

**Improving the
Readability of
Documents Produced
by Regional Fishery
Management Council
and NOAA Fisheries
Southeast Regional Office
(Sustainable Fisheries Division)**

A Report of the
**Document Readability
Improvement Team**

June 2011

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Abstract

A Document Readability Improvement Team (Readability Team) was created to recommend methods to increase the readability and comprehension of documents produced by the three regional fishery management councils and the Sustainable Fisheries Division of NOAA Fisheries, Southeast Regional Office (SERO SF) staff. This report largely builds from the findings of a National Environmental Policy Act (NEPA) Writing Workshop sponsored by the SERO NEPA Program in January 2010. Clearer writing and more effective presentation will increase the probability that the documents will be used to inform the public and decision-makers of the proposed regulations. The recommendations are directed to document authors, as well as supervisors who determine what tools are required for document production. The Readability Team determined that reader comprehension may be improved on many levels. Documents should be better organized and written for specific audiences to decrease the time readers have to invest to find material of interest. Redundancy within the documents must be minimized. Writing clarity must improve, largely through the use of the principles of *plain language*. Finally, documents should be standard to the extent possible in terms of both format and outline.

1 Background

It is common for the public to comment that the fishery management documents¹ produced in the Southeast Region are unreadable. Document length, use of jargon, and complexity of analysis are often cited as examples of deterrents to readability and comprehension of ideas.

Why should we strive for a higher degree of readability and comprehension? Authors of documents are in the business of communicating information; the documents provide decision-makers with the information necessary to make reasoned choices while presenting the information for public comment. Ultimately, the document serves to outline the decision-making process for proposed fishery regulations. Difficult to read documents create a roadblock to effectively communicating the proposed issues and relevant impacts. Decision-makers may not fully understand the basis for their decisions, reviewers may be unable to locate the material they are tasked to review, and the public is often removed from the commenting process. The public may turn to

other sources of information, such as newspapers and publications developed by special interest groups. Authors ultimately become the only reviewer and audience of their work.

A Document Readability Improvement Team (Readability Team), composed of Council and SERO SF staff (**Appendix A**), was formed with two primary goals: (1) recommend ways to increase the readability of the documents and (2) recommend a standard outline and format elements to be used by all three Councils. The desired outcome is that, as these recommendations are implemented, documents will be easier to read and understand, and information within the documents will be easier to find.

In developing recommendations, the Readability Team researched *what makes one document more readable than another?* Other questions included: *Why is it important to have a document that is readable? How is readability improved? And finally, how can the document development process be adjusted to address these problems?* This report addresses these questions, while presenting possible solutions.

¹The use of “documents” in this report refers to documents produced by the Caribbean, Gulf of Mexico, and South Atlantic Fishery Management Councils and SERO SF. Usually, these are in the form of consolidated plan amendments and NEPA documents. “Documents” include the appendices.

2 Approach

In January 2010, NOAA Fisheries Southeast Regional NEPA Office held a NEPA writing workshop that investigated ways to develop better documents (Mattern et al. 2010). This workshop was attended by SERO SF and South Atlantic Council staff.

The Readability Team seeks to develop specific recommendations for supervisors and authors. A three step process was used to develop the report.

- (1) Gather representatives from the three Councils (Caribbean, Gulf of Mexico, and South Atlantic) and SERO SF to serve on the Readability Team.
- (2) Form four sub-groups to address problems with document organization, visual appearance, written word, and uniformity among documents (**Figure 1**).
- (3) Each group documented the issues to be addressed, cause of problems, and recommendations for solutions. Each recommendation is addressed to either authors or supervisors.

How the Report is Organized

The following outline is used for each sub-group section:

- (1) **Issue to be Addressed**
- (2) **Causes of Problems**
- (3) **Recommended Solutions**

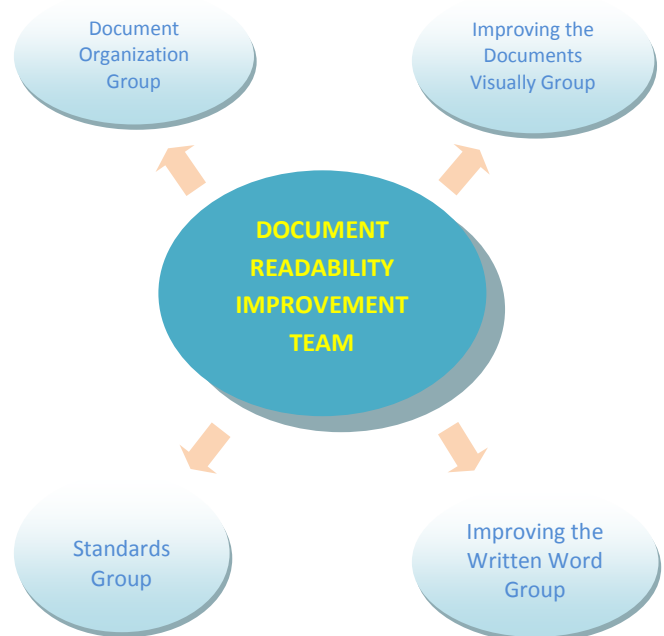


Figure 1. Sub-groups of the Readability Team.

3 Improving the Written Word

“The (land management) plans are so difficult that it appears that only those with advanced education can easily read the plans. This may mean that the plans reduce the role of the average citizen in the decisions, while it increases the role of such groups as university faculty.”
(Gallagher and Patrick-Riley 1989)

Issue to be Addressed

Documents produced by the Regional Fishery Management Councils and SERO SF are difficult to read and fail to engage the reader. Documents are commonly full of long, wordy sentences. In turn, lengthy paragraphs are strung together without a clear direction of ideas. Documents are commonly impersonal, vague, and disjointed without a narrative flow. As a result, the writing often fails to “tell a story”.

Authors fail to write in *plain language* as required for governmental agencies. More specifically, sentences typically do not have one main point, contain jargon and

acronyms, and are written in a passive voice. The documents, as a whole, tend to be repetitive.

A document that is frustrating to read creates a roadblock. Ultimately, the reader is unable to grasp the author’s message due to the distractions inherent in a technical document. The information may become incomprehensible. Readers often skeptical of regulations and science may become more suspicious of the information presented in the document. Finally, the Councils and SERO SF may miss an opportunity for public participation in agency decision-making; only those with specialized training and higher education can decipher and interpret the documents.

Causes of Problems

The process used to create documents contributes to the inability to comprehend the information (**Table 1**). Fishery management plans, subsequent amendments, and associated NEPA documents are created by an Interdisciplinary Team or IPT. The IPT consists of SERO SF, NOAA Fisheries Southeast Regional Science Center, NOAA General Counsel, and Council

employees. Typically, an IPT will have five writers; the remaining IPT members are reviewers. Writing styles vary between authors.

Table 1. Issues that affect the readability of the written material in the documents.

DOCUMENT ATTRIBUTES	DOCUMENT PREPARATION PROCESS
Multiple writing styles by different authors	Multiple authors working independently
Redundant information	Multiple legal mandates
Including material that is brought from another amendment through “cut and paste” methods	No training in plain language writing
Lengthy documents	No standards for “readability” formally established
Wordy sentences	No technical editors
	No resources in plain language
	Authors must present technical and complex issues
	Short deadlines
	Multiple audiences
	Short timelines

What is Plain Language?

Plain language (also called Plain English) is communication your audience can understand the first time they read or hear it.

Recommended Solutions

Recommendation 1

Authors of documents and PowerPoint presentations should use principles of *plain language* to improve message clarity.

Authors should incorporate the following principles of plain language into their writing:

■ Simplify Sentences

Shorter sentences with a single main point are more effective. Authors should avoid clusters of nouns (“South Atlantic snapper grouper fishermen” or “trip-level economic performance”) and reduce extra words. Writers should aim for sentences shorter than 20 words. Readers are more

likely to pay attention to bulleted or numbered lists in place of lengthy sentences.

■ Write Active Sentences

Using a passive voice can impede concise writing by confusing the traditional object and subject classifications. Readers may be unsure who is acting and who is affected. Passive sentences may be necessary when it is unknown who/what performed the action.

■ Avoid Jargon

Jargon, or “shop-talk”, is language that the layman does not understand. Jargon is usually complicated, wordy, obscure, and pretentious. Examples of jargon in

fisheries management include the following:

- Posterior distribution
- Trip-level economic performance
- Distributional effects
- Indices of abundance
- Ex-vessel value
- Proportional standard error
- Cohort
- Maximum fishing mortality threshold
- Yield per recruit analyses
- Marginal rates of return
- Instantaneous mortality rates
- Sensitivity analysis
- Dome-shaped partial recruitment
- Bootstrapping
- Catch-per-unit-effort
- Fecundity

What is a Passive Sentence?

A sentence is passive whenever you encounter the three following elements:

- (1) a form of the passive auxiliary BE (be/been/is/are/was/were),
- (2) followed by a verb,
- (3) and then a past form (verb + ed or an irregular past form).

Example: Replace “Species in the fishery management unit are assessed on a routine basis” with “Fishery scientists assess species in the fishery management unit on a routine basis.”

The use of jargon should be avoided or minimized when writing for audiences other than those in the writer's specialized group. If jargon cannot be avoided, the writer should clearly explain the concept to the reader. A glossary may not be enough; jargon may need to be defined and explained at various points throughout the document, through the use of side-bars and text boxes. Generally, the level of jargon increases from the summary, to the main document, to the technical appendices.

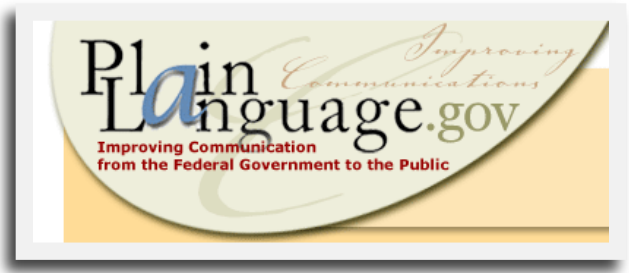
Recommendation 2

Supervisors should provide access to resources to improve the use of plain language.

Training Opportunities. Onsite and online resources are available through *plainlanguage.gov*

Books. Excellent references are available such as *Planning in Plain English* by Natalie Macris.

Software. Stylewriter or Microsoft Word have programs to determine readability scores of documents.



Recommendation 3

When appropriate, authors should consider a narrative flow that engages the reader (also called “telling the story”).

It may be more effective to avoid developing an impersonal and vague document and write in a more relaxed and informal manner. As stated in Mattern (2009), “telling a story means writing in clear, simple language and explaining the problem from the reader’s perspective”. To do this, the writer must know the audience.

Often, documents lack a narrative flow that involves a logical progression of information from sentence to sentence, paragraph to paragraph, and section to section.

As in any good story – whether it be a novel, scientific study, or Environmental Impact Statement (EIS) – characters (entities affected), setting (geographic scope), and basic outline of the plot must be

documented. The plot outline includes what is expected to happen, when, and to whom.

Recommendation 4

Authors should be brief when possible and discuss impacts in proportion to their significance.

Fisheries documents are rarely concise. For example, a section that serves to outline the *impacts* of a proposed action will often force a reader through a restatement of all the alternatives and a detailed discussion of the requirements of the Magnuson-Stevens Act. The requirements of the Magnuson-Stevens Act should be discussed in the background section of the document. Also, instead of repeating detailed descriptions throughout the document, authors should consider the use of text boxes with the alternatives strategically placed for the reader's reference (**Figure 2**). The alternatives in abbreviated form throughout the document will remind the reader of the alternatives without including the full, detailed text. Acronyms may be explained in a similar way.

