

- E) Right-click on the white *Order* number square for that image, and choose the **Edit Alternate Text** option.



- F) On the **Alternate Text** pop-up box, add the alternate text that you desire, and click the **OK** button (here, we copied-over the caption from the MS Word file).

Heading Tag Options

All first through third order chapter headings should be tagged as such in the final PDF. If you used the guidelines for headings outlined here and in our document templates, these tags will automatically be added to the final PDF document for you.

The **Heading 1** tag is analogous to the first order heading tag (`<h1>...</h1>`) used for web pages.

The **Heading 2** tag is analogous to the first order heading tag (`<h2>...</h2>`) used for web pages.

The **Heading 3** tag is analogous to the first order heading tag (`<h3>...</h3>`) used for web pages.

Adobe Acrobat only has tags for the first three heading levels. We mark subsequent heading levels as regular **Text**.

Table Tag Options

Translating the information found in tables to a form that can be read aloud by screen readers for the visually-impaired is tricky.

All tabular content with text or numerals must be in table format that is made up of individual table cells, and with the header row(s) marked. Software for the visually-impaired cannot read text that was turned into an image, or correctly read tables were built using traditional typewriter formatting techniques (manual tabs and spaces to separate columns).

If you used the guidelines for tables outlined here and in our document templates, these tags will automatically be added to the final PDF document for you.

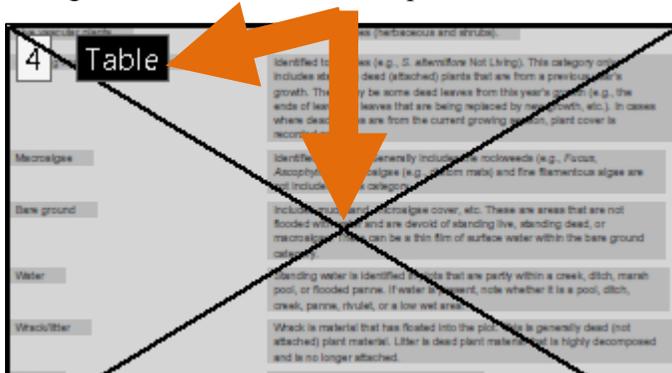
The tags used for tables in PDF format are analogous to the web page markup tags used for tables (`<table>...</table>`), table rows (`<tr>...</tr>`), table header cells (`<th>...</th>`), and table data cells (`<td>...</td>`).

Additionally, the tools for exporting tables from MS Word and Adobe InDesign to PDF format are rather simplistic and unpredictable.

Most Section 508 related problems with tables can be addressed in with minor edits to the original MS Word or Adobe InDesign file. Some tables that do not follow the basic guidelines shown in this document, however, must be completely rebuilt in MS Word or Adobe InDesign to meet Section 508 accessibility standards.

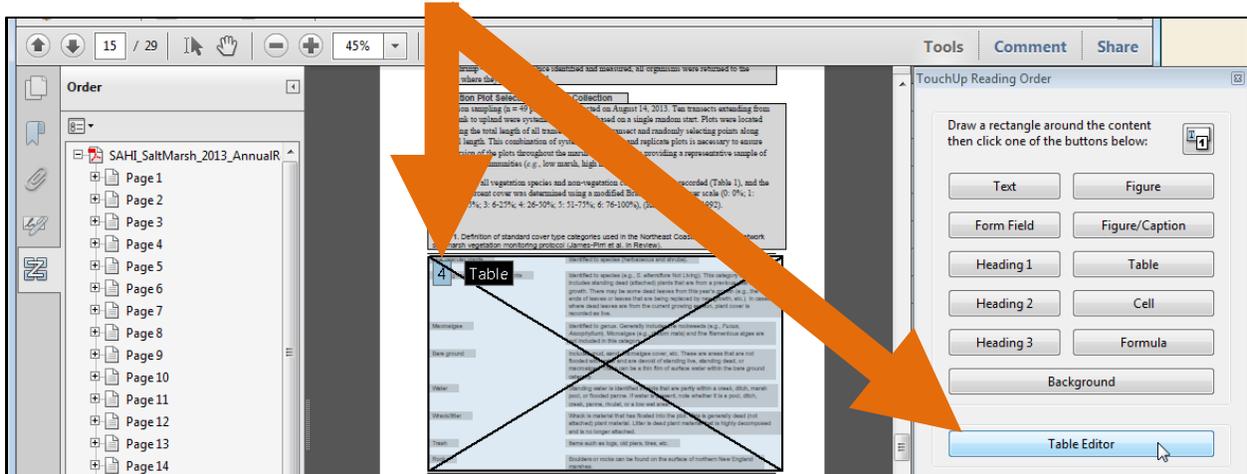
Basic steps for tables that are already tagged (generated using the methods shown here and in our document templates).

When the ***TouchUp Reading Order*** tools are open, tabular content that is already tagged as a table, as prescribed in all of our document templates, will appear with a black border with an “X” through the center, and a black square with the word ***Table*** inside it.



Continued on Next Page

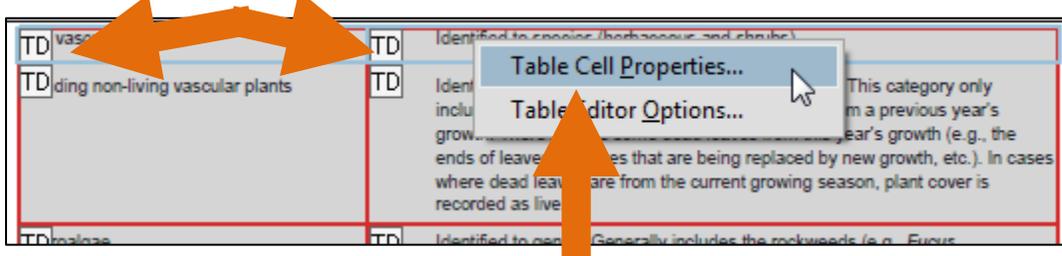
A) Left-click on the white *Order* number square and then click the **Table Editor** button.



B) While in **Table Editor** mode, make sure that all table cells are marked as either data cells (has white box with **TD** inside it), or header cells (has white box with **TH** inside it).

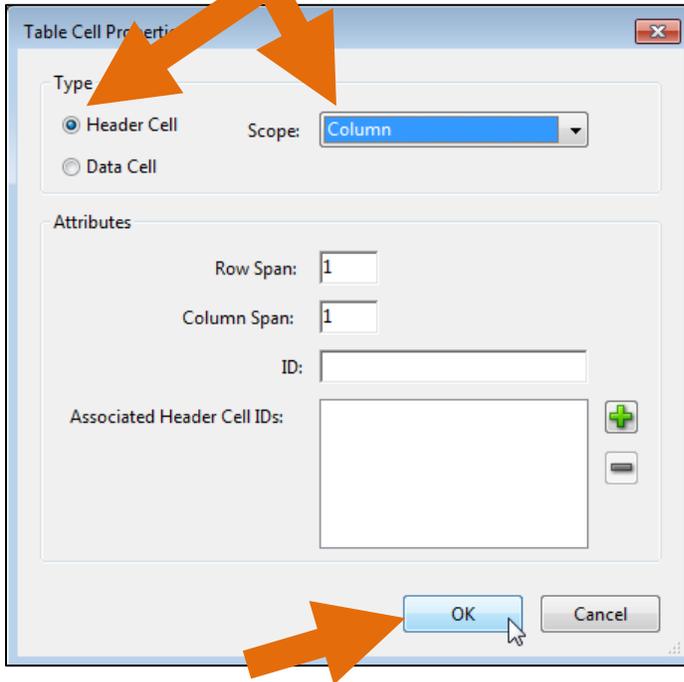
TH	TH
TD	TD
TD	TD

If the header row(s) are not marked with a **TH** tag, select/highlight all of the header cells (common).



A) Right-click on the selected cells and choose the **Table Cell Properties** option.

B) On the next screen, check the **Header Cell** option and in the **Scope** drop-down menu, choose **Column**.



C) Click the **OK** button.

D) The table header cells should now be marked with **TH** tags.

TH	TH
TD	TD
TD	TD

For MS Word tables that are not tagged (documents almost always use Times New Roman and Arial fonts, and/or use tables for the page-top banner on the cover pages):

- A) Obtain a copy of the final MS Word file from the author.
- B) Open the original MS Word file, and make sure that the table was formatted using the basic table formatting guidelines provided in earlier sections of this document.
 - a) For additional guidance about formatting tables, see the Formatting Tables in MS Word for Accessibility section of this document.
- C) Export just the page(s) containing that individual table to a new and stand-alone PDF file, using the procedures outlined in the Exporting the Final MS Word Document to Acrobat Format section of this paper.

- D) In the new and stand-alone PDF file, edit and update the tags for the entire page, and making sure to check and update the table in **Table Editor** mode.
- a) This will fix most table tagging issues (most problems are caused by export errors).
 - b) The tools for exporting tables to PDF format are rather simplistic and unpredictable, however, and you may need to export that page to PDF format multiple times to get a clean or good export.
 - c) If you cannot adequately tag the table after multiple attempts:
 - i) You will need to manually rebuild that table for the end-user in MS Word using the table formatting guidelines provided in the Formatting Tables in MS Word Documents for Accessibility Compliance section of this paper.
 - ii) Export the new page(s) to PDF (as outlined in step C above).
 - iii) Edit and update the tags for the entire page as required.
 - iv) Repeat steps i-iii above, until you have an adequately tagged page.
 - E) Once the page is tagged correctly, in the main PDF document, replace the “bad” page with the new one using the **Tools / Pages / Replace Page** menu option.
 - F) Use the **TouchUp Reading Order** and **Table Editor** accessibility tools to check the tags in the new page in the main PDF file.

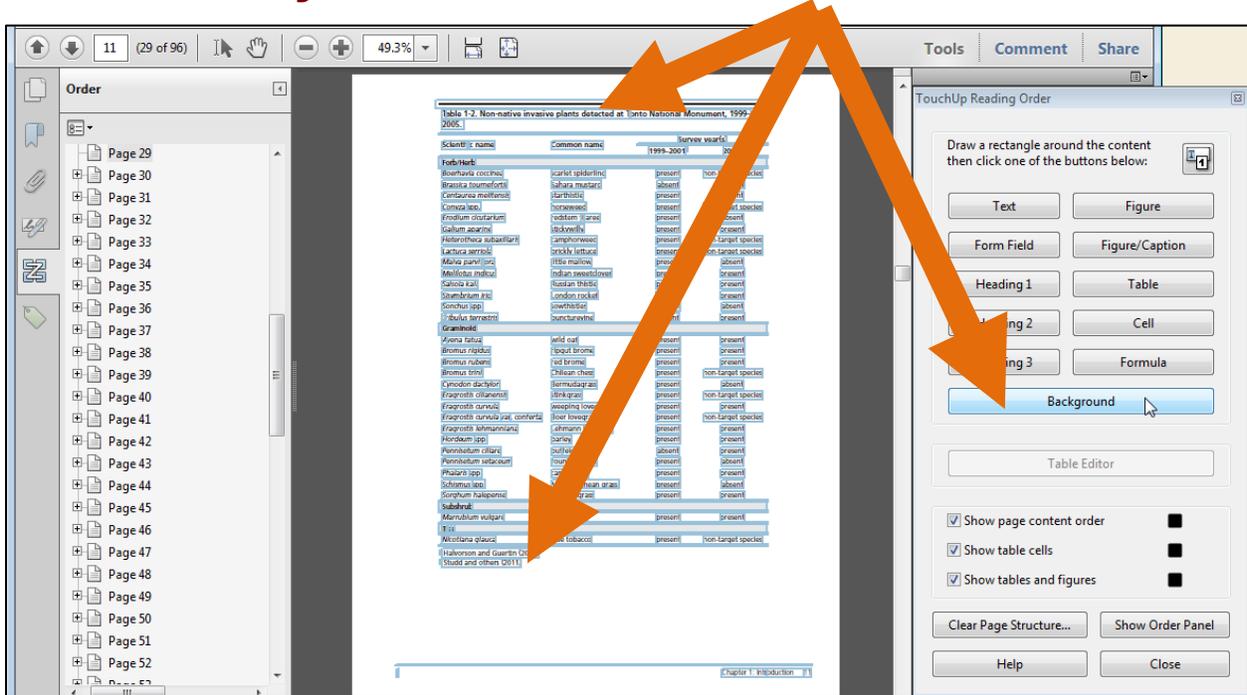
Note: These tools are also rather unpredictable, and you may need to replace the page multiple times to get a clean or good result.

If you can't get a table to tag correctly using the steps above, contact [Fagan Johnson](#) for assistance.

