Table of Contents:

3.1 What is the purpose of this chapter? This chapter defines standards governing cartographic production for the National Wildlife Refuge System (NWRS).

3.2 What is the policy?

A. The NWRS requires maps for planning, acquisitions, land status, land surveys (see 343 FW 2, Standards and Procedures), realty management, and other special purposes. To provide professional quality products for these purposes, we maintain a staff to perform the NWRS mapping function. All new maps we produce (those defined in section 3.6, excluding maps smaller than "A" size) and those that we revise must adhere to the current formats and standards in this chapter.

B. Mapping and spatial data activities must conform to Office and Management and Budget Circular No. A-16, Coordination of Geographic Information and Related Spatial Data Activities, August 19, 2002.

3.3 What is the scope of this chapter? The policies, definitions, and requirements in this chapter apply to the cartographic activities and products of the NWRS we define in sections 3.6 and 3.7 of this chapter. These policies and requirements apply to all contracted services. We encourage all other divisions and programs of the Fish and Wildlife Service (Service) to use this cartographic standard.

3.4 What are our authorities for this chapter?

A. The Land and Water Conservation Fund of 1964 (16 U.S.C. 4601-4601-11) provides the funding authority for us to acquire lands for conservation purposes.

B. The Migratory Bird Conservation Act of 1929 (16 U.S.C. 715-715d, 715e, 715f-715r) provides the authority for us to acquire or lease lands for migratory waterfowl purposes.

C. The Wilderness Act of 1964 (16 U.S.C. 1131-1136) provides the authority and the procedure by which National Wildlife Refuges or portions of refuges meeting the necessary requirements may be included in the National Wilderness Preservation System.

3.5 What are the definitions for American National Standards Institute (ANSI) Map Sizes (width X height)?

A. "A" size maps are 8.5 x 11 in (21.59 x 27.94 cm).

B. "B" size maps are 11 x 17 in (27.94 x 43.18 cm).

C. "C" size maps are 17 x 22 in (43.18 x 55.88 cm).

D. “D” size maps are 22 x 34 in (55.88 x 86.36 cm).

E. “E” size maps are 34 x 44 in (86.36 x 111.76 cm).

3.6 What map and data terms do you need to know to understand this chapter?

A. Base Data. Data depicting selected fundamental cartographic and geographic information. Within the NWRS, base data are vector or raster data depicting roads, hydrography, political boundaries or relief. Examples of base data sources in order of preference are:

(1) Land survey data,

(2) Digital Orthophoto Quads,

(3) Ortho-rectified imagery,

(4) Digital raster graphs, and

(5) Digital vector data (for example: Topologically Integrated Geographic Encoding and Referencing (TIGER), digital line graphs).

B. Approved Acquisition Boundary. The line(s) enclosing those lands that we have authority to acquire, in whole or in part. This boundary often encompasses both public and private land, but does not imply that all private parcels within the boundary are targeted for our acquisition. The approved acquisition boundary can originate from a variety of means (for example: Executive Order, Congressional Order, Secretarial Order, Public Land Order, Service Director, Regional Director or the California/Nevada Operation Office (CNO) Manager, Migratory Bird Conservation Commission).

C. Interest Boundary. The line(s) enclosing those lands for which we have fee or less than fee interest. The interest boundary may also be known as the “refuge boundary.”

D. Wilderness Boundary. The line(s) enclosing those lands within a unit of the NWRS designated as wilderness by an Act of Congress.

E. Approved Acquisition Boundary Map (Exhibit 1). An “A” or larger size map depicting the approved acquisition boundary and necessary base data. See section 3.7 for more information.

F. Status Map (Exhibits 2 and 2a). A “C” or larger size map depicting lands on which we have acquired an interest (fee interest, less than fee interest). We identify individual parcels of land by tract boundary and tract number. In addition, status maps must depict the approved acquisition boundary, wilderness boundary, and outgrants as appropriate. Status maps are generally suitable for use by the public. See section 3.7 for more information.