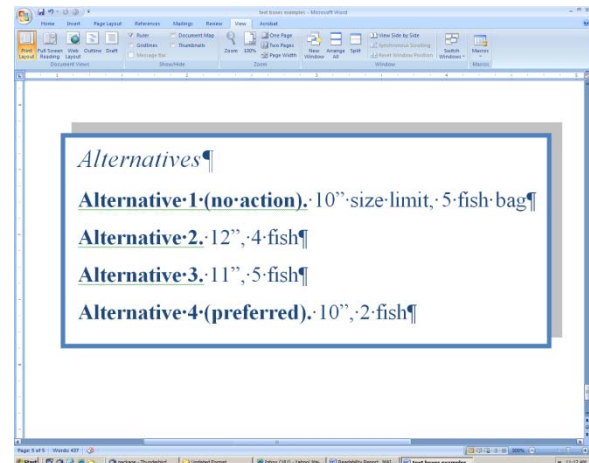


Figure 2. An example of the use of a text box to remind the reader of the alternatives.

Get to the point! Authors should bring the most important points to the front of the section, paragraph, or document. Authors should incorporate by reference as discussed later in this report. Eliminate redundancies within sentences such as “none (at all)”, “(separate) entities”, and (alternative) choices”.

Recommendation 5

Supervisors should incorporate the use of *technical editors* into the document production budget. IPT leads should develop timelines that allow for the technical review of documents. If budget precludes the hiring of editors, then more experienced authors should peer-review text of less experienced authors, if practicable.

between purpose and need sections, analysis of alternatives, and the section describing the Council's choice of the preferred alternative. The editor may also identify where statements need more support.

The quality of the documents will improve with a review by a technical editor. Technical editing involves reviewing technical text and identifying errors related to the use of language in general or in adherence to a specific style guide. Editors may review the following:

- Grammar
- Spelling
- Punctuation
- Accuracy
- Inconsistent figures
- Citation errors
- Continuity of thought
- Smooth flow of ideas

Technical editing may support the decision-making process by helping to clearly explain the proposed actions and alternatives. For example, a technical review may highlight inconsistent statements

4 Document Visual Design

“The careful and considered use of textual effects can help set a persuasive and positive mood for the document itself: a form of pathos or emotional appeal. Moreover, as part of establishing the logos of the substantive arguments contained in the document, the argument must be presented in a visually effective manner so the reader can more easily understand the argument and retain more of the material.”

(Ruth Ann Robbins 2004)

Issue to be Addressed

Documents produced by the Council and SERO SF are often visually unappealing, causing the document to seem overwhelming and laborious. A typical document will fail to draw the reader’s attention to important information. Documents favor ink over white space and fail to use tools common to design principles. Numerous tools are available to help the writer convey important concepts. For example, transforming lengthy sentences into vertical lists is a useful way to present a series of requirements or steps. In addition,

text boxes and bold font place emphasis on ideas, definitions, or significant points. And of course, “a picture is worth a thousand words”; illustrations and graphs go a long way to describe complex ideas and give life to the document.

Finally, documents should have a similar look and feel. Current documents differ in appearance not only from Council to Council, but also amendment to amendment. Consistent layout, both within a document and between Councils, is important so the reader knows what to expect.

Cause of Problems

The lack of visual elements makes a document difficult to read and comprehend (**Table 2**). Many IPT members have little training in the use of visual elements, which often leads to extreme document layout differences between Councils.

Table 2. Issues that affect the readability of the written material in the documents.

DOCUMENT ATTRIBUTES	DOCUMENT PREPARATION PROCESS
Documents lacks effective visual attributes	No training in of the use of visual elements and layout
Different Councils create completely different looking documents	Limitations to Microsoft Word
	Perceived lack of creative freedom by the authors
	Currently, the improvement of visuals must be done by the IPT Lead
	Sometimes easier for authors to just imitate the last document and overuse “cut-and-paste”
	Timing constraints limits the amount of time authors can apply towards improving the visuals

A variety of page layout formats, including columns, may be used to move away from the traditional block paragraphs. White space, sidebars, and headings may also be used to make the writing more visually appealing.

Recommendation 2

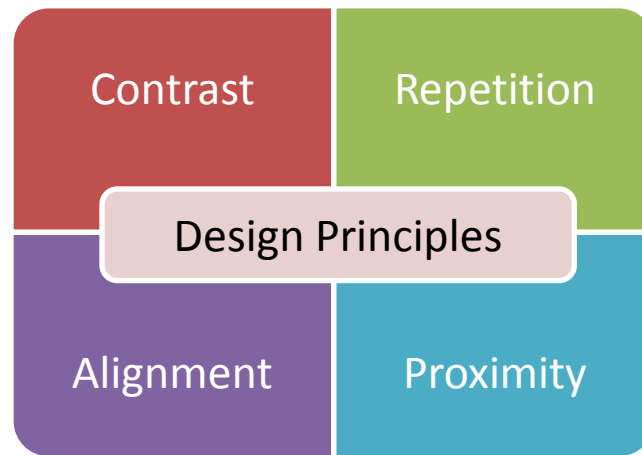
Authors should use the following 4 Design Principles when developing their material: 1) Contrast; 2) Repetition; 3) Proximity; and 4) Alignment (Figure 3).

Recommended Solutions

Recommendation 1

Authors should use more visual elements to enhance the reader’s comprehension of complex issues.

In addition to text, authors should incorporate tables, figures, photographs, graphics, text boxes, or other visual tools to emphasize key points or to break up long pieces of text. **Appendix C** contains several examples of the use of text boxes.



Contrast	Repetition	Alignment	Proximity
<ul style="list-style-type: none"> • Avoid elements (color, size, line thickness, space, etc.) on the page that are <u>extremely similar</u>; • If elements are not the <u>same</u>, then make them <u>very different</u>. • Some examples: <ul style="list-style-type: none"> • Large type and small type (12 pt font paired with 14 pt font is not contrast) • Cool colors and warm colors; • Horizontal element (long line of text) and vertical element (tall, narrow column of text) 	<ul style="list-style-type: none"> • Can be thought of as “consistency”; • Repeat visual elements throughout the document; • Develops organization and strengthens the unity; Some examples include • Bold font, colors, shapes, spatial relationships, line thicknesses, fonts, sizes, graphic concepts, a certain bullet, etc. 	<ul style="list-style-type: none"> • Nothing should be placed on the page arbitrarily; • Everything should have some visual connection with another element on the page; • Avoid using more than one text alignment on one page (i.e. don’t center some text and right-align other text); • Creates a clean, sophisticated, fresh look. 	<ul style="list-style-type: none"> • Related items should be grouped close together; • Helps organize information, reduces clutter, and gives the reader a clear structure. • For example, a heading that is followed by too many vertical spaces (hard returns) will create too many fixation pauses and a less legible document.

Figure 3. Design principles that authors should follow.

Recommendation 3

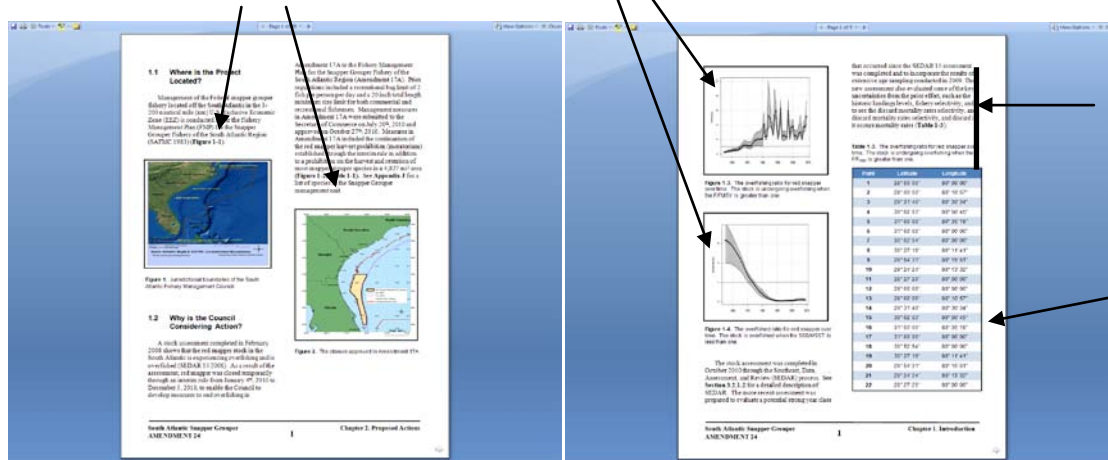
Authors should follow the Visual Examples in Figure 4 and Appendix C. The tips demonstrate how each Design Principle is used and the accompanying visual examples illustrate how documents look when executed.

Tips for Authors

- Use white space.
- Strive for illustrations that are clear and precise.
- Use headings as they summarize what the reader is about to read and increases whitespace. Make heading specific and cover all material until the next heading. Only capitalize first letter of first word.
- Utilize a mixture of paragraph lengths.
- Use lists, tables, figures, sidebars, and columns.
- Do not overuse tables. Graphics may be a better tool to display information.
- Use only two or fewer typefaces in a single document.
- Use a variety of paragraph lengths (maximum 6 to 7 typed lines).

Use of Figures

Use of Graphs



Edge of text and tables & figures line up

Use of Tables

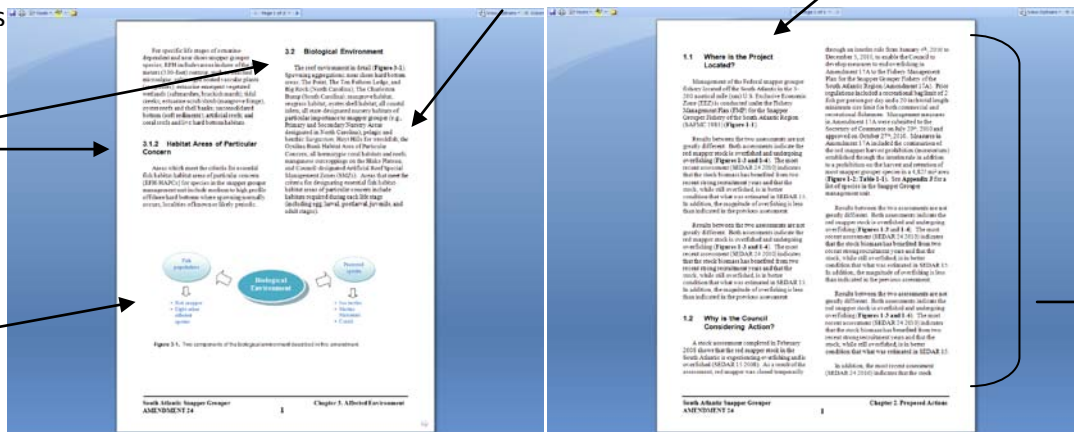
Use of Columns

Left Justification Throughout

Bolded Headings

Use of Headings

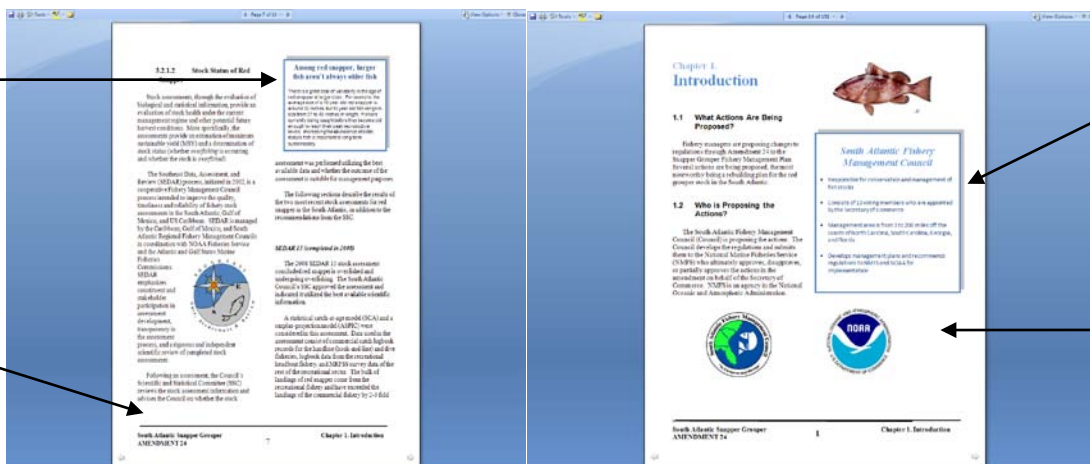
Use of Graphics



Same Font Type

Use of textbox

Descriptive Footer



Summary Statement

Use of White Space

Figure 4. Attributes of a visually appealing document.