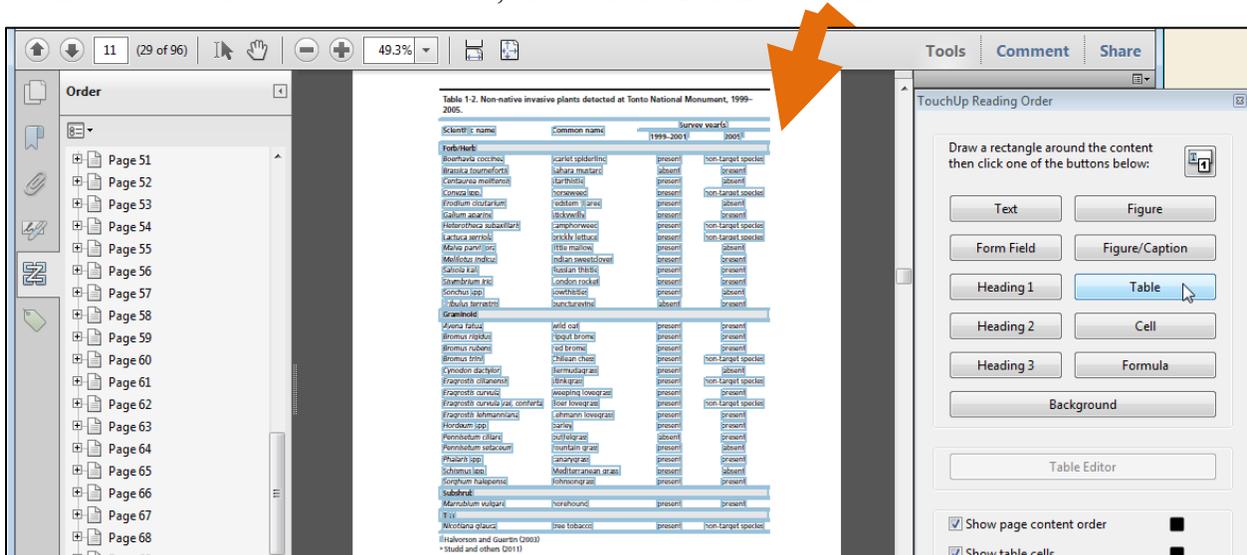
Continued on Next Page

For Adobe InDesign tables that are not tagged (documents almost always use NPS Rawlinson and Adobe Frutiger fonts, and/or do not use tables for the page-top banner on the cover pages):

A) In most cases, simply left-click with your mouse and draw a polygon around all page elements, and click the **Background** button.



B) Left-click with your mouse and draw a polygon just around the entire table, making sure to include the borders for all table cells, and click the **Table** button.



- a) This will fix most table tagging issues (most problems are caused by export errors).
- b) The tools for exporting tables to PDF format are rather simplistic and unpredictable, however, and you may need to export that page to PDF format multiple times to get a clean or good export.
- c) If you cannot adequately tag the table after multiple attempts:
 - i) You will need to manually rebuild that table for the end-user in Adobe InDesign using the table formatting guidelines provided in the Formatting Tables in Adobe InDesign Documents for Accessibility Compliance section of this paper.
 - ii) Export the new page(s) to PDF (as outlined in step C above).
 - iii) Edit and update the tags for the entire page as required.
 - iv) Repeat steps i-iii above, until you have an adequately tagged page.
- E) Once the page is tagged correctly, in the main PDF document, replace the “bad” page with the new one using the **Tools / Pages / Replace Page** menu option.
- F) Use the **TouchUp Reading Order** and **Table Editor** accessibility tools to check the tags in the new page in the main PDF file.

Note: These tools are also rather unpredictable, and you may need to replace the page multiple times to get a clean or good result.

If you can't get a table to tag correctly using the steps above, contact [Fagan Johnson](#) for assistance.

Background Tag Options

Tags the selection as a background element, or artifact, removing the item from the tag tree so that it doesn't appear in the reflowed document and isn't read by screen readers.

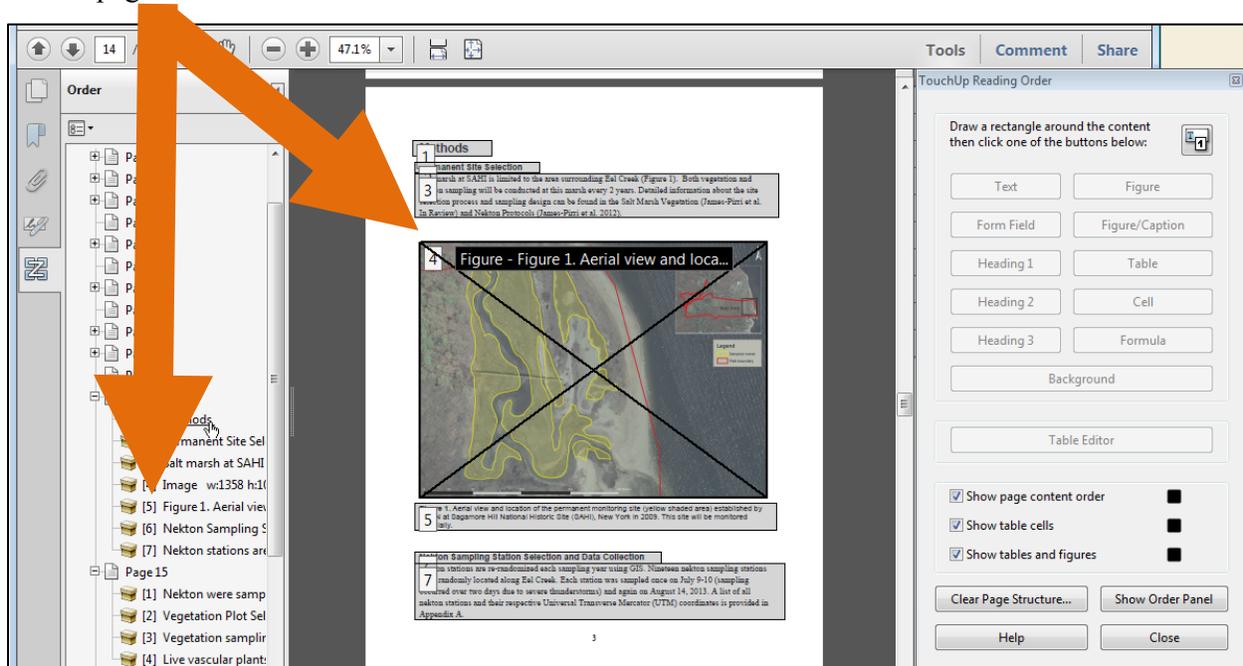
We use **Background** tags for certain graphic and other page elements that have no interpretive value for the visually-impaired. Some examples:

- Horizontal lines that were placed on the page to accentuate chapter changes, page headings, etc.
- Bars and lines associated with the page-top banners on our front cover pages.
- Borders around text boxes.
- Header or footer statements that are repeated on multiple pages.
 - For documents over a few pages in length, all headers, footers, page numbers, etc. should be tagged as **Background** elements.
 - Headers, footers, page numbers, etc. can be left as text for documents under 3-5 pages long (brochures, briefs, etc.).
- Extra blank text lines often found beside Tables or Figures.
- Multiple blank lines (prevents each blank line from being read aloud to by older screen readers).
- Tables used for purely graphic or layout reasons (as with page-top banners on cover pages).

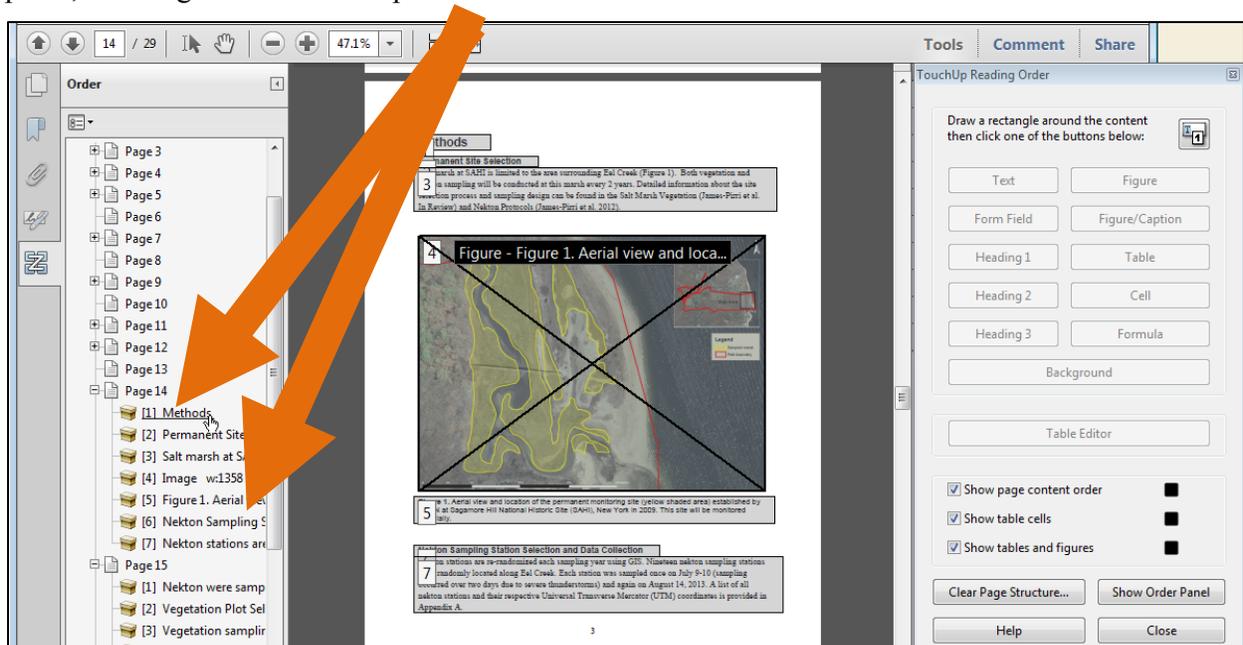
Changing the Page Order of Tagged Elements

When all elements on the page have been tagged for screen readers for the visually-impaired, a white square in the upper left-hand corner of each element displays the element *Order* number.

The *Order* number corresponds to the reading order that software for the visually-impaired will use to read page elements aloud to the end-user.



To change the order of tagged page elements, simply left-click on a tagged element in the Order panel, and drag it to the correct position in the list.



Note: The Order panel does not allow you to drag tagged elements to be above the current number 1 position on the page. One way to obtain this result:

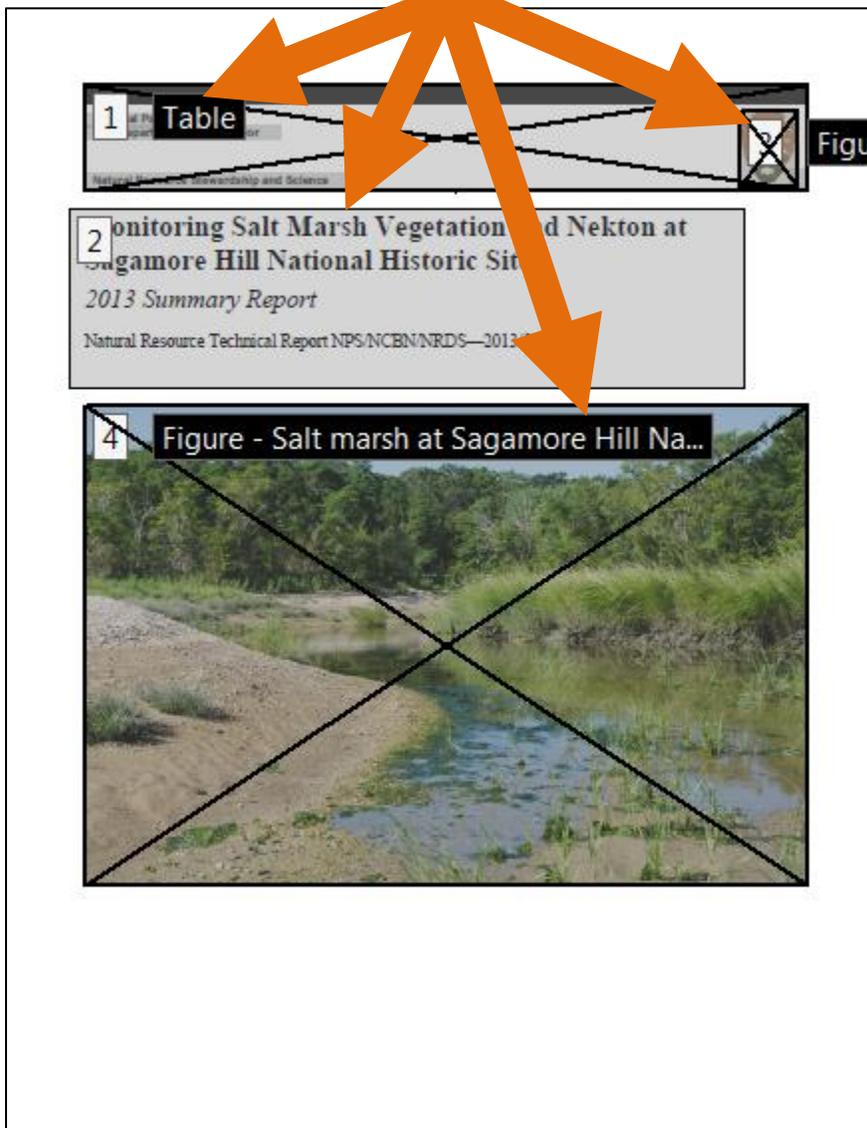
- i) Drag the desired element to the number 2 position.
- ii) Drag the current number 1 positioned element to be below the new number 2 position.

