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GEOSPATIAL

GeoMedia Map Publisher

Getting Started with Map Publisher



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Acknowledgments

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This Tutorial

Tutorial Objective

This training tutorial is designed get you started with GeoMedia® Map Publisher.

Tutorial Data Set

The sample data set used in the GeoMedia Map Publisher tutorial exercises represents a typical 1:50,000 scale map sheet produced by the Danish National Mapping Agency, Kort & Matrikelstyrelsen (KMS) – Danish Ministry of the Environment, National Survey and Cadastre.

It should be noted that the original data set provided by KMS represented a completed cartographic product prior to lithographic processing. However, liberties have been taken within the data set in order to illustrate a typical starting point in the cartographic editing process. The exercises provided in this tutorial do not necessarily represent standard workflows employed at KMS, nor do the exercises claim to represent the type of cartographic edits performed at KMS. The tutorial exercises simply illustrate standard cartographic editing procedures that mapping agencies and mapping companies would expect to be available using a cartographic editing software application such as GeoMedia Map Publisher.

The cartographic results produced within this training tutorial reflect the results of standard cartographic processes and editing concepts. The resulting data set should be viewed as a representative sample of the type of data modifications that typically occur during the cartographic production process, and in no way illustrate the "truth on the ground."

Hexagon Geospatial would like to extend its appreciation to Kort & Matrikelstyrelsen (KMS) for their cooperation in this endeavor.

Tutorial Text Conventions

There are several conventions used throughout the tutorial:

- ❖ Ribbon bar items are shown as: On the **Aaa** tab, in the **Bbb** group, click **Ccc**.
- ❖ Dialog box names, field names, and button names are depicted using **Bolded Text**.
- ❖ Information to be entered, either by selecting from a list or by typing, is depicted using *Italicized Text*.

Tutorial Prerequisites

Familiarity with the GeoMedia Desktop.

Section 1: Getting Started with GeoMedia Map Publisher

Section Objective

This section will get you started with GeoMedia Map Publisher.
You will learn about:

- ❖ Installing the tutorial dataset
- ❖ Workflow Concepts
- ❖ Setting the Cartographic Edit Options

Tools Used

GeoMedia Professional and GeoMedia Map Publisher

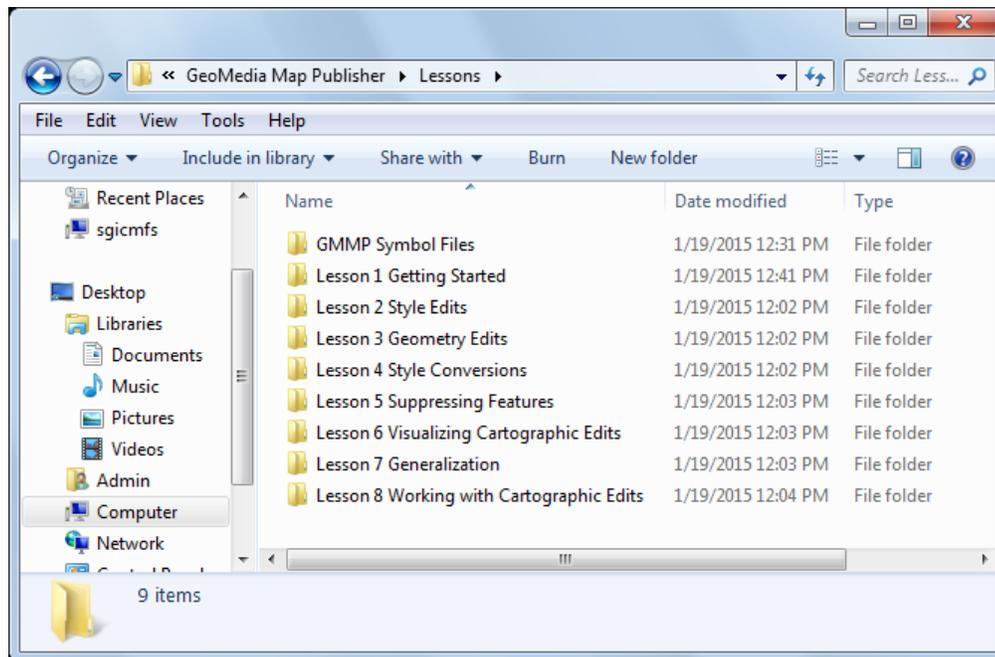
Exercise 1: Install the Tutorial Dataset