Recommendation 4

Authors should follow the document formatting guidelines outlined in Appendix B. Appendix C contains examples of the guidelines in a document. Document format should be discussed and determined by the document interdisciplinary plan team (IPT) early in the document development process.

It is important to maintain a consistent format both within a document and between councils. This includes consistency in font size, type, and color. Guidance for formatting is found in **Appendix B**. Examples are available in **Appendix C**. The Readability Team recognizes there would be instances that call for deviation from the guidelines. Examples of possible deviations are shown in **Appendix C**.

Recommendation 5

Authors of individual sections should be responsible for ensuring that their sections meet the formatting guidelines, including the placement of the visual elements (e.g., figures, tables, and text boxes) as documented in Appendix B.

Currently, IPT leads are responsible for improvements to the overall document format and visual elements. This added

responsibility creates additional work for the IPT leaders, who are often responsible for writing significant portions of the amendments.

In the future, the author of each section should be responsible for ensuring their respective sections follow the proper formatting as set by the attached template and guidelines (**Appendix B**). This will reduce the amount of work for the IPT leads and may expedite the overall process. IPT lead and writer responsibilities are discussed in detail further in the report (**Section 2, Recommendation 2**).

Recommendation 6

The IPT should continue the use of Microsoft Word for document development.

Documents are currently created in Microsoft Word. The sub-group researched alternative programs (e.g., Adobe InDesign), but determined Microsoft Word contains the necessary elements to accommodate the recommendations contained in this report. In addition, the continued use of the familiar Microsoft Word software would alleviate the need to learn a new software program.

Recommendation 7

The IPT lead should maintain separate folders for original images, tables, and figures.

Duplicating images from a formatted document sometimes presents a challenge. If original graphics are maintained in a separate file, graphics can be reused as needed.

Recommendation 8

Recommend using a specific copywriter/design editor.

The Readability Team recommends a staff member (new hire or current staff) be assigned as design editor. This staff member will be responsible for editing the visual elements to ensure formatting remains consistent throughout the document. This will help alleviate pressure on the IPT leader and section authors, as well as provide more consistent documents.

5 Document Organization

“Most EISs appear to be organized in a way that makes them easier to review or ‘check off’ than to study and question. They are arranged so that even a superficial reviewer will quickly see that everything that is supposed to be in the document is there. And if that were the only mission of the EIS, to satisfy some mindless bureaucratic checklist, such an organization would be appropriate. Furthermore, if that were the only function of the EIS, there would be no reason to write the essay!” (Weiss 1989)

Issue to be Addressed

Documents are often incomprehensible to the reader, partially due to the document’s organization. The current structure ensures all the legal requirements are fulfilled, but results in documents that are full of redundant information. For example, the complete wording of alternatives may be repeated throughout the document. Identical discussions of impacts are often repeated in both Chapters 2 and 4.

Redundancy leads to a lengthy document, and lengthy documents can be daunting, particularly to the general public. Because the table of contents extends over many pages and the index is often insufficient, the document fails to provide a proper roadmap. The result is another roadblock that may prevent the audience from finding information of interest. In addition, section headings fail to adequately describe the contents and message of a particular section.

Long documents lacking a clear and deliberate structure impede the ability of decision-makers to understand the proposed actions and consequences. Council members must consider impacts of various proposals before reaching a decision. The current structure hinders the decision-maker’s ability to find relevant information. This may ultimately hurt the process.

In addition, the document structure changes from amendment to amendment and from region to region, decreasing its readability. The document structure should be consistent across Councils.

Reducing the overall page length presents a challenge due to the numerous legal requirements. However, eliminating redundancy and using incorporation by reference to the

extent possible should decrease the overall length of the document. In addition, documents that are compartmentalized more efficiently, with each section geared towards a particular audience, result in a more readable document.

Causes of Problems

The current document structure and document preparation process negatively affect readability (**Table 3**). Documents are simply assembled, in place of designed (Weiss 1989). The document often lacks roadmaps or instructions for the average reader. Authors assume that readers know where to find information of interest.

Table 3. Issues with the document and the document preparation process that affect document organization.

DOCUMENT ATTRIBUTES	DOCUMENT PREPARATION PROCESS
Redundant information	Multiple authors working independently
No search tools such as roadmaps	Multiple legal mandates
Text and tables/figures on different pages	No technical editors
Headings do not convey what is in the section	Multiple writing styles by different authors

Recommended Solutions

Recommendation 1

The document should have three primary components: summary, main body, and appendices/technical reports. The level of detail and the depth of analysis will increase from the summary, to the main body, and finally to the appendices/technical reports. Each section should be written for a particular audience.

The documents appear to be written by authors who are unaware of their audience. As stated in Weiss 1989: *Without meaning to, most EIS authors aim their writing at the wrong audience. They assume not only that the work will be read almost exclusively by environmental engineers and specialists, but also that each specialized component will be read only by persons with that specialty. Even though many of the readers are such specialists, the most important readers are not.*

To decrease the amount of time it takes a particular audience to find information, the Readability Team recommends dividing the amendment into three main parts as described in AASHTD (2006). Each part should be written for particular audiences as

described in Mattern et al. (2010) (Figure 5).

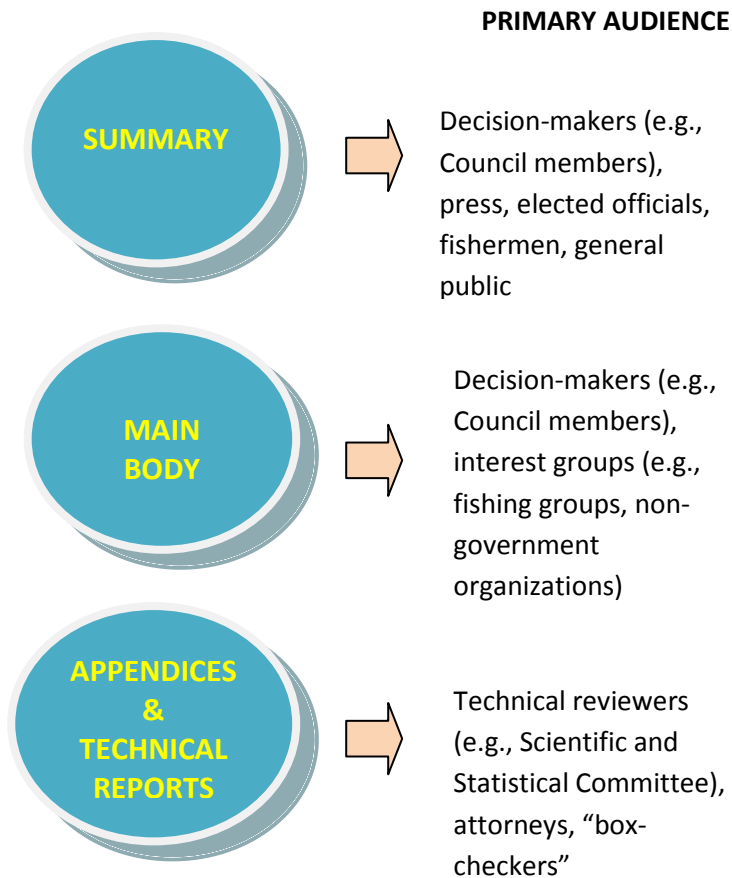


Figure 5. The three document sections and their primary audiences.

Fishery management documents are written for a variety of audiences, and each audience has a different interest. Members of the press or elected officials may be interested in clear, brief statements of the projected impacts to fishing communities; scientific advisors may be interested in the details of the models

What is the Summary?

Each environmental impact statement shall contain a summary which adequately and accurately summarizes the statement. The summary shall stress the major conclusions, areas of controversy (including issues raised by agencies and the public), and the issues to be resolved (including the choice among alternatives). The summary will normally not exceed 15 pages.

CEQ Regulations, Section 1502.12

used to estimate the impacts; and decision-makers may be interested in both concise statements, as well as information on the methodology used to estimate the impacts.

■ Summary

The summary may be the only section read by most audiences. Authors should invest considerable time identifying important issues to bring forward in this section. The summary usually contains numerous graphics that help present material in a succinct and understandable manner. The summary is often seen as a “mini-EIS”. It is a standalone document -

technical terms should be defined within the document, and references to the main body and appendices and technical reports should be avoided. Summary authors are challenged to include only the most important and relevant information.

■ Main Body

The main body often contains the majority of the information. This section includes the purpose and need, background information, description of alternatives, affected environment, effects analysis, and comparison of alternatives. It should also include succinct statements of all the information on environmental impacts and alternatives that decision makers and the public need to make a decision and to ascertain that every significant factor has been examined. This section should explain or summarize methodologies of research and modeling, as well as the results of research that may have been conducted to analyze impacts and alternatives. Incorporation by reference (discussed in the next section) should also be used. The main body requires a balance of enough information for decision-makers to understand but not so much information that the author will lose the reader.

■ Appendices and Technical Reports

The appendices should contain information directly related to preparation of the document. Examples include research papers directly relevant to the proposal, lists of affected species, discussion of the methodology of models used in the analysis of impacts, and extremely detailed responses to comments (CEQ, Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, Question 25b).

The Use of Tables in the Main Body

Writers often overuse tables in the main body, particularly in the Affected Environment Section (Chapter 3). The tables, at times, stretch over multiple pages and contain columns and rows in the double-digits. The tables tend to show the data instead of trends to support the text. Writers should consider whether the tables will overwhelm the reader; the target audience is often Council members and interest groups. Writers should consider the following: (1) reducing the number and size of the tables, (2) consider moving the tables to the appendices, and (3) displaying the information in another form such as a graph.

Example of the Use of the Three Main Components

The following represent example quotes from the documents.

Document summary

The preferred alternative is expected to have a 3.8 million dollar impact to the for-hire sector residing in the state of North Carolina.

Main body

The preferred alternative is expected to have a 3.8 million dollar impact to the for-hire sector residing in the state of North Carolina. The change in economic value is measured in terms of consumer surplus (CS) to recreational anglers and net operating revenues (NOR) to for-hire vessels. This was determined through the Recreational Model.

(Explain in simple terms how the model works and what type of information it provides. Refer the technical reader to the relevant appendix. Summarize inherent limitations in the model.).

Appendices & technical reports

The preferred alternative is expected to have a 3.8 million dollar impact to the for-hire sector residing in the state of North Carolina. The change in economic value is measured in terms of consumer surplus (CS) to recreational anglers and net operating revenues (NOR) to for-hire vessels. This was determined through the Recreational Model.

For-hire removals were estimated by grid through the following equation:

$$Rc=(1+x)^n=1+\frac{nx}{1!}+\frac{n(n-1)x^2}{2!}+\dots$$

Details, details.....