Cover Pages with Page-top Banners

Front Cover Pages with a Page-top Banner

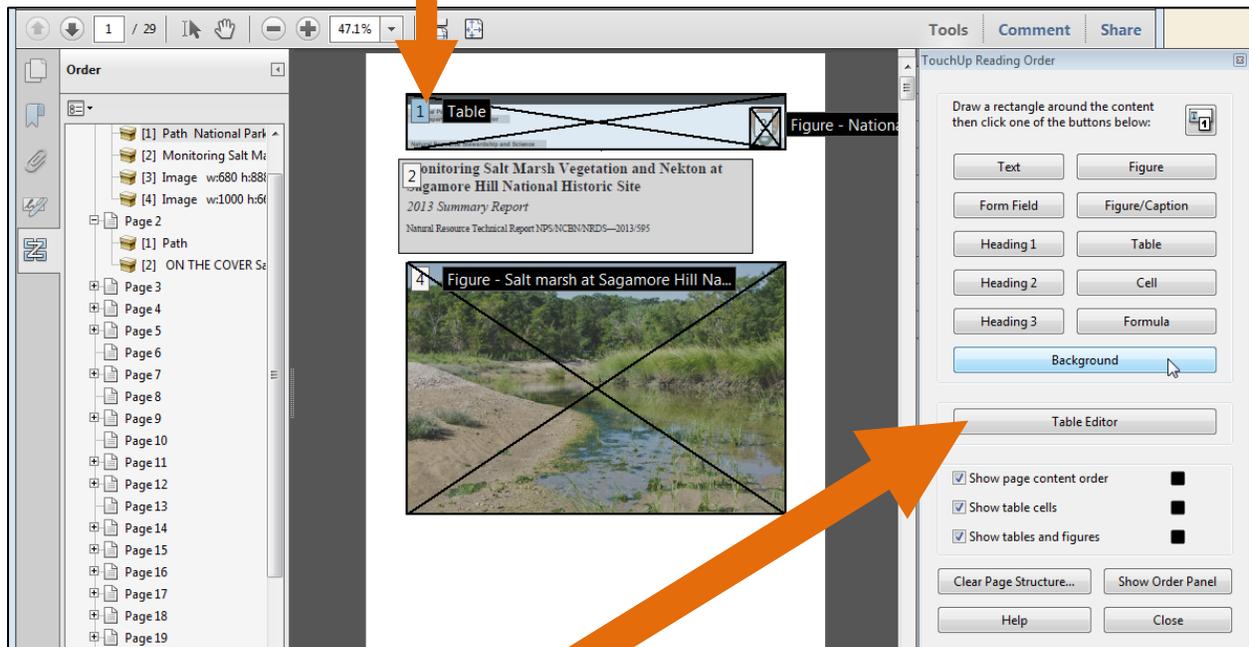
Traditional front cover pages with tags (generated using the techniques outlined in our current MS Word or Adobe Acrobat templates for NRTR, NRR, and NRDS reports):

- A) Viewing the page with the ***TouchUp Reading Order*** tools, the page-top banner will export to PDF format as a table, and all of the other page elements will be tagged for you.



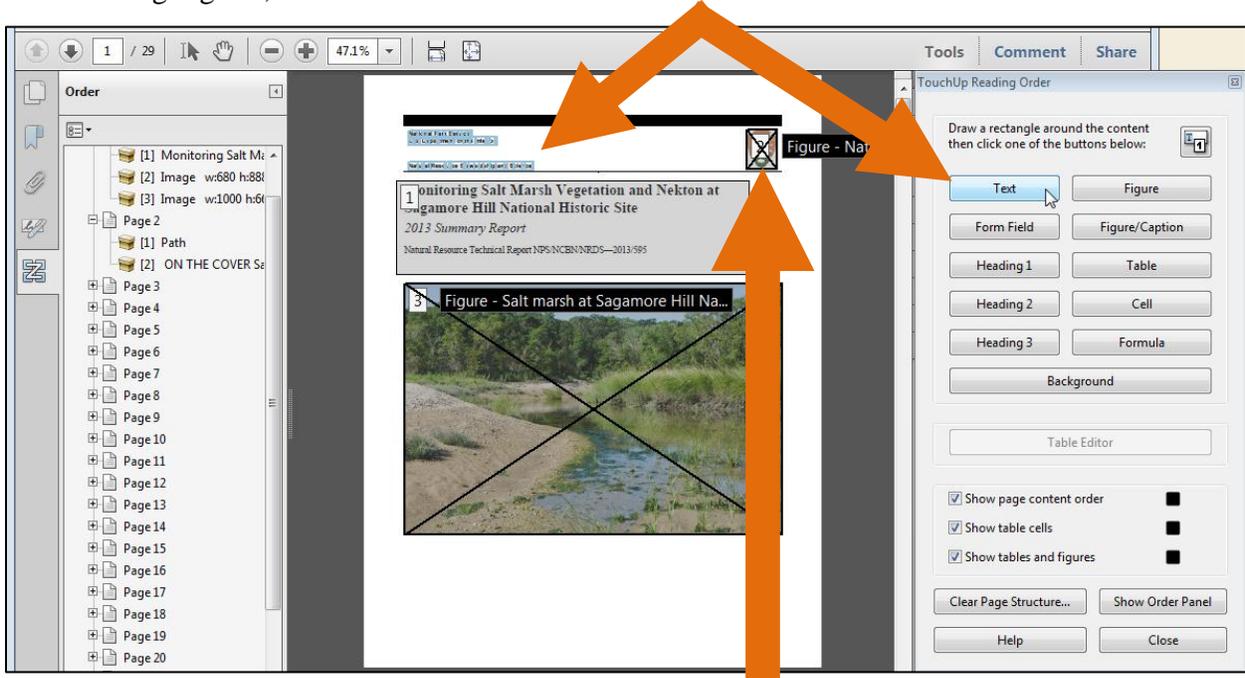
Note: We use tables for page-top banners in MS Word documents, because they are much more stable and take up less file disk space than other graphic-based treatments. Since the table adds no interpretive value for the visually-impaired, we will be tagging it as a **Background** page element.

B) Left-click on the *Order* number for the page-top banner table to select/highlight it.



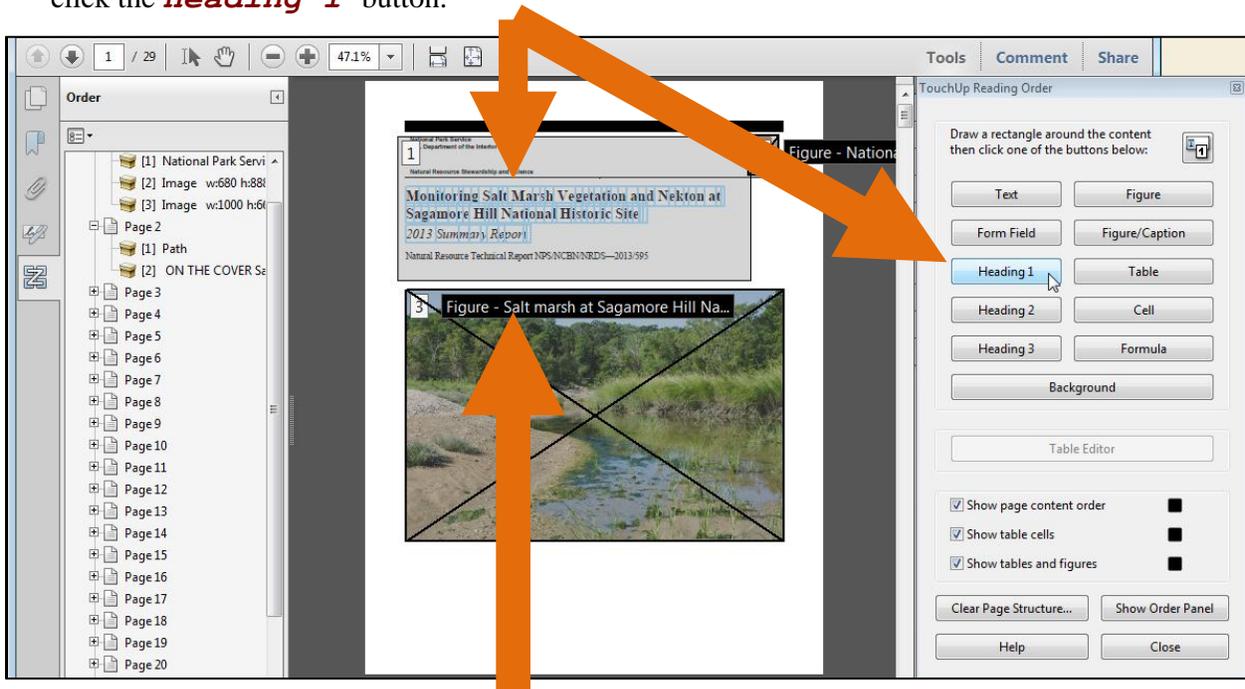
C) Left-click on the **Background** button.

- D) Left-click with your mouse, and draw a polygon around any text in the page-top banner to select/highlight it, and click the **Text** button.

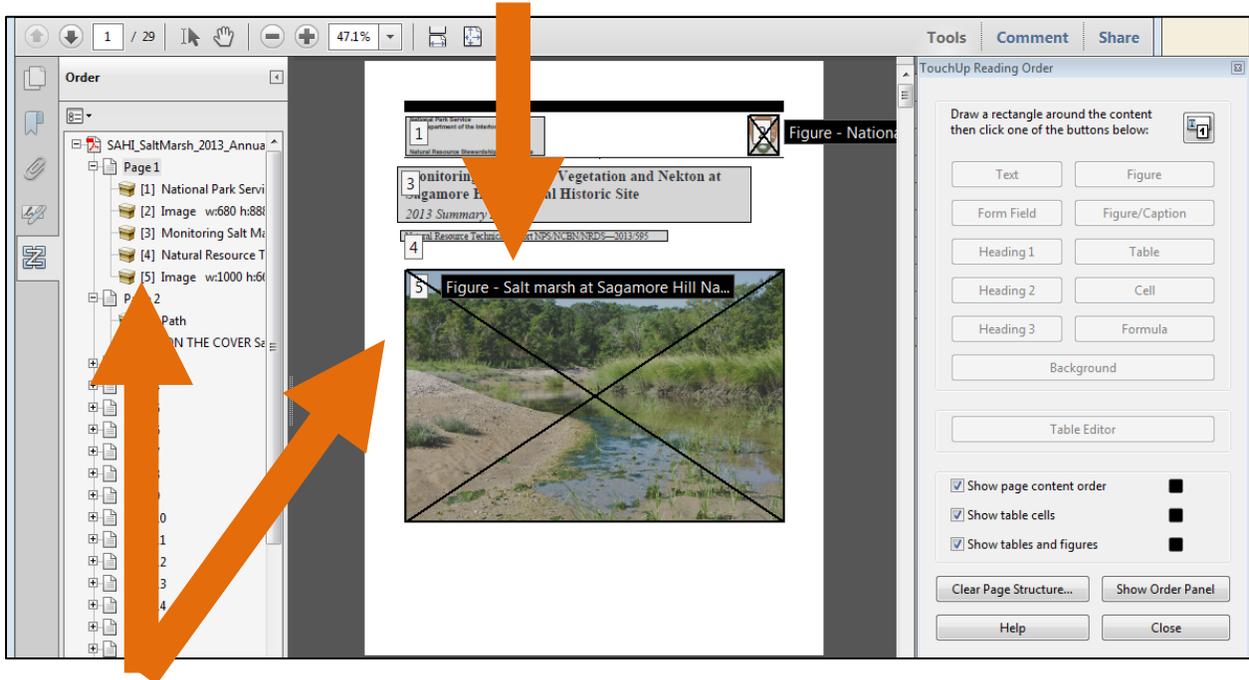


- E) Make sure that the NPS arrowhead logo is tagged as a **Figure**, and that it has alternate text (we usually use “National Park Service Logo” here).