Objective:

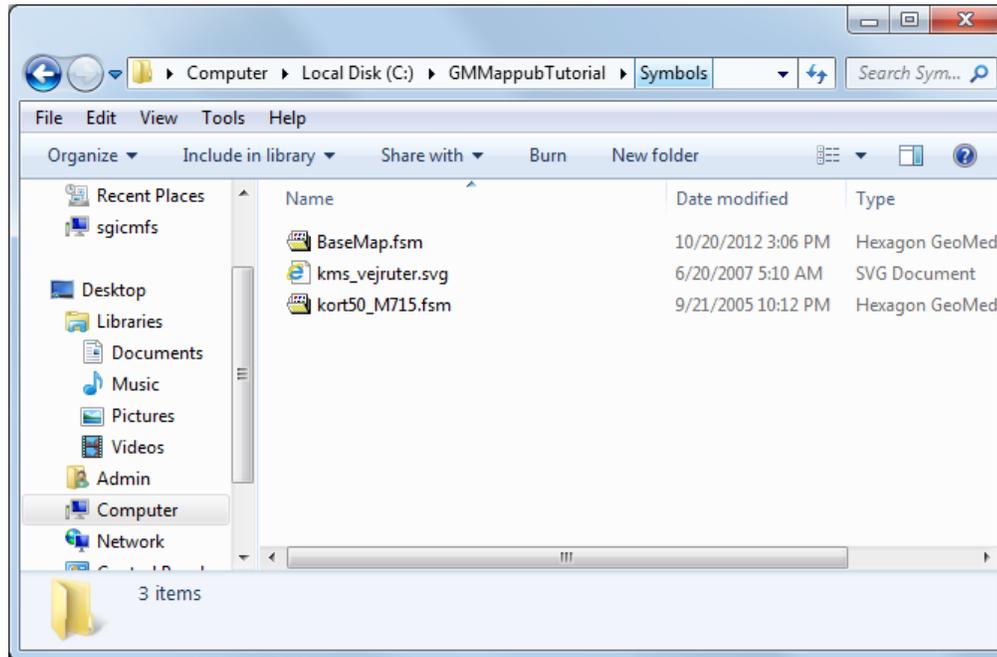
This exercise will instruct you on installing the tutorial dataset and provide a basic workflow overview.

Task 1: Install the Tutorial Data Set.

1. A training data set is provided in a Zip file, *GeoMedia Map Publisher Tutorial Dataset.zip*. To use the data set, extract the files to your C drive, preserving the path and folder names. For example, in WinZip®, you would select the **Use folder names** option. This will deposit the tutorial files in the following path: **C:\GeoMedia Desktop Training\Introduction to Mapping Manager\GeoMedia Map Publisher\Lessons**.
 - a) When done you will find a **GMMappubTutorial** folder in the **GeoMedia Desktop Training** folder (C:\GeoMedia Desktop Training\).
 - b) Cut and paste the **GMMappubTutorial** folder to the C: drive.
 - c) When done it should be here **C:\GMMappubTutorial**.
 - d) **Ensure that your Lessons folder looks like this:**



- e) Ensure that the Symbols folder is in the following path (please double-check this): **C:\GMMappubTutorial\Symbols** and the folder looks like this:



2. The data set is self-contained and includes all of the necessary files for the tutorials, including workspaces, and assorted warehouses.

Task 2: Basic Workflow Overview

GeoMedia Map Publisher is designed to address the cartographic edits that are required when transforming generic source data into a suitable cartographic representation.

Cartographic edits generally involve performing assorted style and geometric modifications to the source data to ensure that the optimal cartographic representation is obtained. The type and degree of cartographic editing required is based on variations between the source data and the cartographic data required for the finished map product. This variation can be influenced by many factors, such as differences in projections, reductions in map scale, or differences in the style definitions used.

The basic workflow for GeoMedia Map Publisher involves defining the cartographic editing environment necessary to produce the finished map product, and then performing the appropriate cartographic edits. This involves the following steps:

1. Create a blank GeoWorkspace.
2. Define the projection for the finished map product.
3. Define the print scale (Nominal Map Scale) for the finished map product.
4. Define the necessary warehouse connections for the Cartographic Sources, the Cartographic Edits, and the Generalization Rules.
5. Add the necessary legend entries (feature classes and queries) required for the finished map product.
6. Assign default styles to each of the legend entries, and set their Style Scaling to Paper.
- 7. Define the Cartographic Editing environment (Cartographic Options).**
- 8. Perform the necessary interactive cartographic edits (Modify Style, Modify Geometry).**
- 9. Perform the necessary automated cartographic edits (Generalization).**
10. Compose the map design of the finished map product in the layout window.
11. Perform the desired lithographic processing.