Recommendation 2

The document outline in Appendix D should be followed to the maximum extent possible.

An outline that follows the three component structure is contained in **Appendix D**. The Readability Team recommends that this format be followed to the maximum extent possible but recognizes that deviations from the outline will be necessary.

Recommendation 3

The principles of incorporation by reference should be used where appropriate.

Incorporation by reference is the act of including a second document within another document by only mentioning the second document. It saves time and document space, but authors must be careful in its use. For example, it is often misused when sections are consolidated to one or two sentences with simply a reference to another section for more information. In these instances, the host document should contain more information for the reader.

Recommendation 4

Considerable effort should be placed towards developing source documents so that incorporation by reference may be applied. An example of a source documents is a Stock Assessment and Fishery Evaluation (SAFE) Report.

The development of source documents will increase the applicability and use of incorporation by reference.

When Should Authors Include Information as an Appendix Versus Using Incorporation by Reference?

This issue is addressed by NEPA Guidance and is summarized as follows:

Appendices should include material that pertains to preparation of a particular document. Examples include research papers directly relevant to the proposal, lists of affected species, discussion of the methodology of models used in the analysis of impacts, extremely detailed responses to comments, or other information. The appendix accompanies the document, whereas the material which is incorporated by reference does not accompany the document. Basically, the appendix should contain information that reviewers will be likely to want to examine.

Material that is not directly related to preparation of the document should be **incorporated by reference**. This would include other documents, research papers in the general literature, technical background papers or other material that someone with technical training could use to evaluate the analysis of the proposal.

Recommendation 5

Each document should contain a section that describes the recommendations from Council panels (e.g., advisory panels, Scientific and Statistical Committee) and the Council's preferred alternatives. Council staff should be the primary authors of these sections.

The document should clearly explain the process for reaching a particular decision. For South Atlantic Council documents, this section has typically been called "Council Conclusions". The Readability Team recommends that this section be titled "Reason for Council's Choice for the Preferred Alternative" and be placed in a stand-alone section following the environmental consequences section. This section should also contain any recommendations from advisory bodies (e.g., law enforcement advisory panel, snapper grouper advisory panel, Scientific and Statistical Committee).

Recommendation 6

The entire economic and social analyses of all the alternatives should not occur in the appendices in the Regulatory Impact Review and Regulatory Flexibility Analysis.

As discussed earlier, the document will be divided into three primary components and each should be written in proportion to its significance. In recent amendments, a significant portion of the description of economic effects has been placed in the Regulatory Impact Review and Regulatory Flexibility Analysis. The Readability Team recommends excluding the entire economic and social analyses from the appendices.

Recommendation 7

A document road map should be placed at the beginning of documents to allow the reader to easily locate relevant information.

Currently, documents contain a table of contents to assist the reader in finding specific sections. An index seeks to direct the reader to all names and subjects on which the document has information. The table of contents, as it extends over multiple pages, often does not help the reader. The index is often insufficient as a topic search tool. Authors should investigate other means to direct reviewers and readers to sections of interest. Federal agencies have used road maps in their documents. These often direct reviewers to sections of a particular subject. A road map is similar to an index, but provides a more user-friendly format.

6 Document Standards

Issue to be Addressed

Document format and graphics not only vary from Council to Council, but also from amendment to amendment. Readers may be unable to locate the material of interest if the location changes from amendment to amendment. Even worse, document format may change within an amendment. For example, table format in terms of shading, borders, colors, font style, and font size of tables more often than not varies between authors.

Interdisciplinary team leads spend a significant amount of time reformatting documents to maintain uniformity. As many as four document preparation guidelines have been produced in the southeast region. Each has been used intermittently by subsequent writing teams.

Cause of Problems

The current document attributes and document preparation process hinders the establishment of consistent elements between documents (Table 4).

Table 4. Issues with the document and the document preparation process that affect the standardization of documents.

DOCUMENT ATTRIBUTES	DOCUMENT PREPARATION PROCESS
Formatting changes within and between documents	Multiple authors working independently
	Multiple legal mandates
	Authors used different formatting
	No discussion among authors on format

Recommended Solutions

Recommendation 1

Use the document formatting standards in Appendix B.

As many as four document guidelines have been produced over the last 10 years in the southeast region. The latest was produced in February 2010 by a spiny lobster IPT, from which the guidelines in **Appendix B** are largely

taken. The Readability Group recommends the adoption of these guidelines with minor deviations. The deviations are principally in the use of a single column format, heading styles, and table styles.

Recommendation 2

Establish IPT lead and writer responsibilities as developed by a recent IPT for a spiny lobster amendment (below). IPT leads should initiate a discussion of formatting early in the document preparation process.

IPT Lead Responsibilities

- a) Ensure a timeline is generated that includes specific staff responsibilities.
- b) Coordinate and draft data requests to Southeast Fisheries Science Center and other agencies.
- c) Organize meetings when required.
- d) Develop agendas, lead meetings, and write summaries of meetings. for distribution to the whole team.
- e) Serve as a conduit for comments and concerns among IPT members.
- f) Develop ground rules with team on how comments are structured and shared. Rules should cover how to handle conflicting and/or substantive comments.

- g) Resolve conflicting comments through consensus – have an “editing” workshop of the IPT; elevate up chain of command if needed.
- h) Update team members on Council actions relevant to the document .
- i) Copy IPT members, branch leader, and assistant regional administrator (ARA) on substantive exchanges.
- j) Keep branch leader, ARA, and Council executive director updated on team progress.
- k) Give to support staff for formatting, if applicable.
- l) After Council final action, team leads coordinate to ensure amendment and NEPA documents are complete and have gone through legal review before Council submits for Secretarial review.

Document Standards Should Expedite the Process

The establishment of document standards should reduce the document preparation in the following two ways:

- (1) IPT leads will not spend as much time reformatting the document
- (2) Reviewers will spend less time locating the required sections

Writer Responsibilities

- a) Please use most recent version sent by the IPT lead when making revisions.
- b) Each author should provide all references to the document coordinator each time a section is submitted.
- c) Edits should be sent to each author using track changes. The author will accept or reject changes and send a clean copy to the coordinator.
- d) After final Council action any changes to the document should be shown in track changes.

How Much Deviation Should Be Allowed Between Document in Terms of Outline and Formatting?

The Readability Team recognizes the value of standardization of outline and formats, but realizes that deviations will be necessary between documents. For example, a 50 page EA with one action may look somewhat different from an EIS with 20 actions. The Readability Team also recognizes that the outline recommended in this report will evolve over time as groups discover new and improved techniques.

One example of a section that may be placed in a different location within the document is the “Comparison of Alternatives section”. This section may be placed in Chapter 2 following the list of alternatives. However, there may be instances when the comparison may be incorporated into Section 4 when a new section is not required, particularly for shorter documents.

References

Gallagher, T.J. and Patrick-Riley, K. 1989. The readability if federal land management plans. *Environmental Management* 13(1):85-90.

Joint AASHTO/ACEC Comm. 2006. Improving the Quality of Environmental Documents. AASHTO, Washington, D.C.

Mattern, D.S. 2009. Reader-friendly environmental documents: opportunity or oxymoron? *Environmental Law Reporter* 39:10624.

Mattern, D.S., David Keys, Ray Clark, and Karen Cantillon. 2010. NEPA Writing Report. Prepared for NOAA Fisheries Service, Southeast Region, NEPAProgram, St. Petersburg, FL. Parametrix, Bellevue, WA.

Robbins, R.A. 2004. Painting with print: incorporating concepts of typographic and layout design into the text of legal writing documents. *Journal of the Association of Legal Writing Directors* 2:108-150.

Weiss, E.H. 1989. An unreadable EIS is an environmental hazard. *The Environmental Professional* 11:236-240.

Appendix A

Document Readability Improvement Team Participants

Rick DeVictor, National Marine Fisheries Southeast Regional Office, South Atlantic Branch (Project Lead)

Stephen Holiman, National Marine Fisheries Southeast Regional Office, Fisheries Social Science Branch

Peter Hood, National Marine Fisheries Southeast Regional Office, Gulf of Mexico Branch

Kim Iverson, South Atlantic Fishery Management Council

Graciela Garcia-Moliner, Caribbean Fishery Management Council

Richard Leard, Gulf of Mexico Fishery Management Council

Charlene Ponce, Gulf of Mexico Fishery Management Council

Britni Tokotch, National Marine Fisheries Southeast Regional Office, Caribbean Branch

Gregg Waugh, South Atlantic Fishery Management Council

Appendix B

Document Formatting Guidelines

General Formatting

Headings

- 14 pt Ariel Font
- Bold
- Chapter vs. Section
 - Chapter = Main Section
- Example: Chapter 1: Introduction
 - Section = Sub-section of Chapter
- Example: Section 1.1: What actions are being proposed

Roman Numeral Pages (TOC, TOC for EIS, Abstract, Acronym list, etc)

- All Margins: 1.0"
- Headings: 18 pt Ariel Font

Body of Text

- 12 pt Times New Roman Font
- Two Columns
 - Line up columns of text
- No page border
- All Margins: 0.7"
- Left Justification
- "1.15" Space between text lines
- Double space between text paragraphs and tables or figures
- Begin new chapter on new page
- Continue new sections on same page
- Indent first line of each paragraph by 0.25"
- Clarification/Example textboxes used as sidebars, as appropriate
 - Example: Side bar explaining what Alternative 2 states instead of only saying, "Alternative 2 will..." so reader is reminded of what each alternative is.
 - Other examples can be seen as shown in Appendix B

- Footer throughout entire document
 - Name of FMP, Name of Amendment, Page Number, and Chapter Number/Title
 - Example:

South Atlantic Snapper Grouper AMENDMENT 24	1	Chapter 1. Introduction
--	---	-------------------------

Tables

- 2 pt Black Outline
- 10-12 pt Ariel Font depending on space
- No lines inside table
- Alternated row shading
- Center justified within cells
- Aligned with left edge of text paragraphs
- Caption:
 - Above table
 - 10 pt Ariel Font
 - Bold “Table X”
 - Not bold the rest of the title
 - Example:
 - **Table 2.** Gulf of Mexico Black Grouper Landings 1999-2004

Figures

- 2 pt Black Outline
 - Sometimes don’t need around figure as shown in Appendix B Example 7
- Aligned with left edge of text paragraphs
- Caption:
 - Below figure
 - 10 pt Ariel Font
 - Bold “Table X”
 - Not bold the rest of the title
 - Example:
 - **Figure 1.** Map of Southeast Region

Tables and Heading Specifics

- All data presented in a table should be there for a reason. The main reason will be they are needed to support an interpretation or conclusion presented in the text. Examine tables for extraneous data. If a table contains extra data (data not used in subsequent interpretations), either simplify the table by taking those data out, or add text to the body of the document interpreting those data in the appropriate context.
- Information in tables and figures should not be repeated in the text but should be referenced only.
- Cite the source of all information presented in tables and figures. Write Source: followed by two spaces, then the reference (e.g., Source: MARMAP 2004). Place as the last line in the table or just below the table or figure, not in the figure or table title.
- Table and figure orientation: Orient tables and figures as portrait whenever possible. Center horizontally on the page.
- If a table extends over more than one page, ensure the headings of the table carry over to the subsequent tables. Also ensure there is a table or figure heading on each page, which is the same text as that of the first page plus “(continued)”, e.g., “Table 1: Distribution of snowy grouper. (continued)”.
- Do not put titles in tables or figures; use captions that are outside the table or figure.
- For tables, the caption should be above; for figures, the caption should be below. The caption should have sufficient information for the table or figure to stand on its own. Captions should be flush left with the table or figure.
- To prevent a caption from becoming unwieldy:
 - Put narrowly focused definitions and explanations in footnotes.
 - Do not define terms and abbreviations that are well known and defined in the text (e.g., ANOVA, CPUE).
 - When definitions and explanations are lengthy and have been given in a previously mentioned table or figure, refer the reader to that table or figure rather than repeating the information.
 - When symbol definitions or detailed explanations are readily located in the text, refer the reader to the text.
- Number tables and figures consecutively in each section, with the chapter and subchapter (if applicable) number first (e.g., Table 2.1.1, Table 2.1.2, etc.). Do not go below the subchapter level (3 digits). Although your text may be

ultimately placed such that your Table 2.1 becomes Table 2.10, the coordinators will make that change and will edit your text to reflect it.