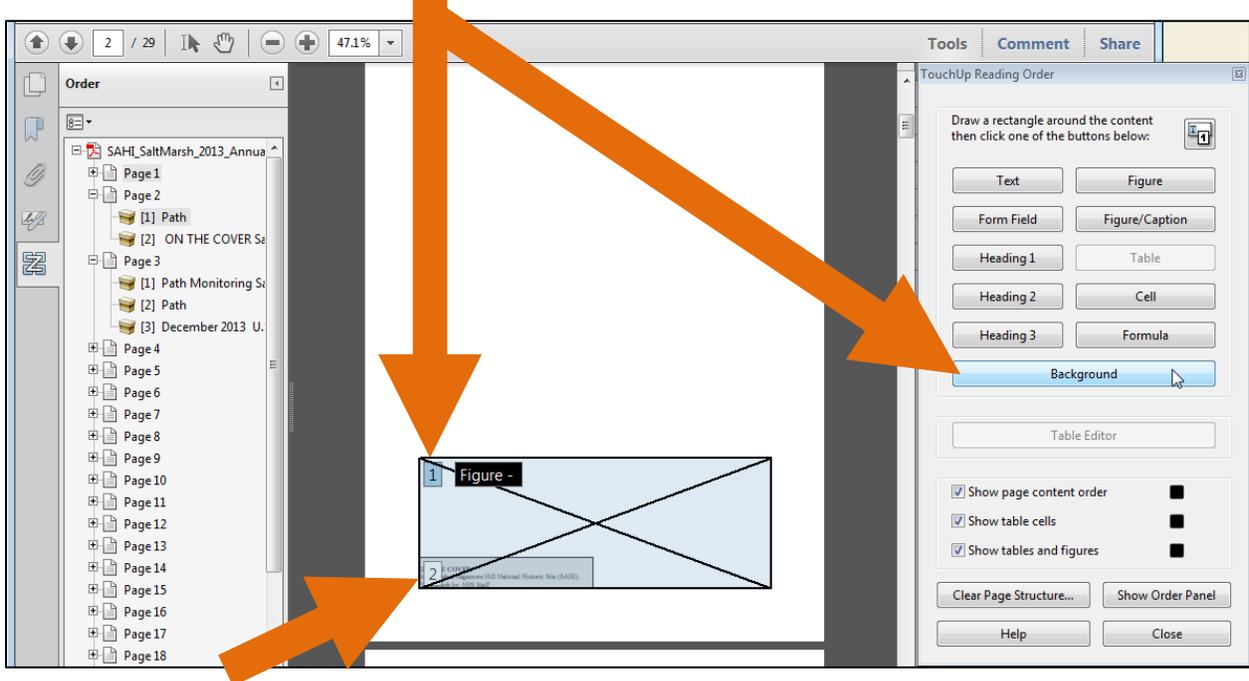
- F) Left-click with your mouse, and draw a polygon around the main report title and sub-title, and click the **Heading 1** button.



- G) Make sure that any other cover images are tagged as a **Figure**, and that it has alternate text (for the cover photo/image, we usually use the description found on the Inside Cover Page).
- H) Remove any extra blank lines located just above, beside, or below the front cover photo.



- I) Use the *Order* tools to set the reading order for all page elements. The end result should look something like the above.
- J) On the Inside Cover Page, left-click on the *Order* number for the text box **Figure** at the bottom of the page select/highlight it, and left-click the **Background** button.

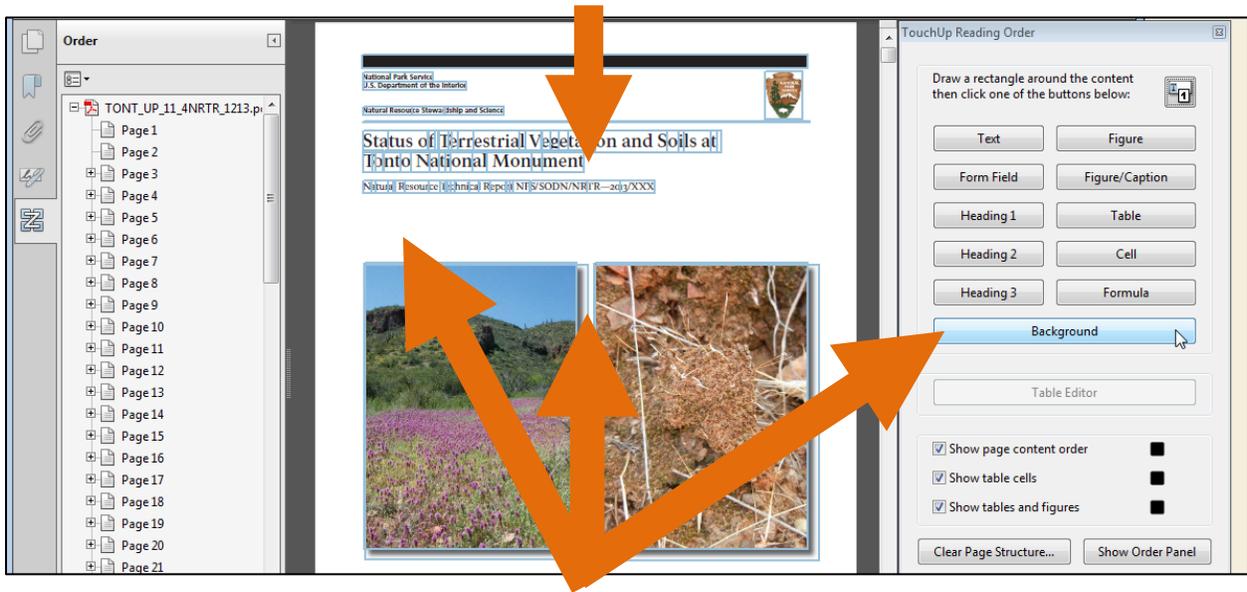


- K) Make sure that the text that was inside the text box is tagged as **Text**.

Note: MS Word text boxes are automatically exported to PDF format with a **Figure** tag. We always replace the Figure tag with **Background** and **Text** tags here.

Traditional front cover pages without tags (not generated using the techniques outlined in our current MS Word or Adobe Acrobat templates for NRTR, NRR, and NRDS reports):

A) Viewing the page with the **TouchUp Reading Order** tools, the page will have no tags at all.



B) Left-click with your mouse, and draw a polygon around all elements on the page to select/highlight them, and click the **Background** button.

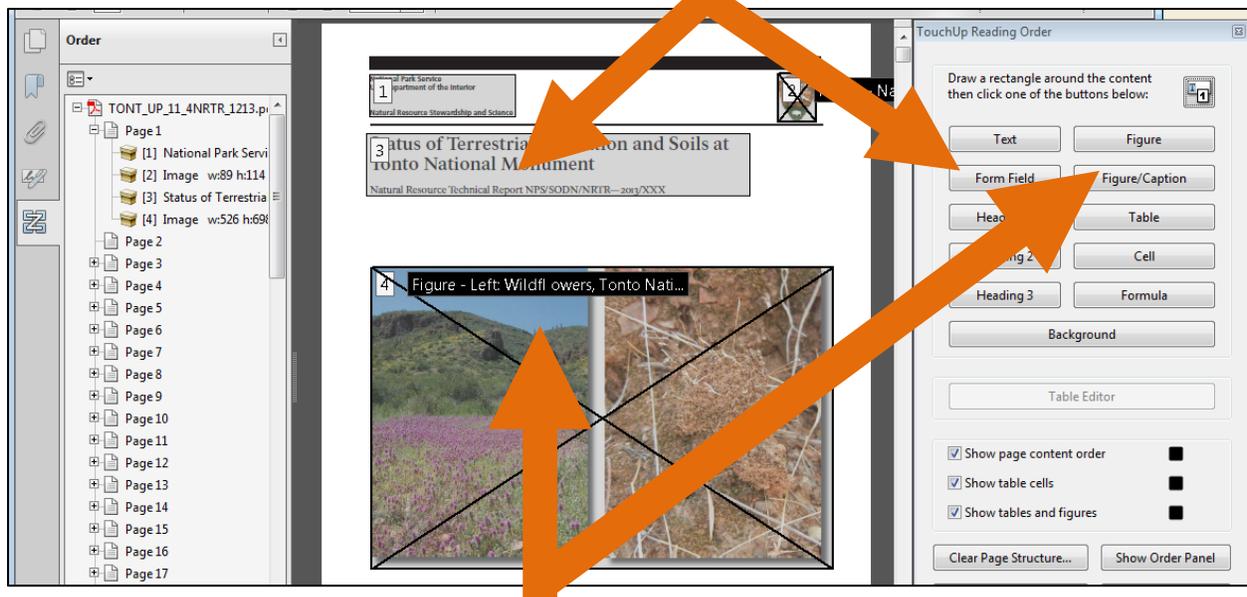
Note: This step helps to ensure that any invisible page elements that were not manually tagged by you will be ignored by screen readers for the visually-impaired.

C) Left-click with your mouse, and draw a polygon around all text elements inside the page-top banner to select/highlight them, and click the **Text** button.



D) Left-click with your mouse, and draw a polygon around all text elements inside the page-top banner select/highlight them, and click the **Figure** button.

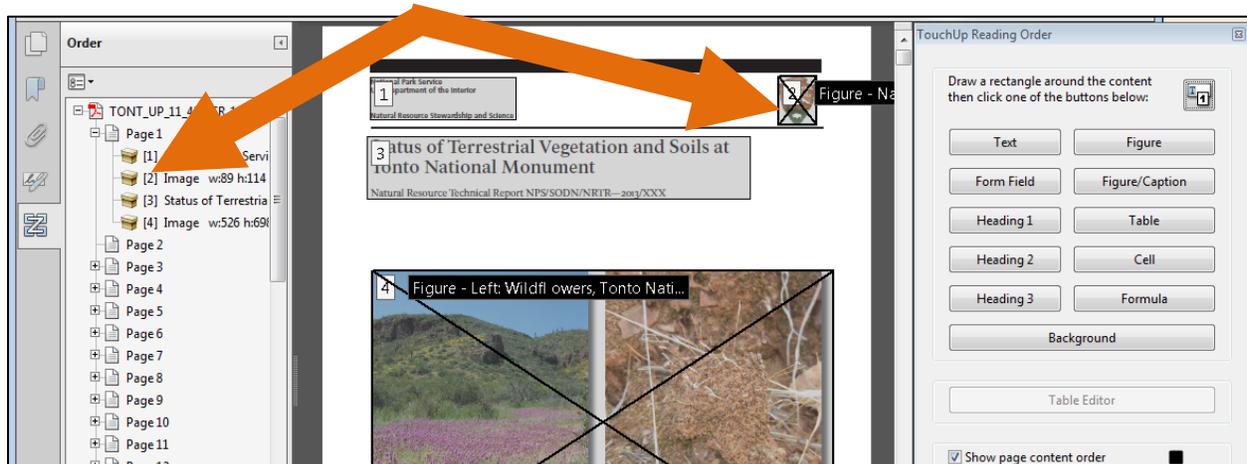
- a) Make sure to add alternate text to the new **Figure** tag (we usually use “National Park Service Logo” here).
- E) Left-click with your mouse, and draw a polygon around all text elements below the page-top banner to select/highlight them, and click the **Text** button.



- F) Left-click with your mouse, and draw a polygon around all text elements inside the page-top banner select/highlight them, and click the **Figure** button.

- a) Make sure to add alternate text to the new **Figure** tag (we usually use “National Park Service Logo” here).

- G) Use the *Order* tools to set the reading order for all page elements. The end result should look something like the example below.