The lessons in this tutorial will concentrate on the GeoMedia Map Publisher components of the workflow: Steps 7, 8, and 9. Step 11 includes the CMYK PDF option available using GeoMedia GeoPDF Publisher. Steps 1 through 6 and Step 10 involve standard GeoMedia Professional functionality and have already been performed on the data, and they serve as the starting point for the lessons outlined in this tutorial as follows:

1. Geoworkspace – there is a geoworkspace for each lesson:
2. Projection – UTM Zone 32 North
3. Print Scale – the Nominal Map Scale in Display Properties is set to 1:50,000.
4. Warehouse connections – multiple connections exist:
 - a. *KMS_Cosmetic.mdb*
A read-only warehouse that contains cartographic features collected specifically for this 1:50,000 map product and does not require any cartographic editing.
 - b. *KMS_Source.mdb*
A read-only warehouse that contains source features collected independently of this 1:50,000 map product and requires cartographic editing.
 - c. *KMS_Rules.mdb*
A read-write warehouse that contains the Generalization Rules for this 1:50,000 map product. No cartographic editing will be performed on its contents.

- d. *KMS_Carto.mdb*
A read-write warehouse that will be used to store the cartographic edits for this 1:50,000 map product.
5. Legend entries – the necessary feature classes and queries appear in MapWindow1.
6. Default Styles – style definitions have been assigned based on KMS 1:50,000 map specifications. The Style Scaling for each legend entry has been set to Paper.
7. Map composition – the necessary marginalia has been added to the VORDINGBORG layout sheet in the layout window.

Task 3: Useful Information

The starting point for several of the lessons in these tutorials is dependent upon the successful completion of previous lessons. For best results, the lessons should be performed in the order in which they are presented.

The interactive editing commands in GeoMedia Map Publisher work in two different operational modes: object-action and action-object. In object-action mode, the feature(s) to edit are selected first, and then the command is selected.

In action-object mode, the command is selected first, and then the feature(s) to edit are selected. Commands remain active until you press the ESC key, select the **Select Tool**, select **Exit** from the right-click menu, or select another command. Many of the commands in GeoMedia Map Publisher are dependent upon specific geometry types and/or style definitions. For example, the **Adjust Line Style** command requires a linear geometry that has a dashed style definition. When this command is active, features that do not meet these criteria are not selectable and will not highlight when hovering the cursor over them. If features that do not meet these criteria are in the select set when the command is invoked, a warning message will appear stating "None of the feature(s) selected are valid for this edit."

The majority of lessons in this tutorial operate using a consistent display scale: 1:12,500. With the exception of the Generalization lessons, each lesson operates in a specific geographic area within the data set to ensure that appropriate features are in view for the Map Publisher command being processed in the lesson.

Navigation in the map window to the specific geographic locations will be accomplished using **Queued Edit** in combination with specific settings defined for the map window properties. To accommodate this, a feature class was created in the Cartographic Edits database: **MappubTutorial**. The feature class is a point geometry with a single attribute: Command_Name. Features were digitized in a relevant location for each command. This feature is not displayed in the map window and is used only for the purpose of **Queued Edit**. This is not a standard operating procedure for GeoMedia Map Publisher workflows. Its sole purpose is to aid in the map window navigation for this tutorial.

It is not necessary to run through all the tutorials in a single session. At any point, you can stop, exit GeoMedia, and then continue at a later date. If you do stop in the middle of the tutorial, you must save the GeoWorkspace in order to retain the cartographic edits that have been performed. Upon re-entering GeoMedia, you will likely need to invoke **Queued Edit** again before continuing with other lessons. Instructions for starting **Queued Edit** can be found at the beginning of the Performing Style Edits tutorial.