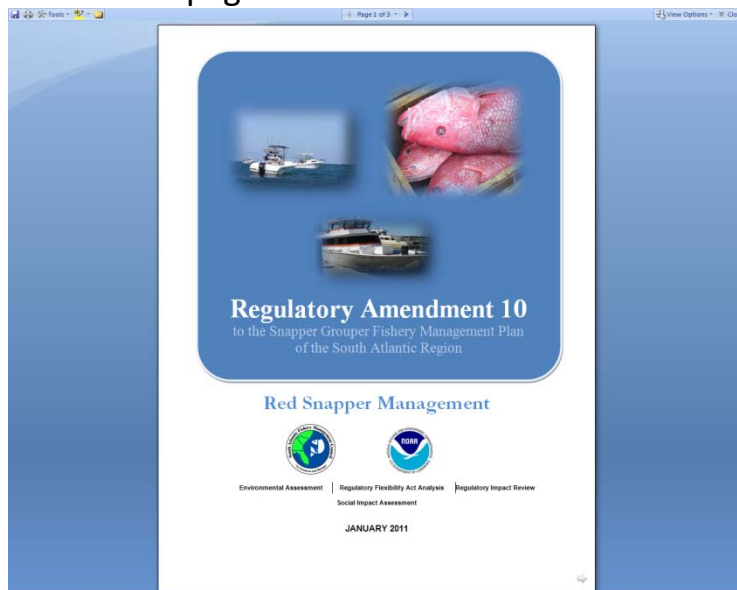
- Put the legend inside the figure.
- All columns and rows should be labeled in tables. All axes should be labeled on figures.
- Right justifying numbers and left justifying text in tables.
- Carefully select colors that are readable for figures. Use 12.5% shading for row and column headers, and if necessary to divide sections of a table.
- Use agreed upon format for maps (TBD).

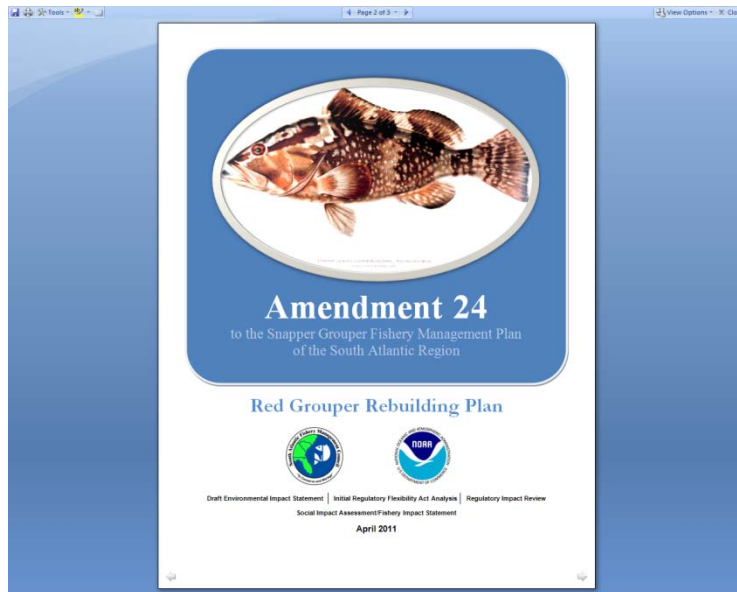
Appendices

- Individual pdfs for each appendix
- Team Lead should maintain consolidated pdf with entire document and all appendices

Title Page

- The title pages of the documents should follow the following format.





Writing Specifics

General

- Capitalize and bold alternative when referring to a specific alternative, e.g., the Council chose **Alternative 2** as preferred. Do not capitalize or bold alternative when referring to a non-specific alternative, e.g., this alternative states. Also do not capitalize alternative when referring to a group of alternatives, e.g., the alternatives the Council considered were...
- When referring to specific alternatives or actions, do not precede them with a summary of the action, e.g., **Alternative 3** not **Size Limit Alternative 3**.
- Use the following format (no parentheses) when referencing an alternative and option, write as: **Alternative 1, Option b, Suboption iii**.
- All actions must have a No Action alternative, which should be Action 1.
- In chapter 4, do not restate alternatives in each sub-section. Do not mix analyses from different subsections (e.g., biological and economic).
- Capitalize federal only when it is part of the official name of a federal agency, a federal act, some other proper noun, or used as “the Federal Government.”
- State is not capitalized, unless used as “the State of Florida,” or another state.
- Cite the Federal Register non-italicized, capitalize F and R.
- Following the Federal Register writing protocol, numbers are expressed as a figure for measurements (7 ft), percentage (7%), time (7 hours), except for first

word of a sentence. Numbers are spelled out for less than 10 objects (seven vessels) or as a figure for 10 or more (70 vessels), except it seems to be ok to use figures in one sentence with a string containing other figures, (licensed vessels in the BSAI include 7 pot vessels, 70 hook-and-line vessels, and 700 trawlers).

- Take a minimalist approach to use of scientific names unless it is a species known only by its scientific name. Follow protocol of common name followed by scientific name in parenthesis, use italic font for the scientific name. Example: walleye pollock (*Theragra chalcogramma*). Don't repeat scientific names every time you use a common name.
- Do not state Table 1 "shows" something; instead, something "is shown" by Table 1
- Encourage using all English units with metric in parenthesis 2 in (5.1 cm), when appropriate.

Punctuation

- When including a numbered list in the text (not a bullet list), use the number and a single parenthesis after and use a semicolon between each item, e.g., this amendment will: 1) reinstate permits; 2) eliminate the landing requirement; and 3) impose penalties.
- Avoid using numbers in a bullet list (indicates ranking). Use the standard bullets in Word (as in this document).
- When giving a range of dates, use a hyphen if possible (1995-2004, June-August). A hyphen or "through" means both dates are included in the range; "to" means the end date is not included in the range. If you use one, don't use the other (don't mix Feb. 1 THROUGH Mar 31 with Feb 1 TO Apr 1 later).
- Use two spaces after a colon and one space after a semicolon. Use two spaces after a period.
- Use smart (curly) quotation marks, not straight marks.
- When using quotation marks, periods and commas should fall inside the marks, colons and semicolons fall outside the marks.
- When listing a series of words separated by commas, make sure the last word before "and" is followed by a comma, e.g., Walleye, pickerel, and white sucker were found in the seine.

Abbreviations and Acronyms

- Do not start a sentence with an acronym.
- Don't make abbreviations for things that are used just once or twice in the document.
- Spell out abbreviations and acronyms at the beginning of each chapter and completely throughout the executive summary. Be sure any used are on the list at the beginning of the document. Continue to spell out throughout the document as needed.
- Abbreviate the Magnuson-Stevens Fishery Conservation and Management Act as the Magnuson-Stevens Act.
- Abbreviate the Gulf of Mexico Fishery Management Council (Gulf Council) and the South Atlantic Fishery Management Council (South Atlantic Council).
- Abbreviate amendments to Council plans as Amendment 1, Amendment 2, etc.
- Use NOAA's National Marine Fisheries Service (NOAA Fisheries Service).
- Use % symbol (not percent) after number no space (50%) in text, tables, and figures. Spell out the word percentage when used in a sentence without a number.
- Use lbs, ft, mi, and nm in text, tables, and figures after a number. Spell out the word when used in a sentence without a number.
- Abbreviate million pounds (mp), whole weight (ww) and gutted weight (gw)
- Spell out "less than" and "greater than" in text. However, you can use < and > in tables.
- Use e.g., (for example) and i.e., (that is). It is unnecessary to use e.g., and etc. in a list, because it is repetitive (e.g., seines, trawls, and gill nets).

References

- Literature citations in the text take either of two forms, depending on the context. Note the punctuation in the following examples: 1. Johnson (1995), Jones and Smith (1996, 1998), Rice et al. (1997), and Berger (in press) found walleyes in Lake Pollock. 2. Walleyes occur in Lake Pollock (Johnson 1995; Jones and Smith 1996, 1998; Rice et al. 1997, Berger, in press). Note there is no comma between the author and the year within the parentheses.
- When there are two authors, cite both in text. When there are more than two, cite the first, then et al., e.g., Rogers et al. 2003. Make sure you list all of the authors in the literature cited section.

- When referencing, use GMFMC or SAFMC and then the date of the amendment. For example, Amendment 31 (GMFMC 2009); (SEDAR 7 2005); (SEDAR 7 update assessment 2009).
- When referencing SEDAR reports, use the number and the specific report (SEDAR8-SAR3). When referencing an update report, add the update number to the end (SEDAR8-SAR3-U1).
- Websites should be cited as: Great Lakes Fishery Commission. Available at: www.glfc.org/databases/commercial/commerc.asp. (September 2000). The date in parentheses indicates when the site was last accessed.
- Personal communications should be cited in the text as:
(F. Smith, Southeast Fisheries Science Center, pers. comm. date)
- For the references section, use AFS standards
(http://www.fisheries.org/afs/publications_style.html)
- Do not use hanging indents; all lines should be flush left.

Examples of literature cited:

Journals:

Hochachka, P. W. 1990. Scope for survival: a conceptual “mirror” to Fry’s scope for activity. *Transactions of the American Fisheries Society* 119:622–628.

Kennedy, V. S., and J.W. Grant. 1990. Anticipated effects of climate change on estuarine and coastal fisheries. *Fisheries* 15(6):16–24.

Grant, J.W.A., S.O. Steingrimsson, E.R. Keeley, and R.A. Cunjak. 1998. Implications of territory size for the measurement and prediction of salmonid abundance in streams. *Canadian Journal of Fisheries and Aquatic Sciences* 55:181-190.

Books:

Brönmark, C., and L.-A. Hansson. 1998. *The biology of lakes and ponds*. Oxford University Press, New York.

Murphy, B. R., and D. W. Willis, editors. 1996. *Fisheries techniques*, 2nd edition. American Fisheries Society, Bethesda, Maryland.

Chapters within Books:

Lofgren, B. M. 2002. Global warming influences on water levels, ice, and chemical and biological cycles in lakes: some examples. Pages 15–22 *in* N. A. McGinn, editor. Fisheries in a changing climate. American Fisheries Society, Symposium 32, Bethesda, Maryland.