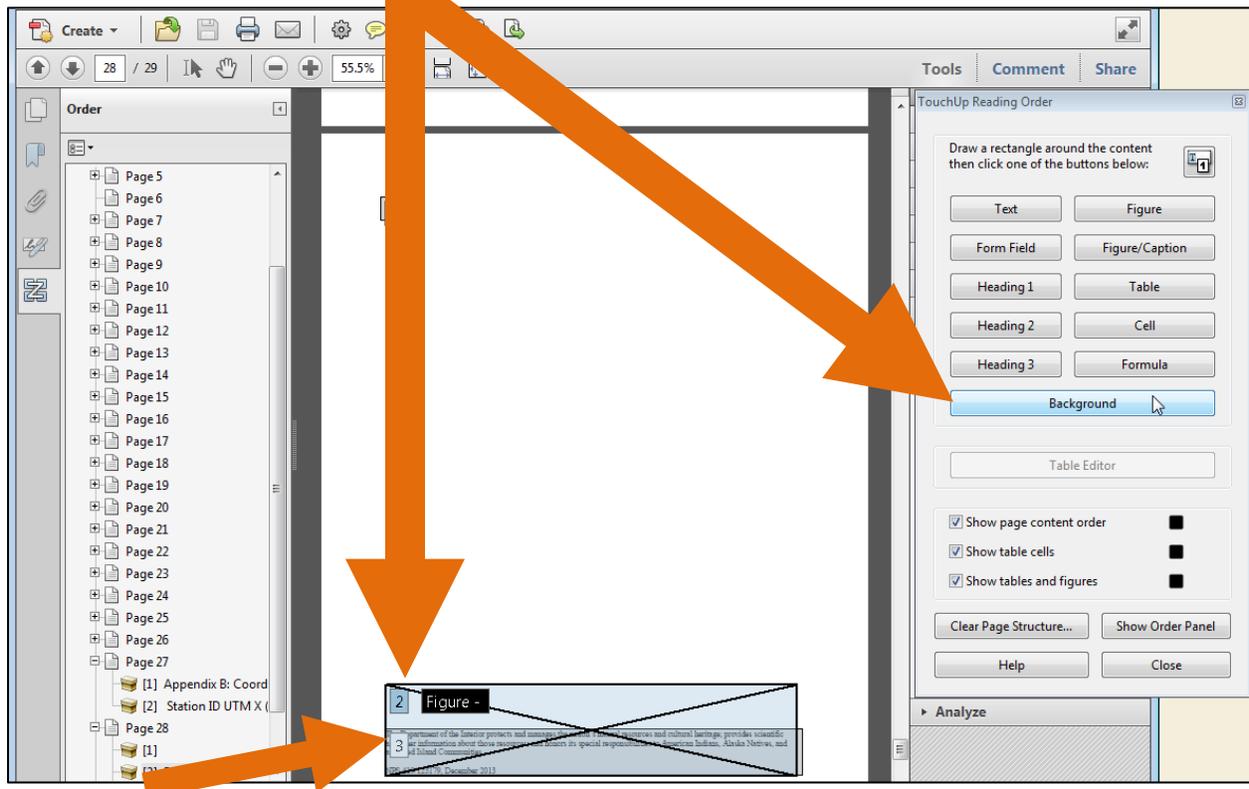


- H) Treat the inside front cover like any other page with no tags.

Back Cover Pages with a Page-top Banner

Traditional back cover pages for reports with tags (generated using the techniques outlined in our current MS Word or Adobe Acrobat templates for NRTR, NRR, and NRDS reports):

- A) Viewing the inside back cover page with the **TouchUp Reading Order** tools, left-click on the **Order** number for the text box **Figure** at the bottom of the page select/highlight it, and left-click the **Background** button.



- B) Make sure that the text that was inside the text box is tagged as **Text**.

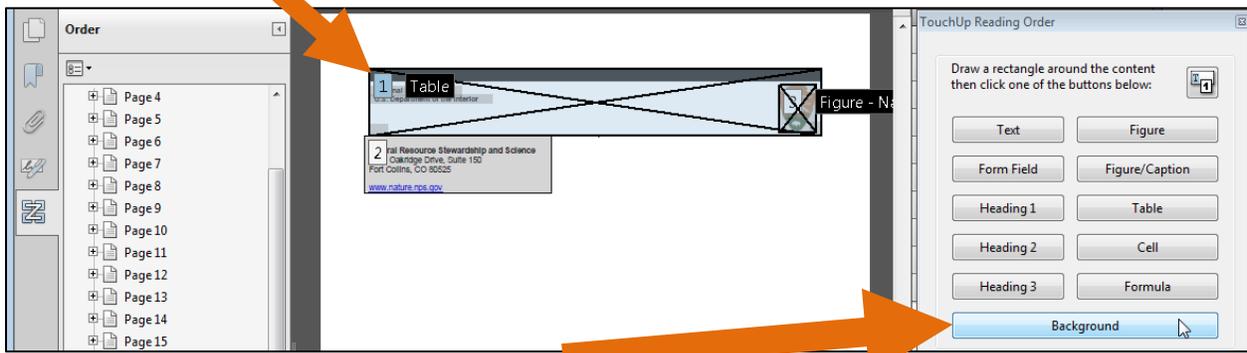
Note: MS Word text boxes are automatically exported to PDF format with a **Figure** tag. We always replace the Figure tag with **Background** and **Text** tags here.

- C) Left-click with your mouse, and draw a polygon around any blank line text elements located above the text at the bottom of the page, and click the **Background** button.

Note: This prevents each blank line from being read aloud to the end-user by older screen readers.

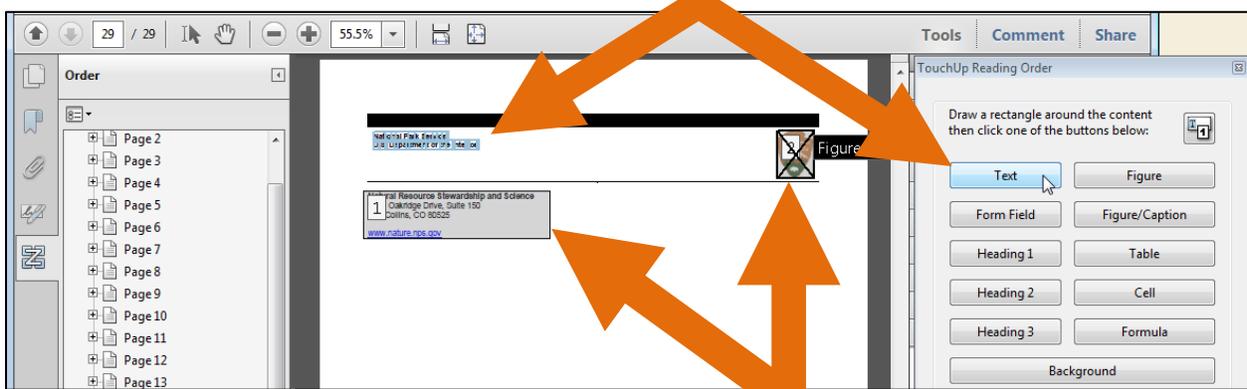
Continued on Next Page

D) On the outside back cover page, left-click on the *Order* number for the page-top banner table to select/highlight it.



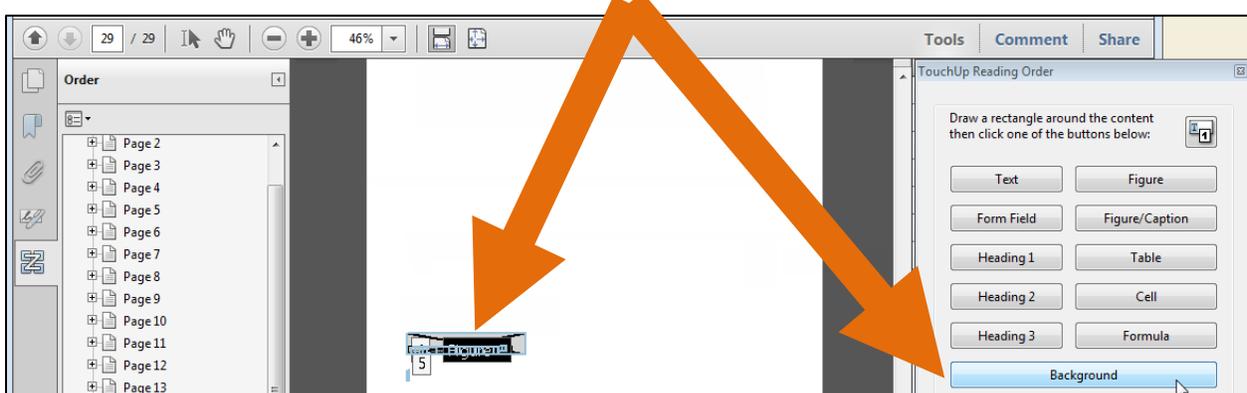
E) Left-click on the **Background** button.

F) Left-click with your mouse, and draw a polygon around any text in the page-top banner to select/highlight it, and click the **Text** button.

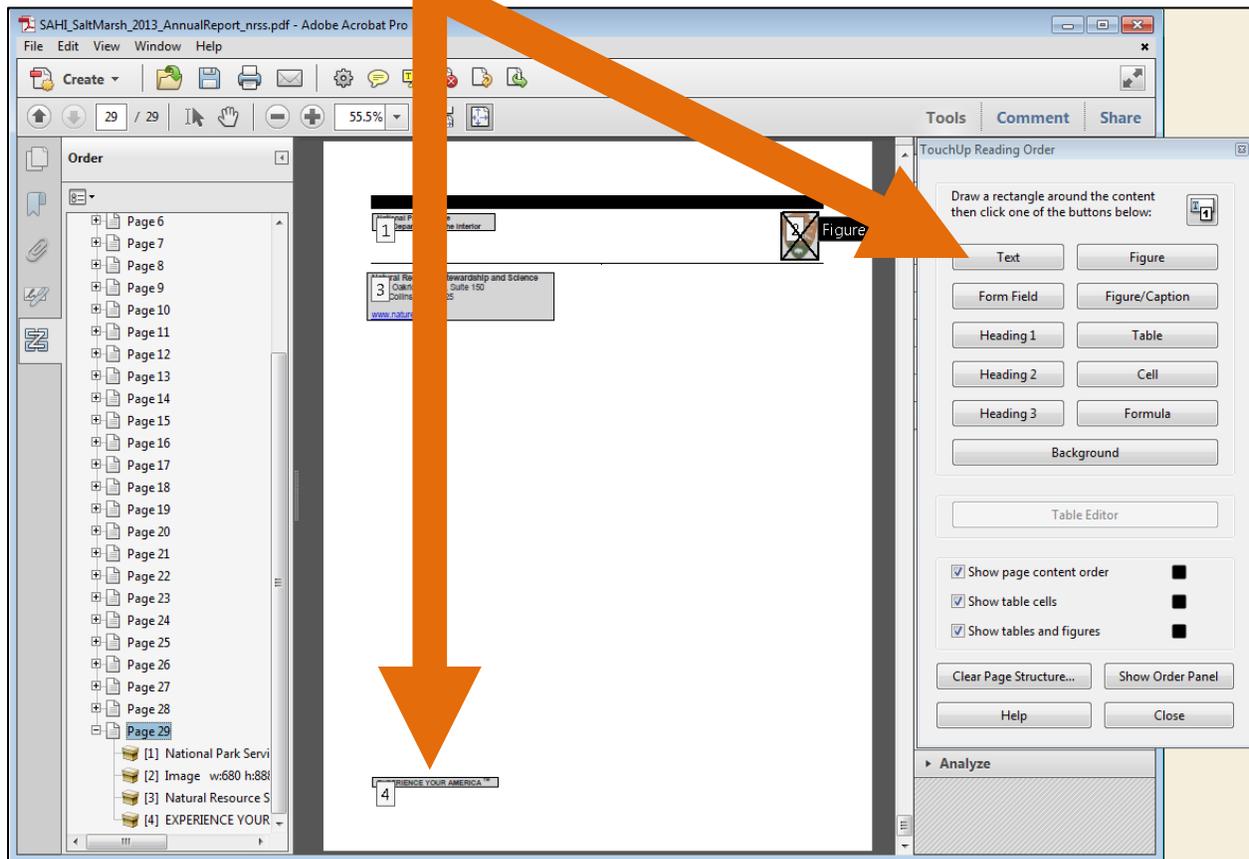


G) Make sure that the NPS arrowhead logo is tagged as a **Figure**, and that it has alternate text, and make sure that the text immediately below the page-top banner is tagged as **Text**.

H) Left-click with your mouse and draw a polygon around everything below the text immediately below the page-top banner, and left-click the **Background** button.



- I) Left-click with our mouse and draw a polygon around the phrase “ *Experience Your AmericaTM*” and left-click the **Text** button.