G. Ownership Map (Exhibit 3). A “C” or larger size map depicting inholdings (lands within the approved acquisition boundary for which we have yet to acquire an interest) which may be identified by tract boundary and tract number in addition to all information found on a status map. Ownership maps contain information that may be seen as confidential and might not be suitable for use by the public.

H. Location Map. A small scale map, usually shown in the form of an inset depicting the location of the subject area within a State(s). See section 3.8 for more information.

I. Vicinity Map. A small scale map usually shown in the form of an inset depicting the subject area with reference to State, county, city, and other prominent features as appropriate. See section 3.8 for more information.

J. Land and Water Conservation Fund (LWCF) Briefing Book Map (Exhibit 4). An "A" size map depicting a consistent and specialized legend with associated color codes. Color codes identify those tracts we have acquired, or where funding is approved or is being sought to acquire them. The maps also reflect a boundary within which we may acquire lands using the LWCF. See section 3.7 for more information.

K. Migratory Bird Conservation Commission (MBCC) Map (Exhibit 5). An "A" size map depicting a consistent and specialized legend with associated color codes. The color codes identify lands that we have acquired or may acquire pending MBCC approval. The maps also identify a boundary, approved by the MBCC, within which we may acquire lands using the Migratory Bird Conservation Fund. See section 3.7 for more information.

L. Wilderness Map (Exhibit 6). A "C" or larger size map depicting an area within a unit of the NWRS that is part of the National Wilderness Preservation System. See section 3.7 for more information.

M. Wild and Scenic River Map (Exhibit 7). An "A" or larger size map of a river or river corridor within a unit of the NWRS that is part of the National Wild and Scenic River System.

N. Specially Legislated Area Map (Exhibit 8). A "C" or larger size map depicting a conservation area or unit of the NWRS that was created by special legislation or is included for or within a specially legislated area. See section 3.7 for more information.

O. Water Rights Map (Exhibit 9). A "C" or larger size map depicting existing water rights or water rights application information.

P. Preliminary Project Proposal (PPP) Map (Exhibit 10). An "A" or "B" size map in a PPP document depicting the study area with vicinity maps identifying the location of the proposal. PPP's are also known as "conservation proposals." Not all maps in a PPP must display the format specifications described in section 3.8. We leave the use of the standards on maps in a PPP document up to the discretion of the map designer (cartographer).

Q. Comprehensive Conservation Plan (CCP) Maps (Exhibit 11). Various sized maps in a CCP document that depict the habitats, resources, and proposed management plans for an approved project. Not all maps in a CCP must display the format specifications described in section 3.8. We leave the use of the standards on maps in a CCP document up to the discretion of the map designer (cartographer).

R. Land Protection Plan (LPP) Maps (Exhibit 12). Various sized maps in an LPP document. We use these maps to inform the public about the lands proposed for acquisition. We identify the subject lands with tract boundaries and numbers. Not all maps in an LPP must display the format specifications described in section 3.8. We leave the use of the standards on maps in an LPP document up to the discretion of the map designer (cartographer).

S. Environmental Assessment (EA) Map (Exhibit 13). Various sized maps in an EA document that depict the habitats, cultural resources, hazards, and possible management alternatives of a proposed project. Not all maps in an EA must display the format specifications described in section 3.8. We leave the use of the standards on maps in an EA document up to the discretion of the map designer (cartographer).

T. Categorical Exclusion (CE) Map (Exhibit 14). An "A" size map in a CE ("cat ex") document that identifies the addition of a specific tract(s) proposed for acquisition.

U. Exchange Map (Exhibit 15). An "A" or larger size map depicting lands that we are proposing for exchange or that are being exchanged between the Service and a non-governmental organization.

V. Transfer Map (Exhibit 16). An "A" or larger size map depicting lands that we are proposing for transfer or that are being transferred to or from the Service and another governmental agency.

W. Emergencies/Hardships Fund Request Map (Exhibit 17). An "A" or larger size map depicting lands we will acquire within an approved acquisition boundary using funding from the Emergency and Hardship or Inholdings accounts.