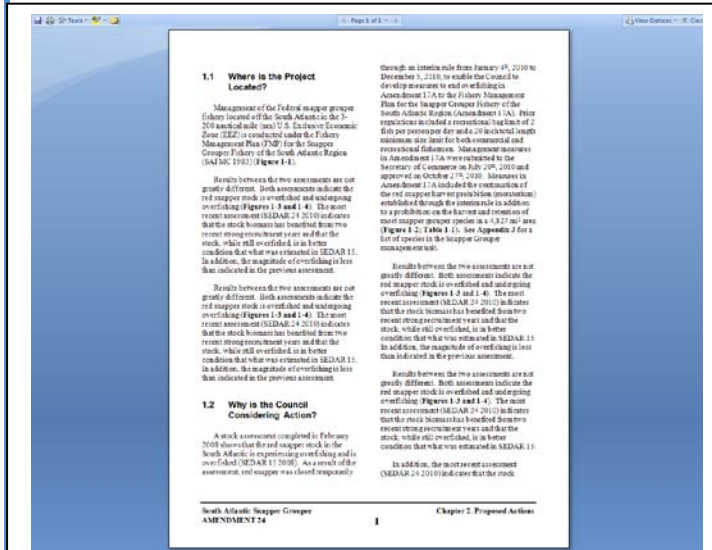
Reports:

SEDAR 2010. 2010 Update of the SEDAR 8 Assessment of Atlantic Spiny Lobster. SEDAR8-SAR3-U1. SEDAR, Charleston, SC.

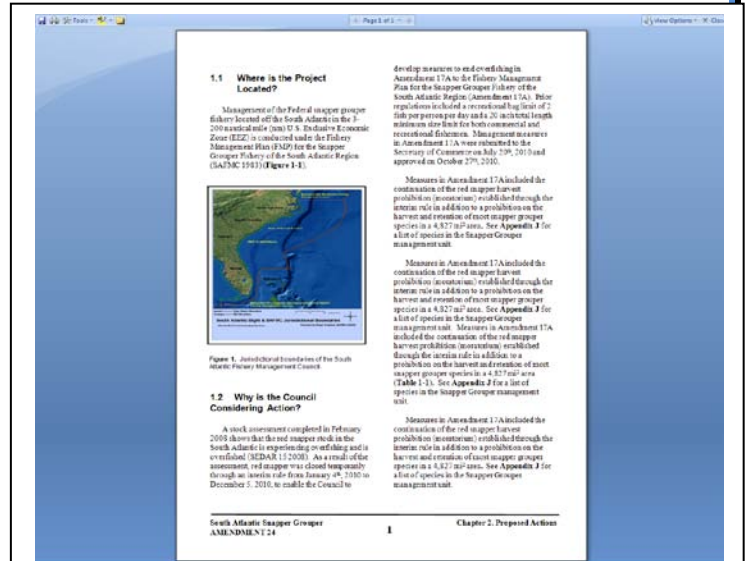
For other questions about standards, references, numbering, or how we'd like you to format things you submit, please refer to the excellent style guide found here: <http://www.fakr.noaa.gov/analyses/editing.pdf>. If the guide disagrees with what is in this e-mail, follow the e-mail.

Appendix C

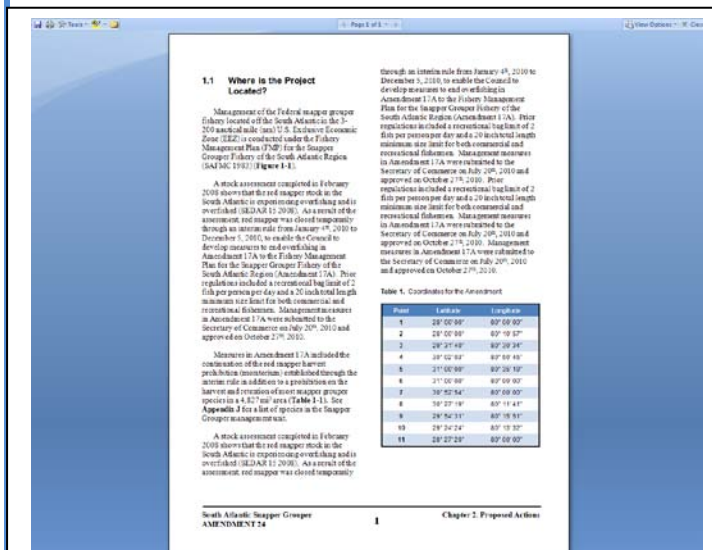
Examples of Document Guidelines in Use



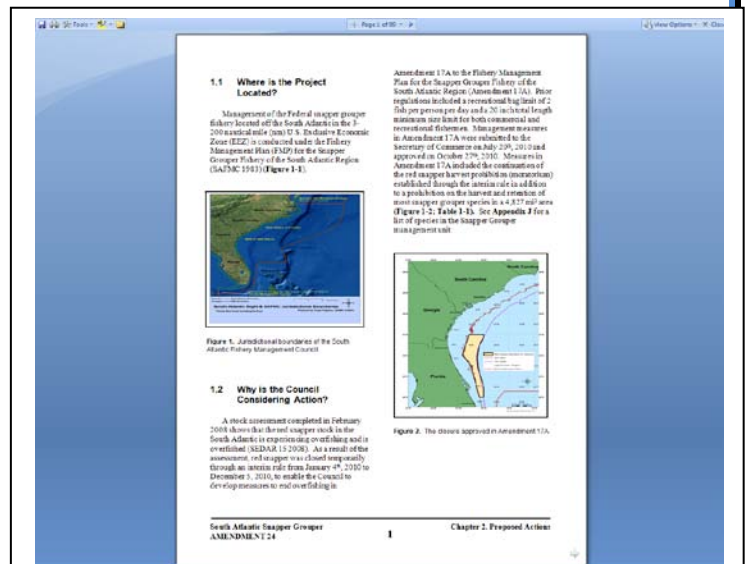
Example 1
Just text



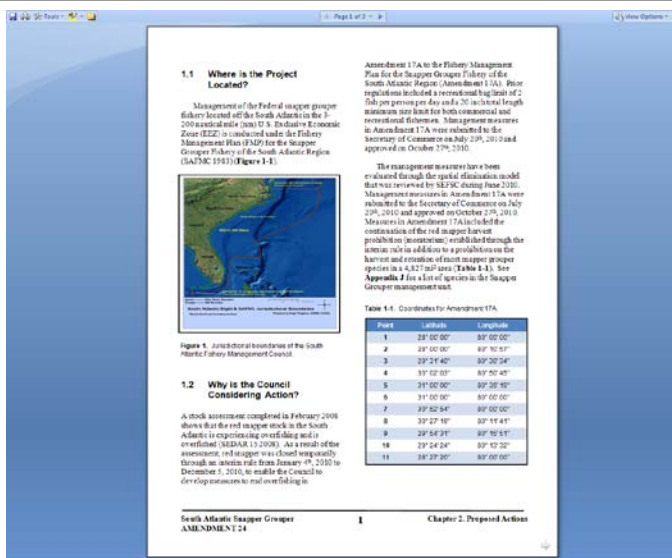
Example 2
One figure



Example 3
One table

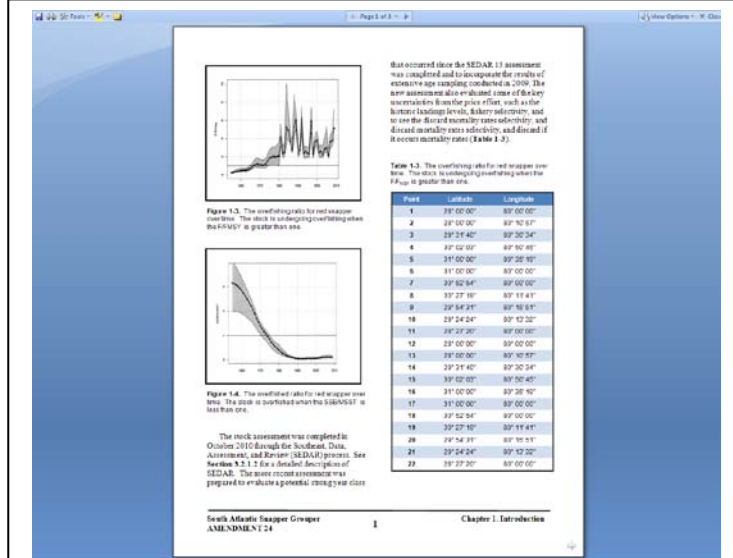


Example 4
Two figures in two separate columns



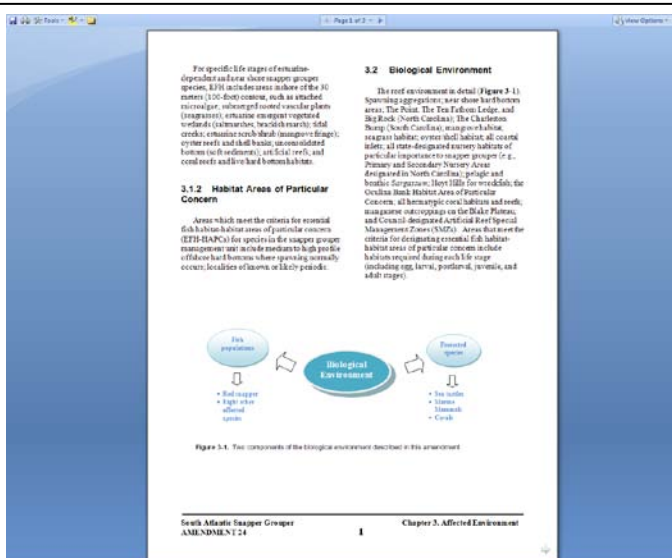
Example 5

A figure and table in separate columns



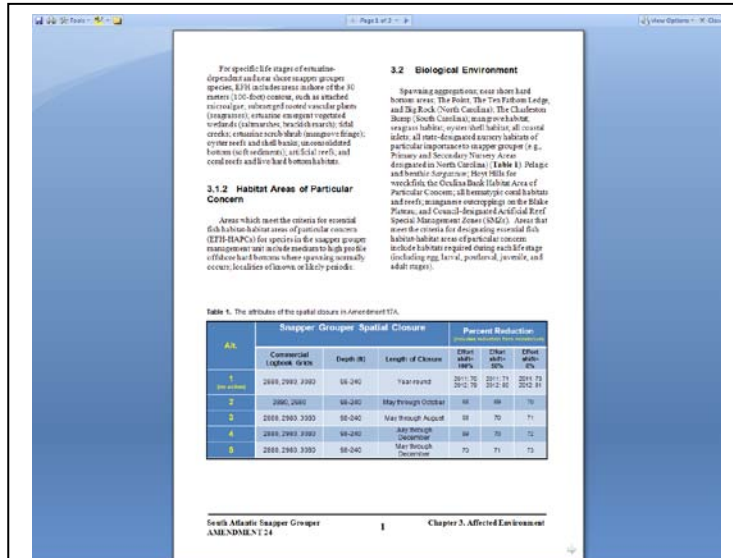
Example 6

Two figures and a table



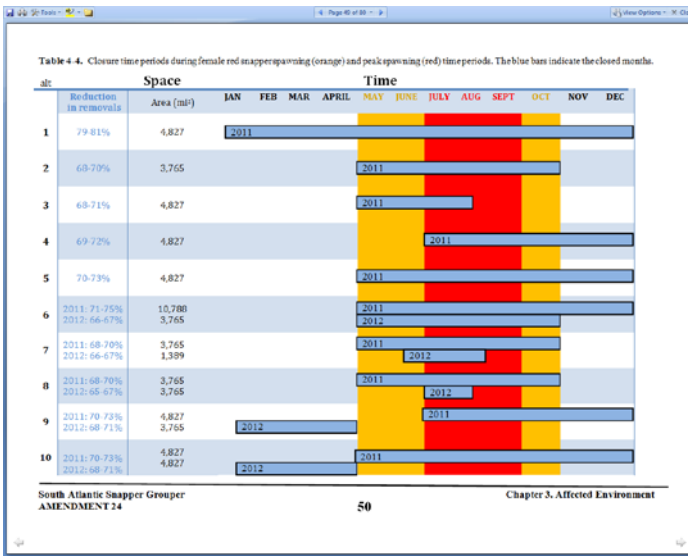
Example 7

One figure in two columns



Example 8

One table in two columns



Example 9

One figure on entire page in landscape

Table 2.3. Characteristics of alternatives 1 through 11 to Action 1 and reductions in red snapper harvest with varying degrees of projected effort.