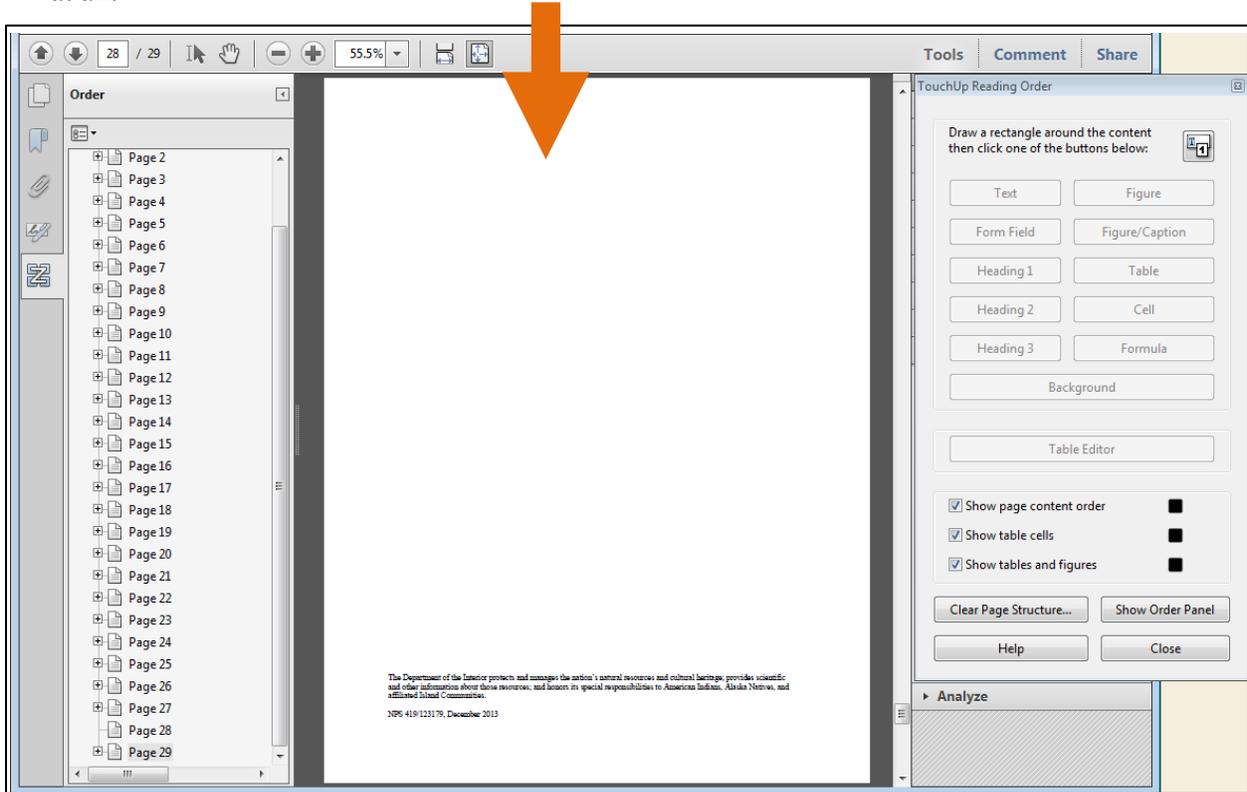


- J) The final page should look something like the example above.

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Traditional back cover pages for reports without tags (not generated using the techniques outlined in our current MS Word or Adobe Acrobat templates for NRTR, NRR, and NRDS reports):

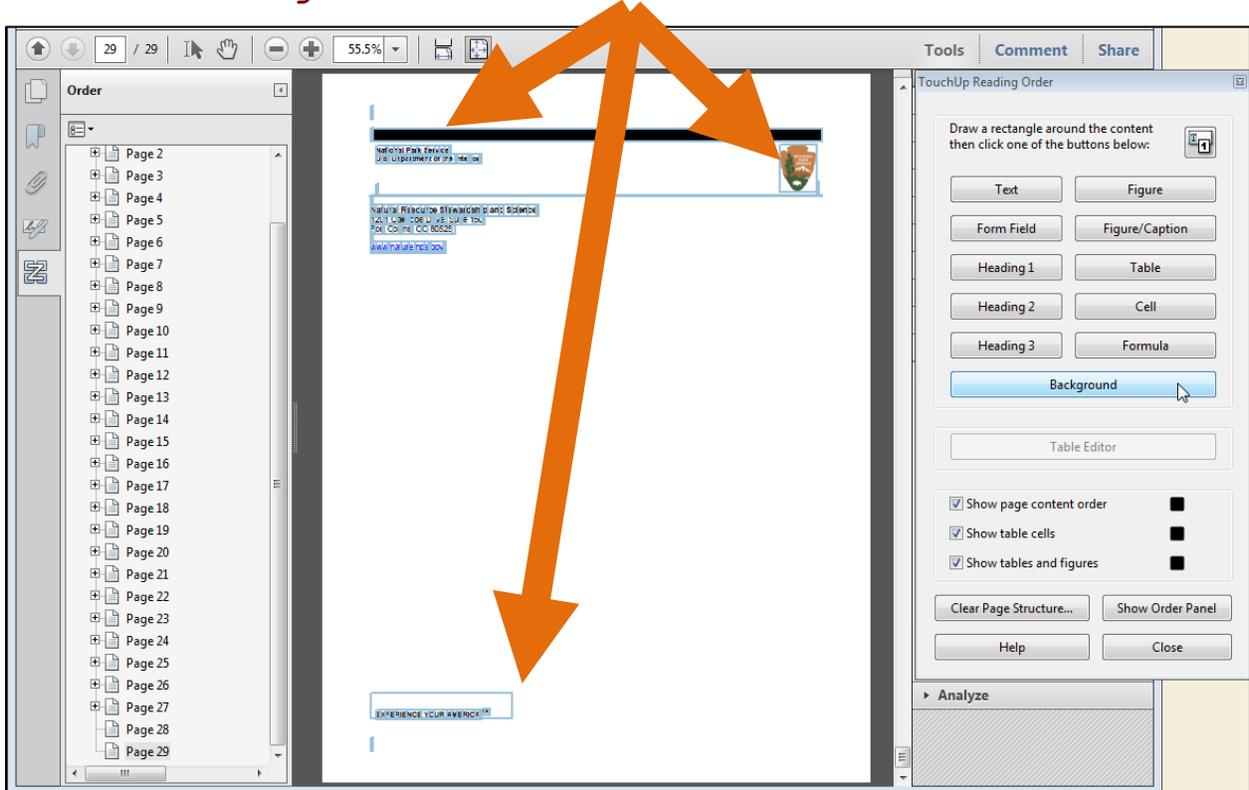
A) Viewing the pages with the **TouchUp Reading Order** tools, the pages will have no tags at all.



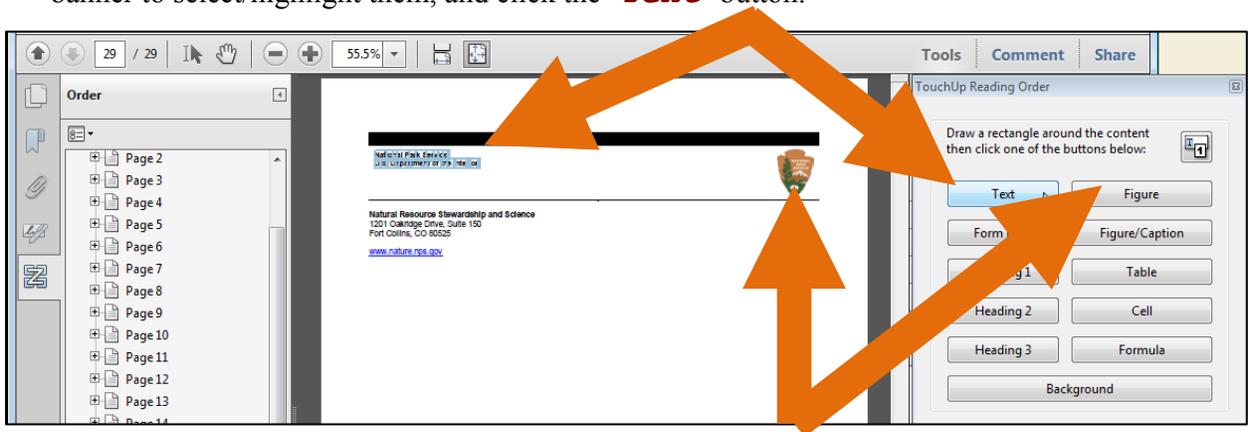
B) Treat the inside back cover like any other page that has no tags.

Continued on Next Page

- C) For the outside back cover page, left-click and draw a polygon around everything on the page, and click the **Background** button.

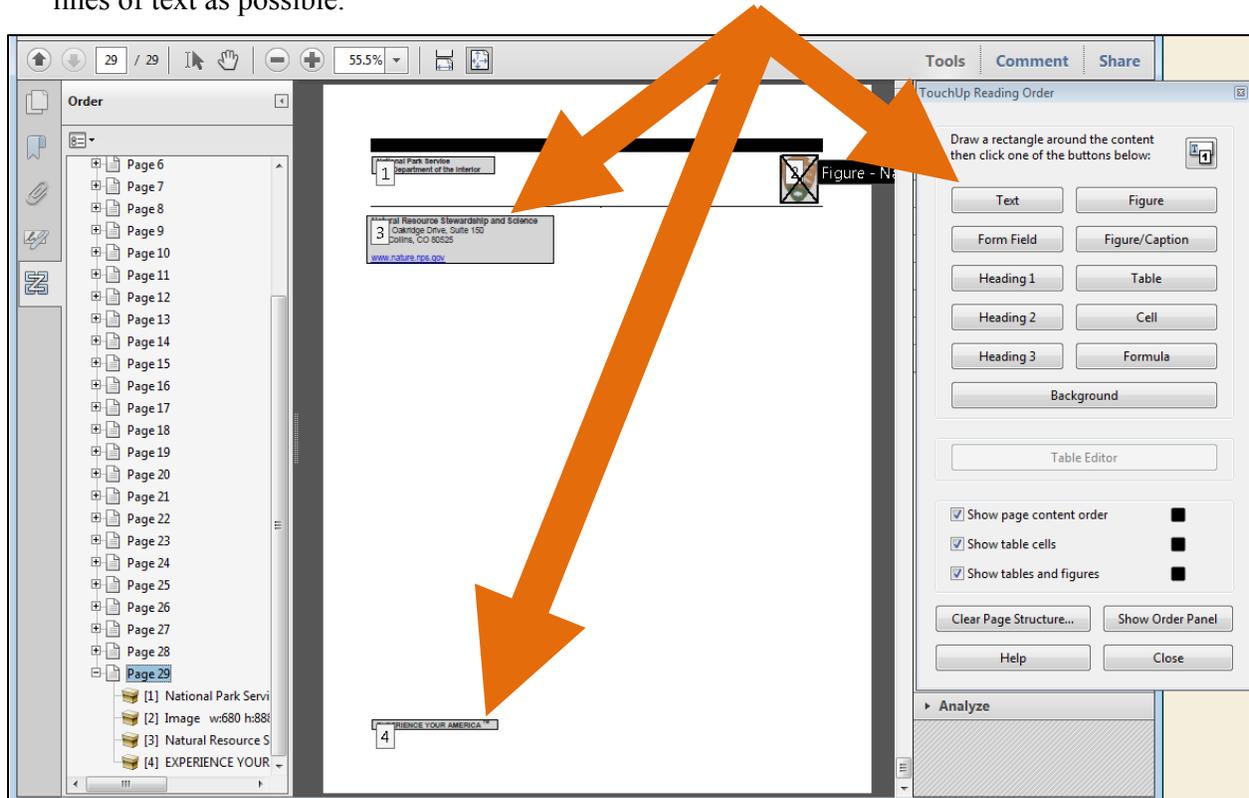


- D) Left-click with your mouse, and draw a polygon around all text elements inside the page-top banner to select/highlight them, and click the **Text** button.



- E) Left-click with your mouse, and draw a polygon around all text elements inside the page-top banner select/highlight them, and click the **Figure** button.
- Make sure to add alternate text to the new **Figure** tag (we usually use “National Park Service Logo” here).

- F) Left-click with your mouse, and draw a polygon around all text elements below the page-top banner to select/highlight them, and click the **Text** button. Make sure to select as few blank lines of text as possible.



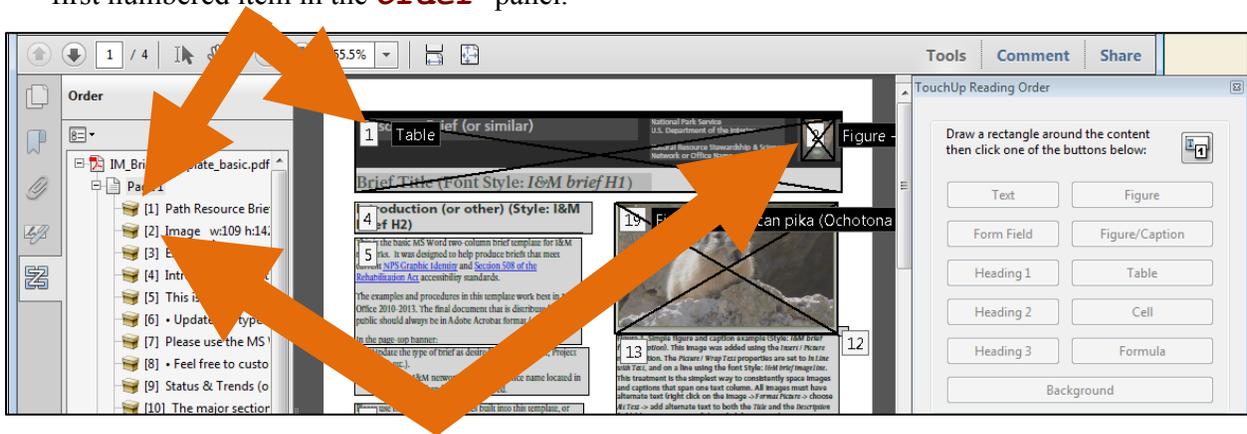
- G) The final page should look something like the example above.