X. Federal Register/Code of Federal Regulations Map (Exhibit 18). An "A" or smaller size map used to depict official actions we have taken. The map is published in the Federal Register, Code of Federal Regulations, or similar official Government publication. See section 3.9 for more information.

Y. Other Maps. These are maps required for special projects and purposes that we have not described in this section. The size, scale, format, and content of the map will vary based on the specific map requirements. However, we should use the specifications of the various map elements described in this chapter when appropriate.

3.7 What thematic maps does the Service require and what are their specifications?

A. Approved Acquisition Boundary Map.

(1) The approved acquisition boundary map must conform to the "A" size or larger dimensions and format as shown in Exhibits 1, 2, 2a, and 3. The scale of the map must depict all necessary detail.

(2) We require an approved acquisition boundary map be prepared and submitted to the Chief Cartographer when we establish a new conservation area.

(3) Every 6 months the Region/CNO will furnish approved acquisition boundary maps to the Chief Cartographer on all units where there has been a boundary change. Submission due dates are May 1 and November 1. You can meet this requirement by submitting the Status Map.

B. Status Maps.

(1) Standards.

(a) The status map must conform to the size "C" dimensions (or larger) format, and specifications as shown in Exhibits 1, 2, 2a, and 3. The scale of the status map must be adequate to depict all necessary detail.

(b) You can find topographic map symbols in the Publication Map Symbols Standards prepared by the U.S. Geological Survey. You can find additional map symbols in our official Graphics Standards document (available for employees on the Service Intranet). You should adjust the symbol dimensions appropriately for the scale of the map.

(c) A status map must depict the approved acquisition boundary. If the mapped land status is confined to a minimal area within the approved acquisition boundary, it is not necessary to depict the entire boundary on the status map. The status map must be generated and submitted to the Chief Cartographer within 2 months of when we acquire the lands within a new conservation area. Every 6 months the Region/CNO will furnish status maps to the Chief Cartographer on all units where there has been a change in land status. Submission due dates are May 1 and November 1.

(2) Categories and Associated Symbology. We describe the primary categories of a status map below. Indicate the categories that are applicable in the map legend. A Region/CNO may require additional categories to represent any other interests. If the Service interest lands fall outside the approved acquisition boundary, the color and/or pattern must remain consistent with the particular land status category.

(a) Fee. Lands owned by the United States where the Service is the primary administering agency. These areas are shown with a variable transparent dark green color (map base dependent) and/or a pattern of thin solid lines positioned northwest-southeast.

(b) Less than fee - Easements and Leases. Federal and non-Federal lands for which the Service has an easement, lease, and/or administrative authority. For definitions of these interests, see 341 FW 2 and 340 FW 3. These areas are shown with a variable transparent salmon color and/or a pattern of thin dashed lines positioned northwest-southeast.

(c) Less than fee - Secondary or Partial Interest or Life Estate. Federal and non-Federal lands for which the Service has a secondary or partial interest or life estate. For definitions of these interests, see 341 FW 2 and 340 FW 3. These areas are shown with a variable transparent blue color (map base dependent) and/or a pattern of thin solid lines positioned northeast-southwest.

(d) Less than fee - Agreement. Federal and non-Federal lands for which the Service has a memorandum of agreement (MOA), memorandum of understanding (MOU), and/or administrative authority to manage the subject lands. For definitions of these interests, see 341 FW 2 and 340 FW 3. These areas are shown with a variable transparent brown color (map base dependent) and/or a pattern of thin dashed lines positioned northeast-southwest.

(e) Wilderness Area. Land within a unit of the NWRS designated as part of the National Wilderness Preservation System. The exterior boundary of the wilderness area is shown as a black alternating long dash - dot (or short dash) - long dash line symbol.

(f) Tract Labels. You can find the standards for numbering tracts in 342 FW 3 and 343 FW 2.

(i) Tract numbers can stand alone or be contained within a circle, ellipse, or other similar shape.

(ii) Font: Arial Narrow, bold. If the tract number stands alone, we suggest that the number be italic.

(iii) Type size: variable.

(iv) Type color: black.