Required Reduction
2011: 75.75%
2012: 82.44%

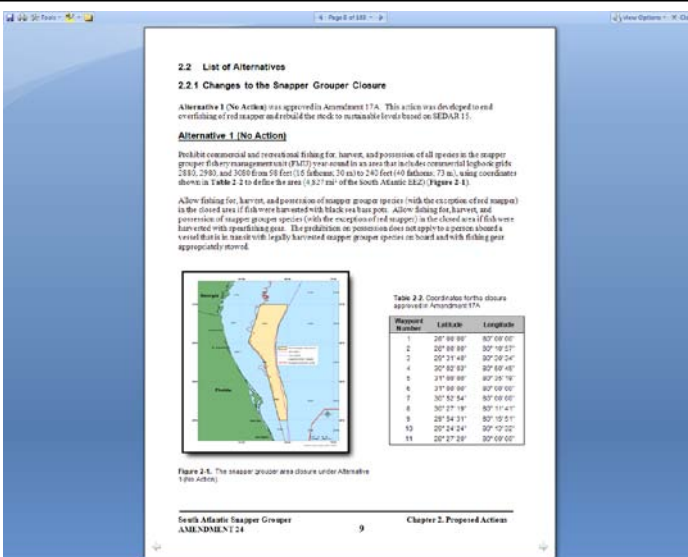
Alt.	Snapper Grouper Spatial Closure			Percent Reduction (red snapper harvest)		
	Commercial Fishing Days	Depth (ft)	Length of Closure	Effort 2011 90%	Effort 2012 90%	Effort 2013 90%
1	2000-2000-2000	90-240	Year round	2011: 75.75	2012: 75.75	2013: 75.75
2	2000-2000-2000	90-240	May through October	66	66	70
3	2000-2000-2000	90-240	May through August	66	70	71
4	2000-2000-2000	90-240	May through September	66	70	72
5	2000-2000-2000	90-240	May through November	70	71	73
6	2011: 2000-2000-2000 2012: 2000-2000-2000	2011: 90-240 2012: 90-240	2011: May through October 2012: May through October	2011: 75.75 2012: 75.75	2011: 75.75 2012: 75.75	2011: 75.75 2012: 75.75
7	2011: 2000-2000-2000 2012: 2000-2000-2000	2011: 90-240 2012: 90-240	2011: May through October 2012: May through October	2011: 66 2012: 66	2011: 66 2012: 66	2011: 66 2012: 66
8	2011: 2000-2000-2000 2012: 2000-2000-2000	2011: 90-240 2012: 90-240	2011: May through October 2012: May through October	2011: 66 2012: 66	2011: 66 2012: 66	2011: 66 2012: 66
9	2011: 2000-2000-2000 2012: 2000-2000-2000	2011: 90-240 2012: 90-240	2011: May through October 2012: May through October	2011: 66 2012: 66	2011: 66 2012: 66	2011: 66 2012: 66
10	2011: 2000-2000-2000 2012: 2000-2000-2000	2011: 90-240 2012: 90-240	2011: May through October 2012: May through October	2011: 66 2012: 66	2011: 66 2012: 66	2011: 66 2012: 66
11	2011: 2000-2000-2000 2012: 2000-2000-2000	2011: 90-240 2012: 90-240	2011: May through October 2012: May through October	2011: 66 2012: 66	2011: 66 2012: 66	2011: 66 2012: 66

South Atlantic Snapper Grouper
AMENDMENT 24

Chapter 1. Introduction

Example 10

One table on entire page



Deviation Example 1

Adjusted column width

2.2.1.2 Stock Status of Red Snapper

Stock assessments, through the evaluation of biological and statistical information, provide an evaluation of stock health under the current management regime and other potential future harvest conditions. More specifically, the assessments provide an evaluation of maximum sustainable yield (MSY) and a determination of stock status (whether overfishing is occurring and whether the stock is overfished).

The Southeast Data, Assessment, and Review (SEDAR) process initiated in 2002 is a cooperative Fishery Management Council process intended to improve the quality, timeliness and reliability of fishery stock assessments in the South Atlantic, Gulf of Mexico, and US Caribbean. SEDAR is managed by the Caribbean, Gulf of Mexico, and South Atlantic Regional Fishery Management Councils in coordination with NOAA Fisheries Service and the Atlantic and Gulf States Marine Fisheries Commission.

SEDAR 11 completed in 2008

The 2008 SEDAR 11 stock assessment considered red snapper in overfished and undergoing overfishing. The South Atlantic Council's SSC approved the assessment and indicated it valued the best available scientific information.

A statistical catch-at-age model (SCA) and a surplus production model (SPM) were considered in this assessment. Data used in the assessment consist of commercial catch logbook records for the landward, mid-fleet, and close fisheries; logbook data for the recreational landward fishery; and SEDAR 11 survey data of the rest of the recreational sector. The bulk of landings of red snapper came from the recreational fishery and have increased the landings of the commercial fishery by 2-3 fold.

South Atlantic Snapper Grouper
AMENDMENT 24

Chapter 1. Introduction

Deviation Example 2

Inserted figure into text

2.1 Maximum Sustainable Yield

The Council is proposing a change to the way the maximum sustainable yield (MSY) is defined for the red snapper stock in the South Atlantic (Table 2-1). The MSY is the largest long-term average catch or yield that can be taken from a stock or stock complex under prevailing ecological and environmental conditions.

Table 2-1. MSY alternatives for red snapper

Alternatives	Equation	F _{MSY}	MSY Values (lbs whole weight)
Alternative 1 (No Action)	MSY equals the yield produced by F _{MSY} F _{MSY} is based on the F _{MSY} = 0.170	F _{MSY} = 0.170	not specified
Alternative 2 (Preferred)	MSY equals the yield produced by F _{MSY} in the F _{MSY} = 0.170 MSY and F _{MSY} are recommended by the most recent SEDAR/SSC	0.2291	1,110,000

Source: from the Southeast catch-up model (SEDAR, 2010)

What Does This Mean?

The current definition of the MSY is the level of yield produced by F_{MSY} when the stock is rebuilt (at equilibrium) where F_{MSY} is used as a proxy for F_{MSY}. SEDAR 18 (2010) specifies the value for F_{MSY} equal to 0.170. However, the Council for MSY has not been specified. The Council would like to modify the definition of MSY in order to ensure the estimate is a specific value (F_{MSY}). By not specifying the value for the F_{MSY} proxy, the MSY level may be modified with each new assessment without having to go through the amendment process.

The F_{MSY} value from the most recent assessment is 0.2291. This level is important, as it establishes the overfishing level (also called the OFL). The SSC recommendation for the OFL is the level of yield when fishing at the F_{MSY}.

- Complete a yield produced by F_{MSY} when F_{MSY} = 0.170
- Proposed change to definition
- Assessment indicates that F_{MSY} = 0.2291

South Atlantic Snapper Group
AMENDMENT 24

Chapter 2. Proposed Action

Deviation Example 3

¾ page text with bullet points

ICE Model Reductions

A model, called the Interactive Catch-and-Effort Model (ICE), is used to project red snapper removal rates under a variety of spatial closure, time, configuration, and age assumptions. See Appendix F for a detailed description of the model and results. ICE uses input assumptions and data from the 2010 SEDAR assessment (SEDAR 18 2010) to project reductions in red snapper removal across all three fishing sectors (i.e., commercial, recreational, and far-harvest) and far-harvest (Table 4-2).

After each company closes following the implementation of a closure, effort shift may be partial (a shift into non-closed areas during the closure) or temporary (a shift before and after a closed season). The ICE Model allows for users to specify where effort shift, what sector might shift effort, and the percent of effort shifting that may occur. Effort shifting within a commercial fishing gear (also called "gear off") with a time zone closure was modeled as occurring in the month prior to the closure and the month following the closure.

Table 4-2. Projected reductions in red snapper removals by sector, time, and effort

Alt.	100% Effort Shift	80% Effort Shift	60% Effort Shift
1	2010-10-01	2010-10-01	2010-10-01
2	2010-10-01	2010-10-01	2010-10-01
3	2010-10-01	2010-10-01	2010-10-01
4	2010-10-01	2010-10-01	2010-10-01
5	2010-10-01	2010-10-01	2010-10-01
6	2010-10-01	2010-10-01	2010-10-01
7	2010-10-01	2010-10-01	2010-10-01
8	2010-10-01	2010-10-01	2010-10-01
9	2010-10-01	2010-10-01	2010-10-01
10	2010-10-01	2010-10-01	2010-10-01
11	2010-10-01	2010-10-01	2010-10-01

Effort Shift Example

If a 100% effort shift was modeled in June-August and the effort shifting was 50% (reduced to 50% of the original effort), the effort shifting would be 50% of the original effort. If the effort shifting was 100% (reduced to 100% of the original effort), the effort shifting would be 100% of the original effort. If the effort shifting was 80% (reduced to 80% of the original effort), the effort shifting would be 80% of the original effort. If the effort shifting was 60% (reduced to 60% of the original effort), the effort shifting would be 60% of the original effort. If the effort shifting was 40% (reduced to 40% of the original effort), the effort shifting would be 40% of the original effort. If the effort shifting was 20% (reduced to 20% of the original effort), the effort shifting would be 20% of the original effort. If the effort shifting was 10% (reduced to 10% of the original effort), the effort shifting would be 10% of the original effort. If the effort shifting was 5% (reduced to 5% of the original effort), the effort shifting would be 5% of the original effort. If the effort shifting was 1% (reduced to 1% of the original effort), the effort shifting would be 1% of the original effort. If the effort shifting was 0% (reduced to 0% of the original effort), the effort shifting would be 0% of the original effort.

South Atlantic Snapper Group
AMENDMENT 24

Chapter 1. Introduction

Deviation Example 4

¾ page text with bullet points, imbedded table, graphic in heading

Chapter 1. Introduction

1.1 What Actions Are Being Proposed?

Fishery managers are proposing changes to regulations through Amendment 24 to the Snapper Group Fishery Management Plan. Several actions are being proposed, the most noteworthy being a rebuilding plan for the red snapper stock in the South Atlantic.

1.2 Who Is Proposing the Actions?

The South Atlantic Fishery Management Council (Council) is proposing the actions. The Council develops the regulations and submits them to the National Marine Fisheries Service (NMFS) for approval. NMFS is an agency in the United States Department of Commerce.