Exercise 2: Getting Started with GeoMedia Map Publisher

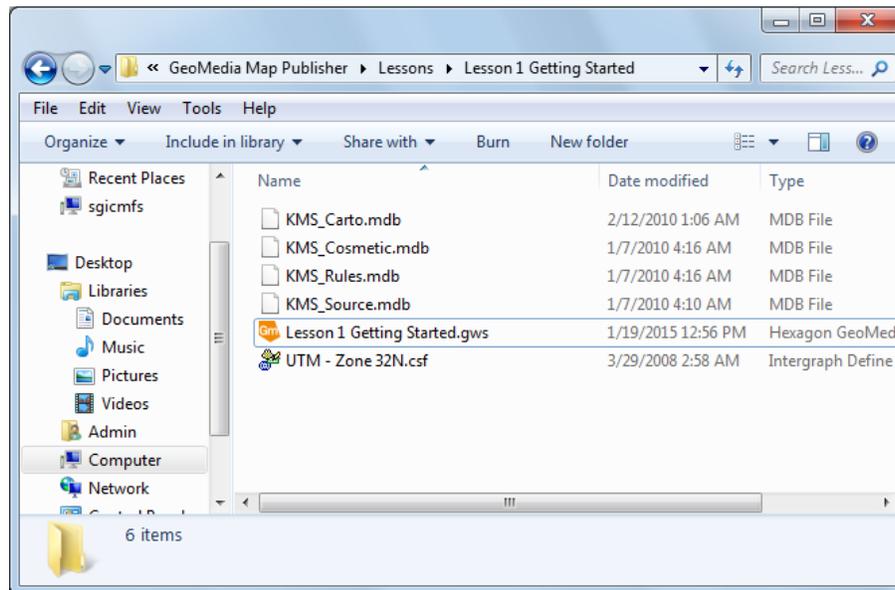
Objective:

Opening a geoworkspace and setting the cartographic editing options.

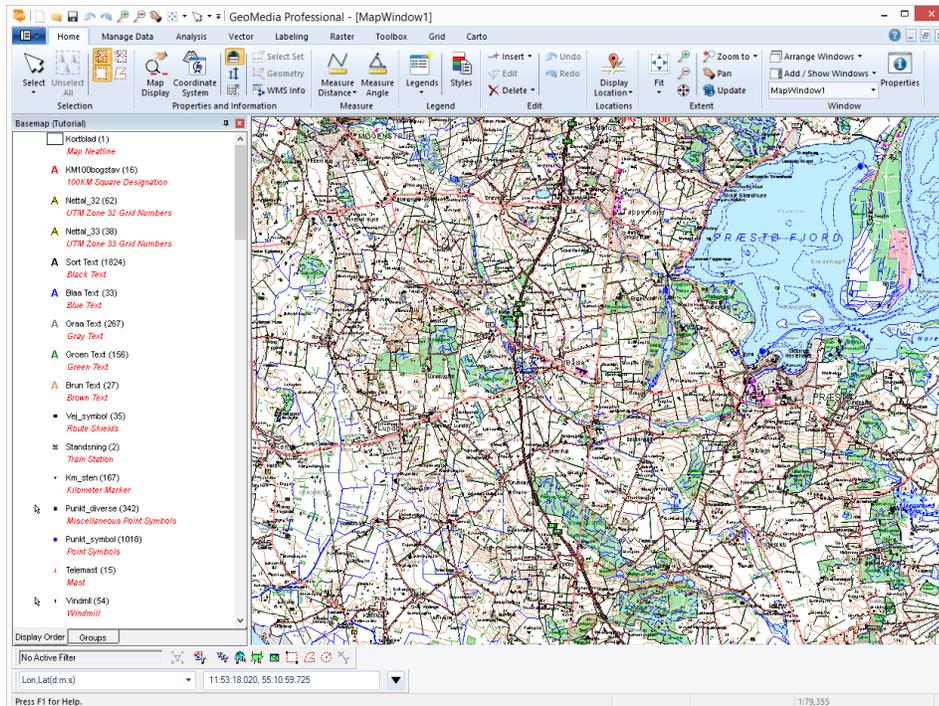
Task 1: Open the Tutorial Workspace

GeoMedia Map Publisher is an extension product for GeoMedia Professional. To use GeoMedia Map Publisher, you must first start GeoMedia Professional.

1. Open C:\GeoMedia Desktop Training\Introduction to Mapping Manager\GeoMedia Map Publisher\Lessons\Lesson 1 Getting Started.gws.



GeoMedia Professional starts, opening the selected GeoWorkspace.



The GeoMedia Map Publisher tab **Carto** is visible on the main menu bar. For more information, see Looking at the Ribbon Mode in the Help.