Black Page-top Banners (front and back cover pages of reports, first pages of briefs, etc.)

Specific steps need to be followed to tag black page-top banners. These steps will prevent text elements in the page-top banner from being placed behind the solid-colored background (will make the text invisible to the sighted user).

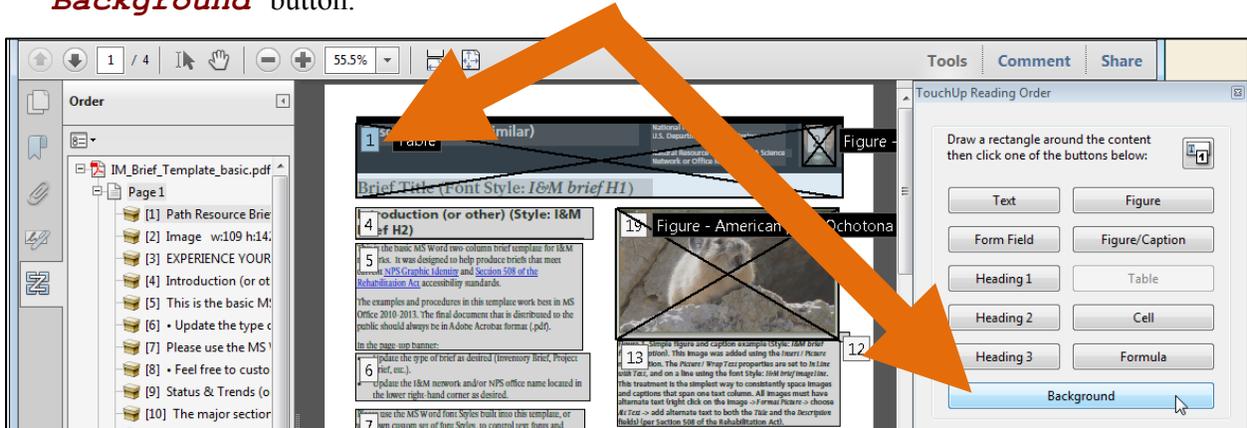
Black page-top banners that are already tagged as a **Table** elements (common with documents generated using MS Word):

A) Left-click on the *Order* number for the page-top banner **Table** element, and set it to be the first numbered item in the **Order** panel.

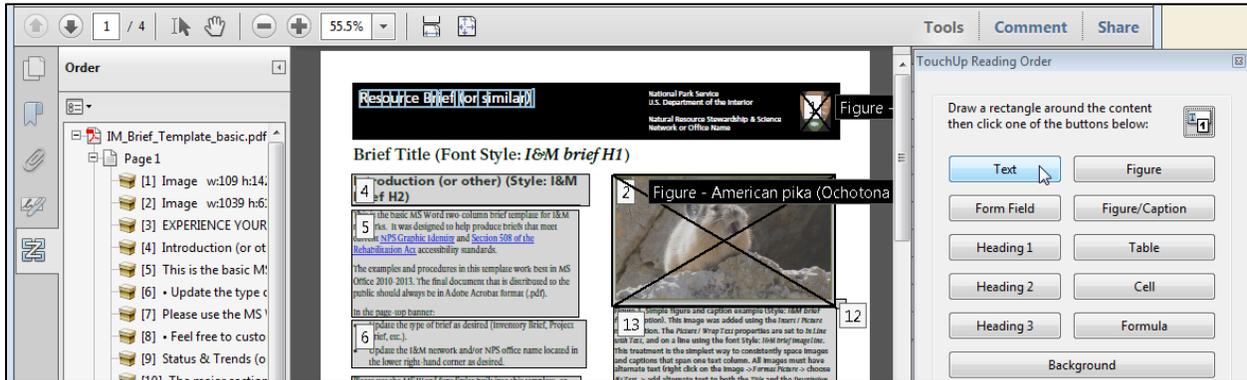


B) Left-click on the *Order* number for the NPS Logo, and set it to be the second numbered item in the **Order** panel.

C) Left-click on the *Order* number for the page-top banner **Table** element, and left-click the **Background** button.



D) Left-click with your mouse and draw a polygon around just any top-left line of text inside the page-top banner to select/highlight it.



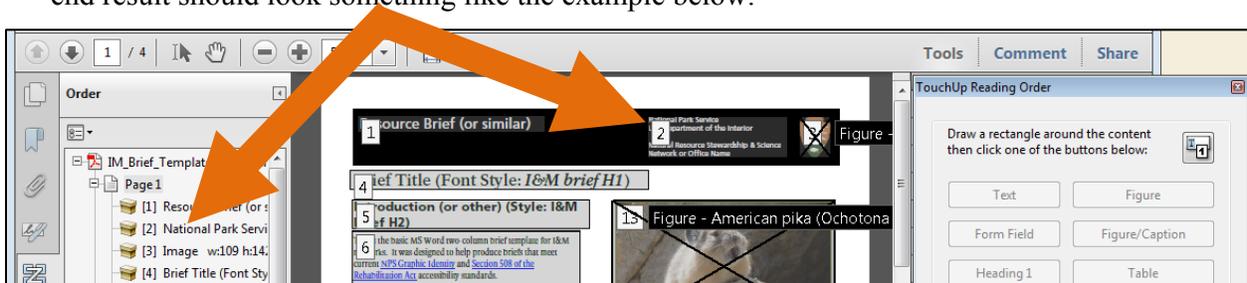
E) Left-click the **Text** button.

F) Repeat steps D and E for any individual lines of text inside the left-hand part of the page-top banner.

Note: Tagging multiple lines of text in a table or text box with a solid background color often places some of the text behind the solid-colored background, making them invisible to sighted users.

G) Repeat steps D and E for any individual lines of text inside the right-hand part of the page-top banner.

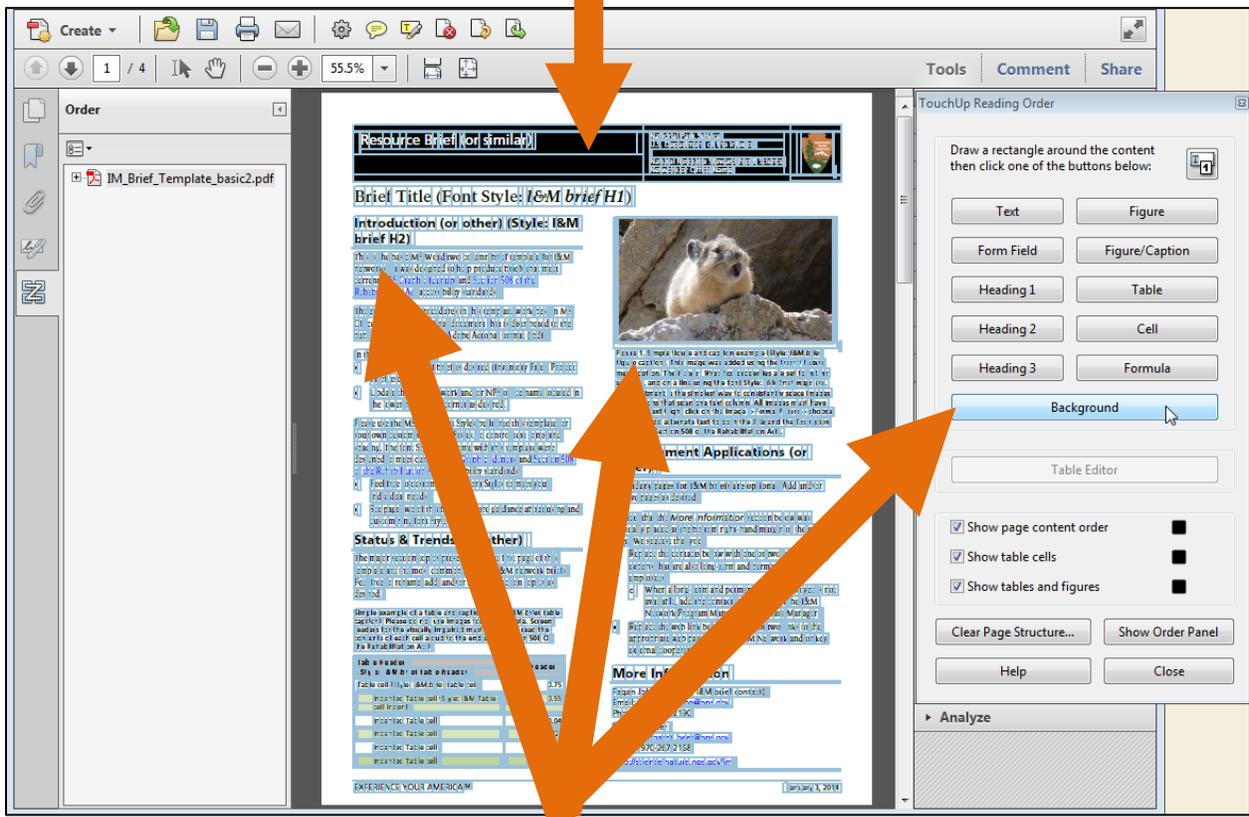
H) Use the *Order* tools to set the reading order for all page elements inside the page-top banner. The end result should look something like the example below.



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Black page-top banners that are not tagged as a **Table** elements (common with documents generated using Adobe InDesign):

B) Viewing the page with the **TouchUp Reading Order** the page will have no tags at all.



C) Left-click with your mouse, and draw a polygon around all elements on the page to select/highlight them, and click the **Background** button.

Note: This step helps to ensure that any invisible page elements that were not manually tagged by you will be ignored by screen readers for the visually-impaired.

C) Left-click with your mouse and draw a polygon around just any top-left line of text inside the page-top banner to select/highlight it.



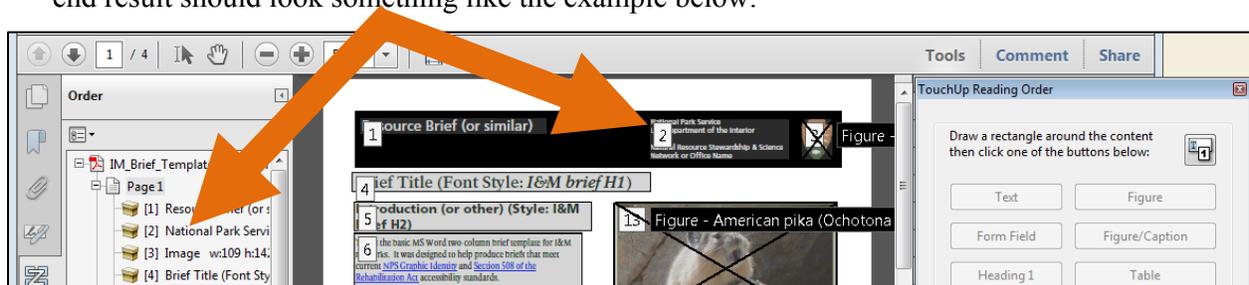
D) Left-click the **Text** button.

E) Repeat steps D and E for any individual lines of text inside the left-hand part of the page-top banner.

Note: Tagging multiple lines of text in a table or text box with a solid background color often places some of the text behind the solid-colored background, making them invisible to sighted users.

F) Repeat steps D and E for any individual lines of text inside the right-hand part of the page-top banner.

G) Use the *Order* tools to set the reading order for all page elements inside the page-top banner. The end result should look something like the example below.