(3) Status Map Boundary Line Specifications. The lines representing boundaries of Service administered areas or other interests, as well as linear interests, should be consistent, as described below:

(a) Approved Acquisition Boundary. This boundary is shown as a solid black line with a transparent gray or yellow enhancement on the NWRS unit side of the boundary.

(b) Tract Boundary. The boundary of individual tracts or parcels is a solid line, with a width smaller than the Approved Acquisition Boundary line. Where the tract boundary and the approved acquisition boundary share a common line, the approved acquisition boundary is dominant. The color of the line is variable depending on the base map. We encourage you to use either black or white lines.

(c) Outgrant. Outgrant boundaries reflect uses that will encumber Fee lands by granting a right to use them for short-term or long-term purposes. Examples of outgrants include easements, rights-of-way, and areas with permitted uses or special permitted uses. Outgrants are shown as a linear feature using a dashed red line or as a parcel feature with a variable transparent green color (map base dependent) with a pattern of thin dashed red lines positioned northeast-southwest**.** You can use specific utility line symbols (power line, pipe line, etc.) shown in red in place of the dashed red line.

(4) Status Atlas. The status atlas contains hard copy maps showing current status, approved acquisition boundaries, and other official maps of Service administered areas. The maps are filed according to State or project name or both. Each Regional/CNO office maintains a Status Atlas. The NWRS Realty Division in the Washington Office maintains the National Status Atlas with the current status maps of all of the Regions/CNO.

C. Land and Water Conservation Fund (LWCF) Map.

(1) We portray LWCF projects on maps and describe them in detail in a briefing statement. The maps must accurately reflect the content of the briefing statement, so it is important that the cartographer coordinates with the appropriate Realty Specialist.

(2) The LWCF maps must conform to the size “A” dimensions and format as shown in Exhibit 4. The scale of the maps must be adequate to depict all necessary detail. The Regional/CNO cartographer submits them annually to the Chief Cartographer for review and approval. The Regional/CNO cartographer must submit the maps at least 4 weeks prior to the March 1 deadline or as set by the Chief, Division of Realty.

(3) You must use consistent symbology on the LWCF maps and map legends. The project categories are:

(a) Project Boundary: Project boundaries are shown as a solid red line.

(b) Acquisition Through FY (previous fiscal year): Parcels are shown using a variable dark green (map base dependent).

(c) Planned Acquisition in FY (current fiscal year): Parcels are shown using a variable dark blue (map base dependent).

(d) Proposed FY (next fiscal year): Parcels are shown using a variable dark orange (map base dependent).

(e) Future Exchanges, Donations, and State or other Public Lands: Parcels are shown using a variable dark yellow (map base dependent).

(f) Proposed Beyond FY (beyond next fiscal year): Parcels are shown in white or other neutral color (map base dependent).

(4) The map legend should list all of the categories in the order stated above, regardless of whether the category appears on the map.

(a) The map legend must have full color examples of the categories positioned on the left side of the legend box.

(b) Font: Arial Narrow, upper or lower case.

(c) Type size: 12 point.

(d) Type color: black.

D. Migratory Bird Conservation Commission (MBCC) Map.

(1) We submit various MBCC projects for approval at meetings of the Commission in Washington D.C. held three times a year. Acquisitions can only occur within the MBCC-approved boundary or the boundary to be approved.

(2) The MBCC maps must conform to the size "A" dimensions and format shown in Exhibit 5. The scale of the maps must be adequate to depict all necessary detail. The Regional/CNO cartographer must submit the maps (75 hard copies) to the Chief Cartographer for approval at least 8 weeks prior to the date of the meeting.

(3) In addition to the map(s), the Regional/CNO cartographer must submit a full color Tagged Image File Format (.tiff) image of each map to the Chief Cartographer for approval at least 6 weeks prior to the date of the meeting. We use the .tiff images in a digital presentation to the Commission on the day of the meeting.

(4) The proposal categories reflected on the map and in the map legend, as applicable, are:

(a) MBCC-Approved Boundary: This boundary is shown as a blue dashed line with alternating short dashes.

(b) Boundary to be Approved: This boundary is shown as a dashed red line.