NOTE The sample data set provided by KMS has particular characteristics associated with their specific 1:50,000 map scale production environment. The architecture of this data set has been specifically designed to take advantage of the functional capabilities available in GeoMedia Professional, and at the same time, to take advantage of third-party software applications that KMS uses to enhance their map production workflow. In most cases, the data structures presented in this tutorial represent typical GeoMedia Professional data structures, but in some cases, the data structures presented are the result of third-party software application processing.

Task 2: Defining the Cartographic Editing Environment

Before performing any cartographic edits, the cartographic editing environment needs to be established. This is accomplished with the **Cartographic Options** command. The primary purpose of the **Cartographic Options** command is to define the associations between the cartographic source warehouse connection(s) and the cartographic edits warehouse connection(s). There are additional settings available for defining the desired Display Properties and Legend Management settings. In general, the **Cartographic Options** command is the first step in the workflow and should only need to be invoked a single time throughout the workflow. For additional information, see the Cartographic Options chapter in the Help.

WARNING Making changes to these settings after cartographic edits have been performed may invalidate existing cartographic edits.

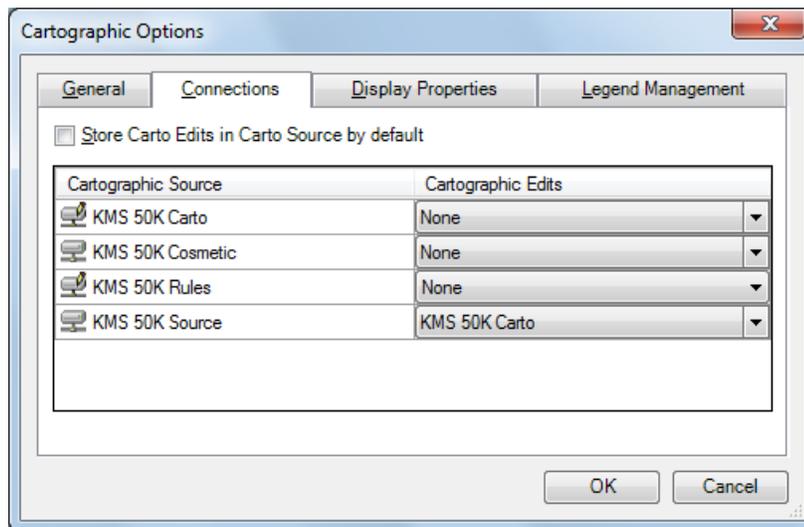
1. To define the cartographic editing environment, select **Carto > Cartographic Edits > Options** from the ribbon bar.



The **Cartographic Options** dialog box displays with the **Connections** tab active.

Each of the warehouse connections defined in the GeoWorkspace are listed in the **Cartographic Source** column. By default, the **Cartographic Edits** definitions will be blank. In this configuration, KMS 50K Source is the only connection that will have cartographic edits performed on its contents, and the cartographic edits will be stored in a separate database, KMS 50K Carto.

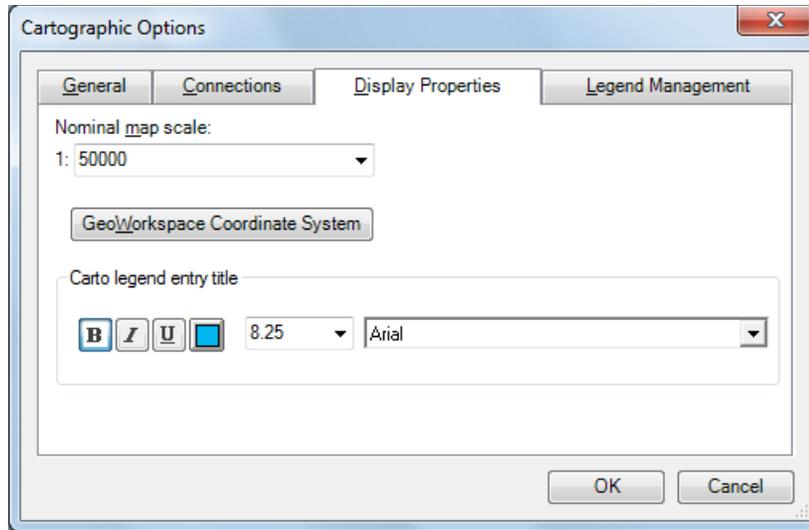
2. For the **KMS 50K Source** connection, select **KMS 50K Carto** for the associated Cartographic Edits connection.
3. Select **None** for the Cartographic Edits connection for each of the other Cartographic Source connections.