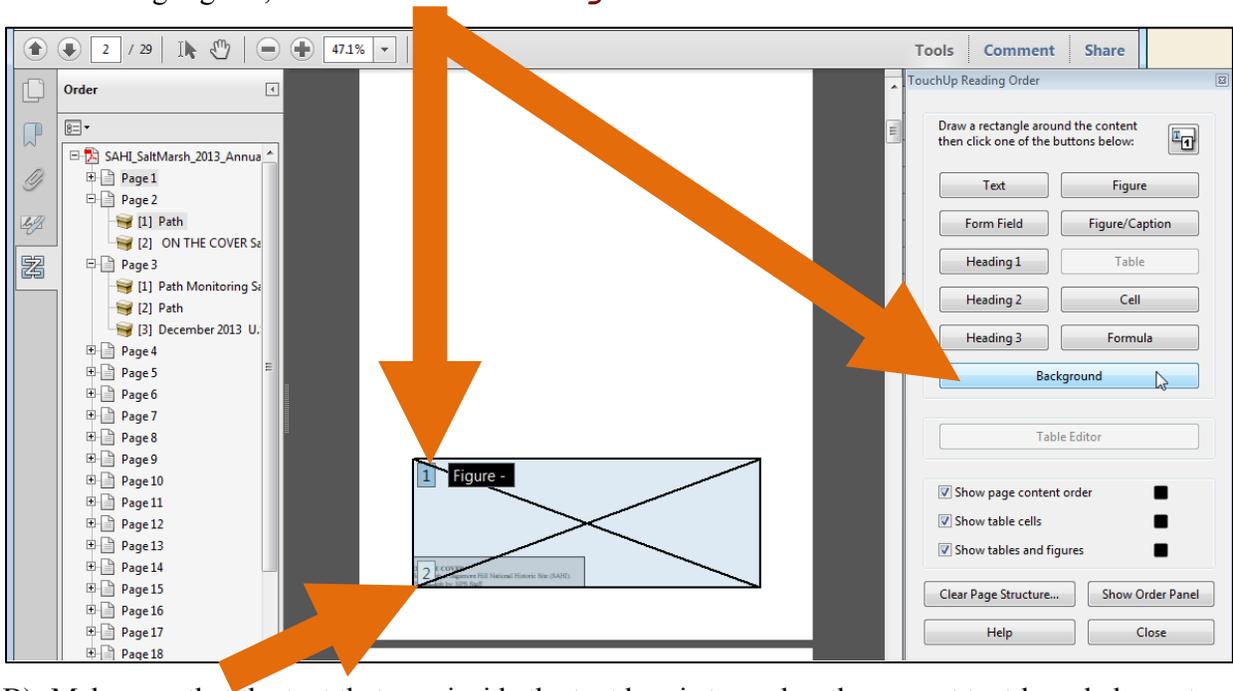
Solutions to Common Tagging Problems

MS Word text boxes are tagged as **Figure** elements

MS Word text boxes are automatically exported to PDF format with a **Figure** tag.

If the text box contains text and is not part of a graphic element (figure, flow-chart, etc.)

- A) Left-click on the *Order* number for the text box **Figure** at the bottom of the page select/highlight it, and left-click the **Background** button.



- B) Make sure that the text that was inside the text box is tagged as the correct text-based element (**Text**, **Heading 1**, **Heading 2**, or **Heading 3**).

If the text box is part of a graphic element like a figure, flow-chart, etc.: Combine all of the page elements that make-up that graphic element inside a **Figure** tag.

Text Becomes Invisible While Changing the Page Reading Order

This happens when the text was added to a layout element that has a solid-colored background in either MS Word or Adobe Acrobat (text box, table, etc.). This is a common Adobe Acrobat object layer and tag bug. The fix/work-around is to:

- A) Save your PDF file, and replace the page in question with the same page from the backup PDF copy, using the ***Tools / Pages / Replace Page*** tool option.
- B) Use the ***Tools / TouchUp Reading Order*** tools to re-tag and set the reading order for the rest of the page like normal.
 - a) Make sure that all other page elements are in the correct reading order.
- C) Left-click with your mouse and draw a polygon around the entire problem part of the page, and click the ***Figure*** button.
 - a) You want to select everything up to the edge of other, already tagged, page elements.
 - b) We temporarily tag it as a figure, so that we can change the reading order for the text and the solid-colored background element as a unit.
- D) Set the reading order of the new ***Figure*** element to the correct position on the page.
- E) Left-click on the *Order* number for the ***Figure*** tag, and click the ***Background*** button.
- F) Left-click with your mouse and draw a polygon around the top-most individual line of text, and click the appropriate text tag button (***Text, Heading 1, Heading 2, or Heading 3***).
- G) Repeat step *F* for each individual line of text in that area.
 - a) Adjacent lines with the same text tag type will automatically combine to be inside the same text attribute tag, but without any of the lines being placed behind the solid-colored background object.
- H) Change the reading order of the new tag(s) as required.

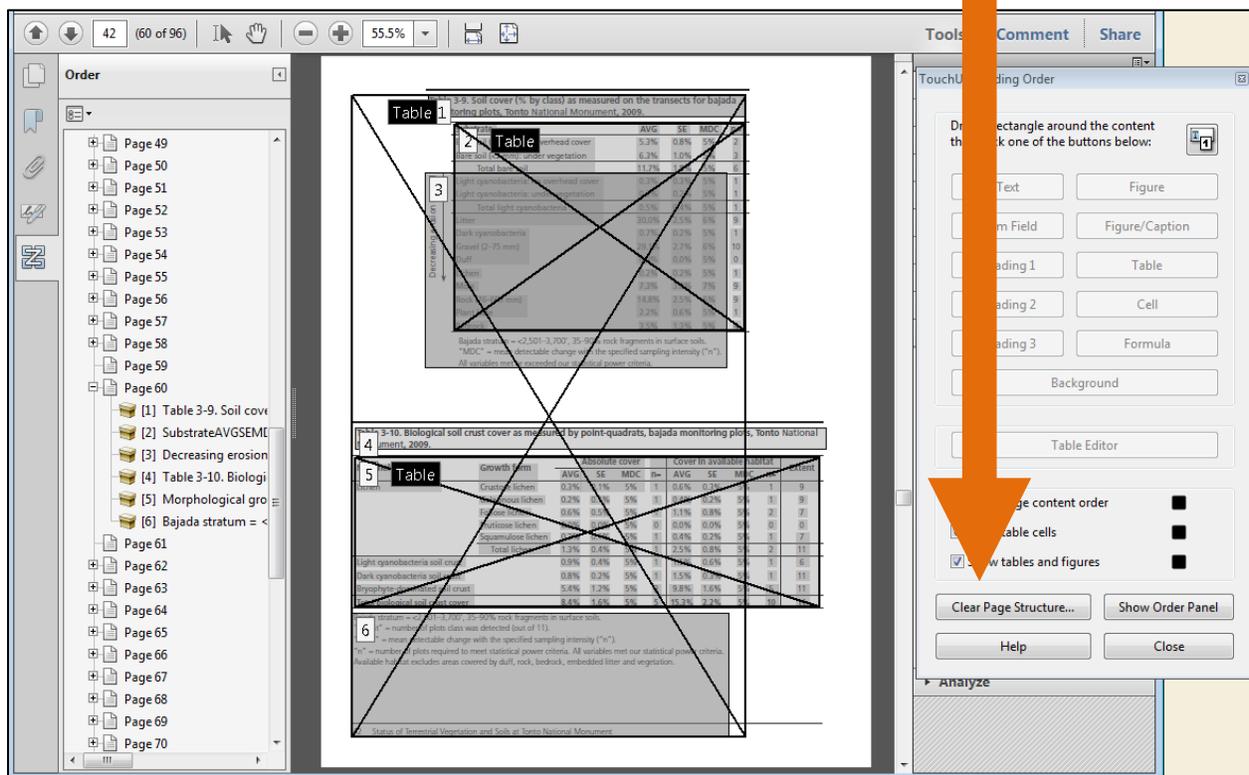
Multiple Page Elements and/or Pages Are Placed Inside a Single **Table** Table Tag

This is a common Adobe Acrobat tag bug that usually occurs on pages with, or adjacent to pages with:

- Tables or images that extend beyond the pre-defined page margins.
- Text boxes or graphics that were specifically designed to hide text in page headers or footers (“graphic” element that spans across page margin – usually done to create completely blank pages).
- More complex table layout schemes (multiple rows with cells that span multiple columns, multiple columns with cells that span multiple rows, with vertical or angled text alignment, etc.).

Potential solutions:

- A) On the **TouchUp Reading Order** panel, left-click the **Clear Page Structure** button.



Note: the **Clear Page Structure** tool completely removes all tags for two pages at-a-time. After you use this tool, you will need to re-tag both pages.

Continued on Next Page

- B) Left-click with your mouse and draw a polygon around all elements on the entire page, and click and left-click the **Background** button.
- C) Tag both pages like you would any other page with no tags.

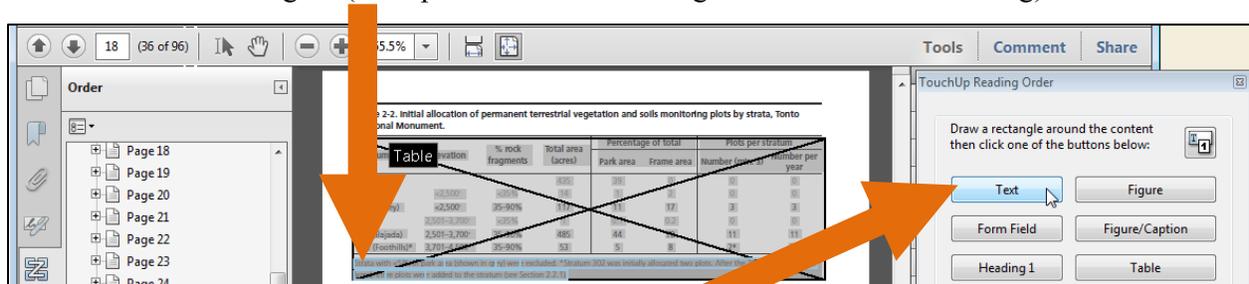
If the above did not work:

- A) Obtain a copy of the final MS Word or Adobe InDesign file from the author.
- B) Open the original MS Word or Adobe Acrobat file, and make sure that the targeted pages were formatted using the basic guidelines provided in earlier sections of this document. Things you should check and/or update as required:
 - a) All tables need to be formatted using the basic techniques found in this document and in our document templates.
 - b) All tables and figures should not go more than about 0.25-inch beyond the pre-defined page margins. Re-size things as needed to make this happen.
 - c) There should be no graphics or text boxes used to cover page header or footer text to make blank pages. If there are, delete the entire page, and replace it with a blank page that has no text in the header or footer.
- C) Export just the two pages that had their tags removed in Adobe Acrobat to a new and stand-alone PDF file, using the procedures outlined in this document for MS Word or Adobe Acrobat, as is appropriate.
- D) In the new and stand-alone PDF file, fully edit and update the tags on both of the new pages.
- E) Once the pages are tagged correctly, in the main PDF document, replace the “bad” pages with the new ones using the **Tools / Pages / Replace Page** menu option.

Text or Other Page Element Becomes Attached to an Adjacent **Table** or **Figure** Tag

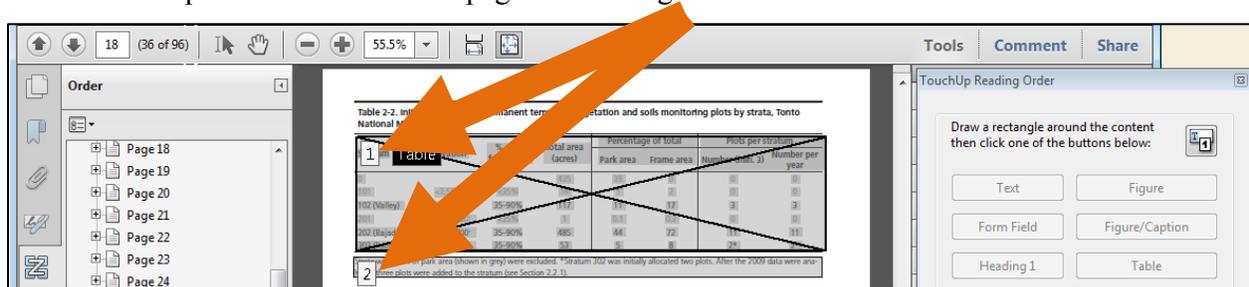
This is a common Adobe Acrobat tag bug that occurs while you are manually tagging other page elements adjacent to tables and figures. The fix is easy.

- A) Left-click with your mouse, and draw a polygon around the page element that you want to detach from the table or figure (example shows a **Text** tag attached to a **Table** tag).



- B) Left-click the appropriate **TouchUp Reading Order** button (**Text** tag is shown here).

- C) You may need to repeat steps A and B a couple of times to it to work right. The end result should result in separate Table and other page element tags.



If the above did not work, see the section of this document: “Multiple tagged page elements and/or pages are placed inside a single Table element tag.”

References

The guidance and procedures outlined in this document are a compilation of testing, modifying, and summarizing the information and procedures provided from the following sources.

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