(c) Approved Acquisition Boundary: This boundary is shown as a solid black line with a transparent gray or yellow enhancement on the NWRS unit side of the boundary. Approved acquisition boundaries are shown when they are not the same as the MBCC-approved boundary. When the approved acquisition boundary is coincident with the boundary to be approved, both boundaries are shown. The boundary to be approved will be dominant (shown on top).

(d) Previously Acquired Fee: This area is shown with a variable dark green color (map base dependent) and/or a pattern of thin solid green lines positioned northwest-southeast.

(e) Previously Acquired Easement or Lease: This area is shown with a variable salmon color and/or a pattern of thin dashed lines positioned northwest-southeast.

(f) For Approval Fee: Parcels are shown with a variable dark red color (map base dependent).

(g) For Approval Easement or Lease: Parcels are shown with a pattern of thin solid red lines positioned northwest-southeast.

(h) Date of MBCC Meeting - The month/day/year is positioned on the left side of the legend box.

(5) The map legend must include full color examples of only those categories that are on the map and are positioned on the left side of the legend box.

(a) Font: Arial Narrow, upper and lower case.

(b) Type size: 12 point.

(c) Type color: black.

E. Wilderness Maps.

(1) The Wilderness Act requires that we file the map and a legal description with the Committee on Energy and Natural Resources of the United States Senate and the House of Representatives. The Regional/CNO cartographer distributes wilderness maps to the Chief Cartographer and the respective Refuge Headquarters field office. The Regional/CNO Office maintains the maps for the Service and the public.

(2) Wilderness maps must conform to the size "C" dimensions and format shown in Exhibit 6.

(3) Wilderness maps must reflect the approved acquisition boundary and the wilderness area at the time of the designation. The exterior boundary of the wilderness area is shown as a black alternating long dash - dot (or short dash) - long dash line symbol. The width of the boundary line should be less than the width of the approved acquisition boundary line symbol. If the approved acquisition and wilderness boundary lines are coincident, the wilderness line symbol should be red and shown on top of the approved acquisition boundary line. Line enhancement and fill or patterns for the wilderness area are optional. The scale of the map must be adequate to depict the entire wilderness area on one map (except in extreme cases).

(4) The legend for each map must state the following information (Figure 3-1):

OFFICIAL MAP
AS CITED IN PUBLIC LAW:
SECTION:
DATED:
STAT. NO.:
NUMBER OF ACRES:

Figure 3-1: Legend for Wilderness Maps

(a) Font: Arial Narrow, bold, upper or lower case.

(b) Type size: 12 point.

(c) Type color: black.

(5) You should include a separate legend to depict the wilderness boundary, the approved acquisition boundary, and any non-Federal lands within the boundary of the wilderness area. After a wilderness area is officially designated, the area will be depicted on the status map.

(6) The Regional/CNO cartographer must submit wilderness maps to the Chief Cartographer for approval at least 8 weeks prior to the date of the scheduled Congressional hearing.

(7) The Regional/CNO Office provides a copy of the final map to the Chief Cartographer to file in the National Status Atlas. The Regional/CNO Office also files the map in the Regional/CNO Status Atlas.

F. Official Maps for Specially Legislated Areas.

(1) These are maps of a conservation area or unit that exists because of special legislation by an act of Congress.

(2) Special legislation maps must conform to the size "C" or larger dimensions and format shown in Exhibit 8.

(3) The scale of the maps must be adequate to depict the entire conservation area on one map (except in extreme cases).

(4) The legend for each map must state the following information (Figure 3-2):

OFFICIAL MAP
AS CITED IN PUBLIC LAW:
SECTION:
DATED:
STAT. NO.:
NUMBER OF ACRES:

Figure 3-2: Legend for Maps for Specially Legislated Areas

(a) Font: Arial Narrow, bold, upper or lower case.

(b) Type size: 12 point.

(c) Type color: black.

(5) The Regional/CNO cartographer must submit special legislation maps to the Chief Cartographer for approval at least 8 weeks prior to the date of the scheduled Congressional hearing.