South Atlantic Fishery Management Council

- Responsible for conservation and management of fish stocks
- Consists of 13 voting members who are appointed by the Secretary of Commerce
- Management areas from 100 miles off the coast of North Carolina, South Carolina, Georgia, and Florida
- Develops management plans and recommends regulations to NMFS and NOAA for implementation

South Atlantic Snapper Group
AMENDMENT 24

Chapter 1. Introduction

Deviation Example 5

Use of graphics and text boxes

1.5 How Much Can the Council Reduce the Size and Shorten the Length of the Area Closure or Can It Be Eliminated?

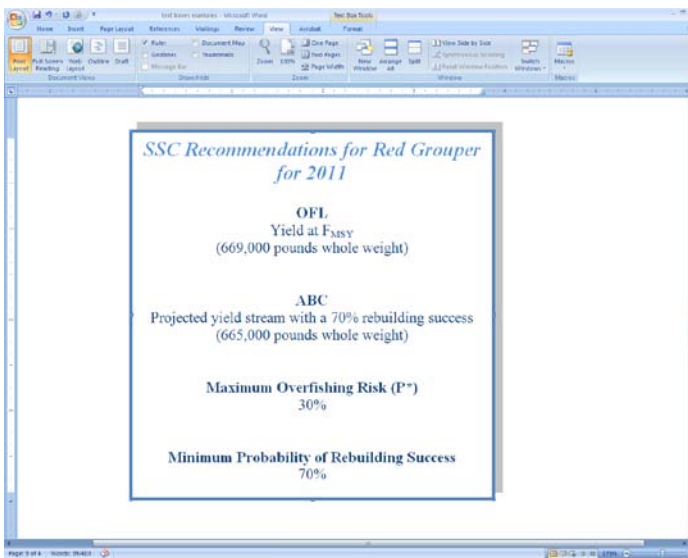
In order to determine the reduction necessary to end overfishing of the red snapper stock, fishery biologists compare recent red snapper removals to a target level. The following equation is used:

$$\text{REDUCTION REQUIRED} = \frac{(\text{Estimated Removals} - \text{Target Removals})}{\text{Estimated Removals}}$$

three runs; "weights" latter was weight function elements results the model. The weight of range for based on 1 alternative Review P. 0.3). The values to projection Acceptable 1-2 shows mortality

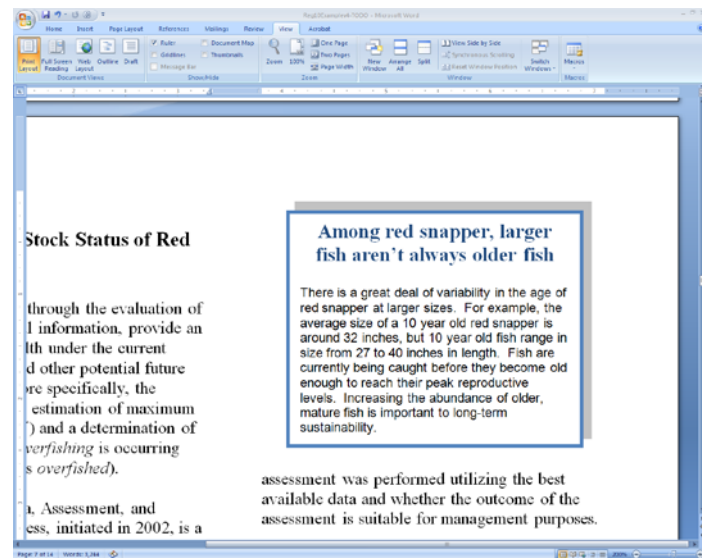
Deviation Example 6

Show an equation



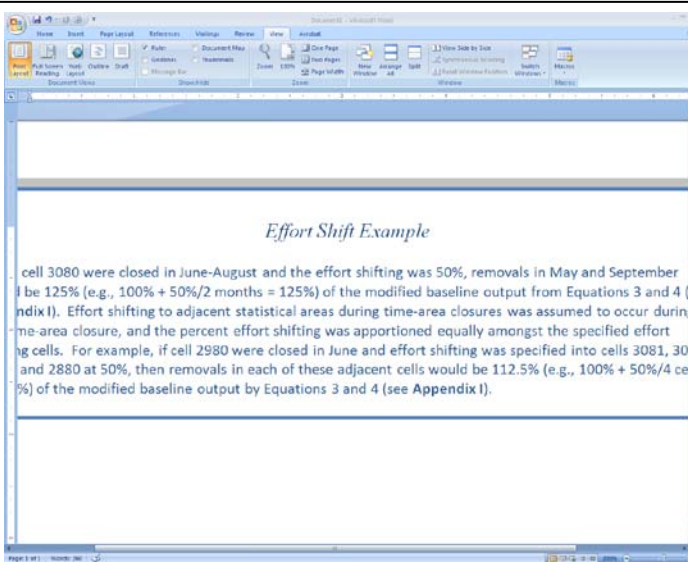
Text Box Example 1

For highlighting important points:
SSC Recommendations



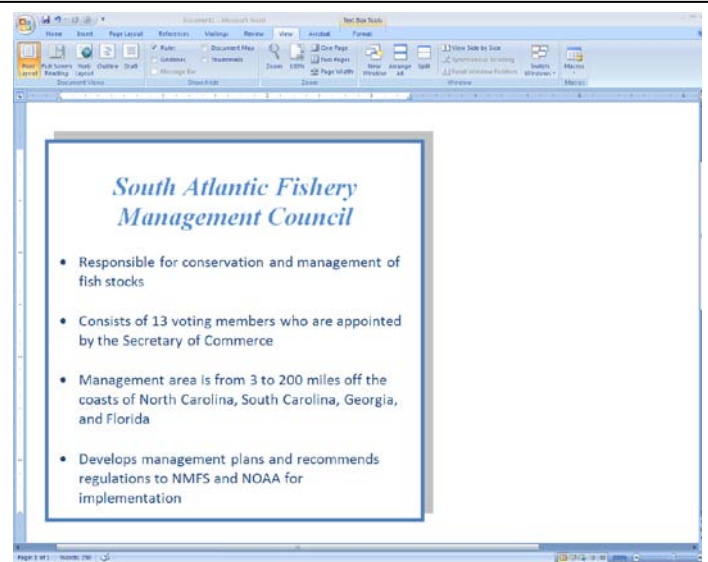
Text Box Example 2

For highlighting an important point for
the reader



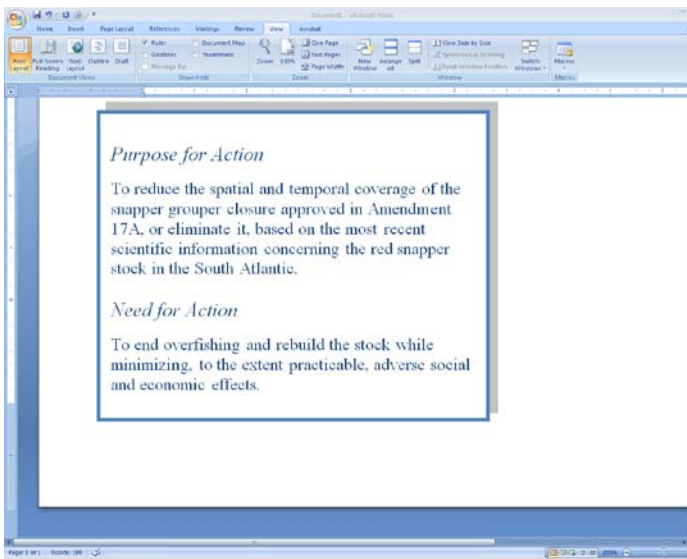
Text Box Example 3

For providing an example of
calculations



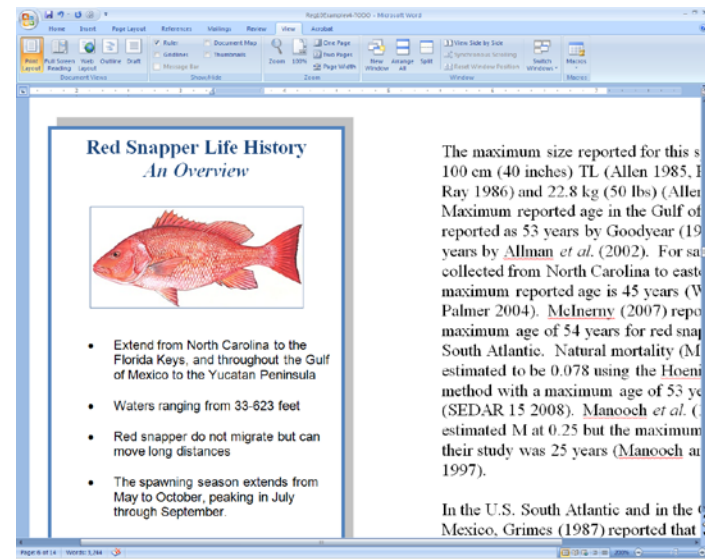
Text Box Example 4

For describing the Councils



Text Box Example 5

For highlighting the purpose and need



Text Box Example 6

For providing species life history information

Appendix D

Sample Document Outline

Abbreviations and Acronyms Used in the Consolidated FMP/NEPA Document

Cover sheet [Yellow highlighted material is EIS specific.]

Summary

Overall Table of Contents

List of Appendices

List of Figures

List of Tables

(These sections above are the “roman numeral sections”).

Chapter 1. Introduction

Purpose and Need statement *(can include succinctly in a text box or as a section of Chapter 1)*

- 1.1 What Actions Are Being Proposed?
- 1.2 Who is Proposing Action?
- 1.3 Where is the Project Located?
- 1.4 Why is the Council Considering Action?
- 1.5 History of Management

(This will include the history as relevant to the proposed action. A more detailed history of management may be included as an appendix if necessary.)

1.6 May include other sections as necessary to aid reader. Examples of sections used in recent amendments: “How much can the Council reduce the size of the area closure”; “How Long Does the South Atlantic Council and NOAA Fisheries Service Have to Implement Measure?”; “How Does the South Atlantic Council Determine the Annual Catch Limits?”

Chapter 2. Proposed Actions

- 2.1 What are the Proposed Actions? *(General discussion of actions)*
- 2.2 List of Alternatives
- 2.2.1 Comparison of the Effects of the Alternatives

(In documents with a few actions, this discussion may best be included in the discussion of the environmental consequences).

Chapter 3. Affected Environment

- 3.1 Habitat Environment
 - 3.1.1 Essential Fish Habitat
 - 3.1.2 Habitat Areas of Particular Concern
- 3.2 Biological Environment
 - 3.2.1 Fish Populations
 - 3.2.1.1 Red Snapper, *Lutjanus campechanus*
 - 3.2.1.2 Stock Status of Red Snapper
 - 3.2.1.3 Other Fish Species Affected
 - 3.2.2 Protected Species
- 3.3 Human Environment
 - 3.3.1 Economic Description of the Commercial Fishery

- 3.3.2 Economic Description of the Recreational Fishery
- 3.3.3 Social and Cultural Environment
- 3.4 Administrative Environment
 - 3.4.1 The Fishery Management Process and Applicable Laws
 - 3.4.1.1 Federal Fishery Management
 - 3.4.1.2 State Fishery Management
 - 3.4.1.3 Enforcement

Chapter 4. Environmental Effects

- 4.1 Biological Effects
- 4.2 Economic Effects
- 4.3 Social Effects
 - 4.3.1 Environmental Justice Considerations
- 4.4 Administrative Effects

Chapter 5. Council's Choice for the Preferred Alternative

Chapter 6. Cumulative Effects

- 6.1 Effects to Biological Environment
- 6.2 Effects to Socioeconomic Environment

Chapter 7. Other Things to Consider

- 7.1 Unavoidable Adverse Effects
- 7.2 Effects of the Fishery on Essential Fish Habitat
- 7.3 Damage to Ocean and Coastal Habitats
- 7.4 Relationship of Short-Term Uses and Long-Term Productivity
- 7.5 Irreversible and Irrecoverable Commitments of Resources
- 7.6 Unavailable or Incomplete Information
- 7.7 Climate Change
- 7.8 Ecosystem-based Management

Chapter 8. List of Preparers

Chapter 9. List of Agencies, Organizations, and Persons to Whom Copies of the Statement are Sent

Chapter 10. References

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Appendices

- Appendix A. Alternatives the Council considered but eliminated from detailed study and a brief discussion of the reasons for their elimination
- Appendix B. Glossary
- Appendix C. History of management
- Appendix D. Initial Regulatory Flexibility Analysis (economic analysis of proposed regulations)
- Appendix E. Regulatory Impact Review (economic analysis of preferred alternatives)
- Appendix F. Bycatch Practicability Analysis
- Appendix G. Summary of Scoping Activities