(6) The Regional Office/CNO cartographer provides a copy of the final map to the Chief Cartographer to file in the National Status Atlas. The Regional/CNO Office also files the map in the Regional/CNO Status Atlas.

3.8 What are the format specifications for official maps used in the NWRS? For positioning specifications of the particular elements, see the Style Sheet (Exhibit 19) and Appendix 1.

A. Seals.

(1) The Service (duck & fish) logo and the NWRS (blue goose refuge sign) must appear in the upper left corner of the map. They always appear side by side.

(2) The Service logo is on the left, in full color, or black and white. The left edge of the Service logo is flush with the left border of the map extent.

(3) The top of the seals are flush with top of the identification bar.

B. Identification Bar (Line No. 1).

(1) The text "U.S. Fish & Wildlife Service" appears in the variable color bar on the top of the map. U.S. is shown with no space between the U. and S. An ampersand is used instead of spelling out the word "and."

(2) The top of the bar must be flush with the top of the two logos.

(3) Font: Arial Narrow, bold, upper and lower case.

(4) Type size: variable.

(5) Type color: white.

(6) The height of the bar depends on the scales of the map. The bar must extend the width of the map, flush with the right border of the map extent. The color of the bar must be dark enough (minimum of 80% contrast) to contrast with the white text.

C. Title of Area Administered (Line No. 2).

(1) The name of the area the map depicts, including the specific name of the management unit, appears directly below the Identification Bar and flush left with the U in Line No. 1. The entire name must fit on Line No. 2. Avoid abbreviations if possible (for example: Cape May National Wildlife Refuge - Great Cedar Swamp Division).

(2) Line No. 2 does not need to be in line with the bottom of the logos.

(3) The text for Line No. 2 is the largest of all text to appear in the map title area.

(4) Font: Arial Narrow, bold, upper and lower case.

(5) Type size: variable.

(6) Type color: black.

D. Map Subject/Map Title/Map or Sheet Number. The subject or title of the map, as well as the map or sheet number (as needed), is positioned either within the bar (Line No. 1) or below the bar (Line No. 2) on the upper right side of the map.

(1) If you place the text <u>within the bar</u>:

(a) Font: Times New Roman, italic, bold, upper and lower case.

(b) Type size: variable.

(c) Type color: white.

(2) If you place text <u>below the bar</u>:

(a) Font: Times New Roman, italic, bold, upper and lower case.

(b) Type size: variable.

(c) Type color: black.

E. County and State (Line No. 3). The name of the county(ies) and State(s) appear directly below the name of the area administered and flush left with the text of Line No. 2. Line No. 3 does not need to be in line with the bottom of the logos. We encourage you to list the county name(s) (or similar local government name). Use the full State name(s).

(1) Font: Arial Narrow, upper and lower case.

(2) Type size: variable.

(3) Type color: black.

F. Latitude /Longitude. The magnitude and frequency of latitude/longitude tic marks depend on the size and scale of the map. Large scale maps should reference degrees, minutes, and seconds. Small scale maps may reference only degrees and minutes, or in some cases, only degrees. Regardless of the size and scale of the map, the number of latitude/longitude tic marks should be sufficient to adequately orient the map reader without being excessive. The following apply to the majority of maps described in this chapter:

(1) A minimum of two pairs of latitude and two pairs of longitude coordinates and the associated tic marks must appear along the borders of the map (data frame). Express the coordinates in degrees, minutes and seconds, with the seconds in increments of five.
.
(2) You can place coordinates either horizontally or vertically, but you should position them outside of the neatline (data frame). You can place the tic mark either outside or inside of the neatline (data frame).

(3) Font: Arial Narrow, upper case.

(4) Type size: variable.

(5) Type color: black or gray.

G. Township & Range, Universal Transverse Mercator (UTM), State Plane. Including Township and Range, UTM projection zone, or State plane rectangular coordinate tics or grid (or any other system) is optional. If you include these, we recommend the following specifications:

(1) Font: Arial Narrow, upper case.

(2) Type size: variable.

(3) Type color: black, gray, or red.

(4) For positioning specifications see the Exhibits and Appendix 1.

H. Map Borders and Neatline. An outer border that frames the entire map, or used as a trim line, is optional. When using a neatline to frame the map extent (dataframe), you should use a narrow line, such as 1 point.

I. Map Data Notes.

(1) Position the text describing basic map data in the lower left corner of the map or legend box, preferably below the map neatline.

(2) Font: Arial Narrow, upper or lower case.

(3) Type size: variable.

(4) Type color: black.

(5) You must include the following information:

(a) PRODUCED IN THE DIVISION OF (name of Division)

(b) CITY, STATE (2-letter abbreviation)

(c) LAND STATUS CURRENT TO: (date)

(d) BASE MAP SOURCE: (data source or sources, such as DOQs, and date of data)

(6) The following information is optional:

(a) MERIDIAN (name of meridian)

(b) DATUM and PROJECTION

(c) OTHER DATES (when created, printed, published etc.)

(d) MAP NAME or NUMBER

J. Scale Bars.

(1) Position the scale bars at the bottom center of the map or legend box, preferably below the map neatline.

(2) The scale bars must have single alternating fills and be flush left with ‘0’ at left.

(3) The primary data frame will reflect two scale bars, one in English units and the other metric units. (Other data frames, such as the Location and Vicinity maps, can use a single scale bar). The top bar must show feet or miles; the bottom bar shows meters or kilometers. When using feet or miles, the corresponding metric measure must be meters and kilometers respectively. The increments for both the English and metric measurements should be whole, rounded values. Use of a scale ratio is optional.

(4) Font: Arial Narrow, upper or lower case.

(5) Type size: variable.

(6) Type color: black.

K. North Arrow. Position the north arrow at the lower right corner of the map or legend box, preferably below the map neatline. If you position the north arrow in the lower right corner of the map, it must be flush right with the map neatline. Do not make north arrows any larger than the logos used at the top of the map.

L. Location Map. Position a small inset map depicting the location of the subject area within a State(s) as appropriate to the map layout. We encourage you to include the State capital or some other large city. If the location map is large enough, you should use the shape of the subject area as the locator symbol. Additional elements such as a border, north arrow, or scale bar are optional.

M. Vicinity Map. A small inset map depicting the subject area with reference to State, County, City, and other prominent features is optional. If the vicinity map is large enough, you should use the shape of the subject area as the locator symbol. Additional elements such as a border, north arrow, or scale bar are optional.

3.9 What are the format specifications for maps published in the Federal Register and Code of Federal Regulations?

A. Size.

(1) Federal Register maps are Size "A" or smaller. Orientation is usually portrait within the space of one column (single column is 2.25 inches wide) and up to three columns (7 1/16 inches wide).

(2) Code of Federal Regulations maps are printed in a single column (2.25 inches wide) or double column (4.67 inches wide). Data appearing on the map must be large enough to be readable when reduced to these dimensions.

B. Format: Keep maps that will go in the Federal Register or Code of Federal Regulations simple, showing only the necessary information.

(1) Use a single border to frame the map.

(2) Scale bars should reflect English and metric if space allows.

(3) Position captions, all text, and legends on a white background.

(4) Include north arrow and location map.

(5) Do not use any agency seals or logos.

(6) Submit a printed camera-ready hard-copy of the map. Do not submit a digital copy of the map, unless requested.

(7) The text of the document explains where the map should appear ("Insert map here").

C. Symbology: The Government Printing Office (GPO) does not use color illustrations. The GPO recommends the following:

(1) Use cross-hatching or dot patterns instead of shading. If you must use shading, do not use more than one shade of solid dark. Avoid using gray or half tones.

(2) Distinguish all line symbols clearly from each other.

(3) Identify all open water areas with text and with a wave pattern.

D. Text: Use a single non-serif font (such as standard Arial). Italicize water areas. All words and numbers must be clear and legible, particularly on the Code of Federal Regulations page sizes. Take particular care when displaying highway numbers and latitude/longitude coordinates.

Kenneth Stansell
Acting
DIRECTOR

Date: MAY 1 9 2006