NOTE When warehouse configurations store the Cartographic Edits in a separate database from the Cartographic Source, it may be desirable to make the source connection read-only to eliminate the possibility that source data could be inadvertently modified during the cartographic editing process.

4. Click the **Display Properties** tab.

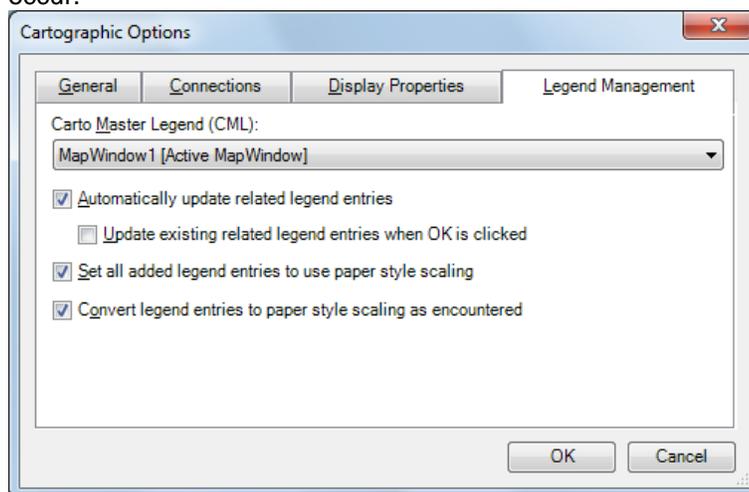
The **Display Properties** tab allows you to define the **Nominal map scale** (this is the same as defining it on the **Display Properties** dialog), to review the **GeoWorkspace Coordinate System**, and to define the settings for **Carto legend entry title**.



5. Ensure the **Nominal map scale** is set to **1:50,000**.
6. Optionally click **GeoWorkspace Coordinate System** to review the GeoWorkspace coordinate system.
7. For the **Carto legend entry title**, make sure the **Bold** button has been clicked and the color selected is a dark cyan color.

NOTE The **Nominal map scale** setting should reflect the finished map scale and is used to calculate dimensions at Paper Scale during cartographic editing. The **GeoWorkspace Coordinate System** should reflect the projection of the finished map product. The **Carto legend entry title** settings are optional. The default settings will match the current settings defined for the active map window Legend Properties. Changing these settings will provide visual feedback in the map window legend for those legend entries that have had cartographic edits performed on them.

8. Click the **Legend Management** tab.
The **Legend Management** settings allow you to define the **Carto Master Legend (CML)**, and define the desired behavior of legend processing as cartographic edits occur.



9. Ensure **MapWindow1 (Active MapWindow)** is selected for the **Carto Master Legend**.
10. Make sure the options **Automatically update related legend entries**, **Set all added legend entries to use paper style scaling**, and **Convert legend entries to paper style scaling as encountered** have been selected.

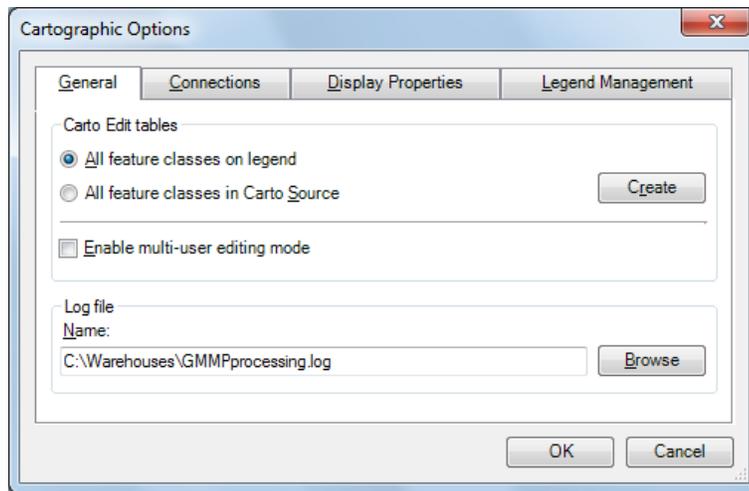
NOTE **Legend Management** plays an important role in the cartographic editing process. The **Carto Master Legend (CML)** is used to store all of the cartographic style edits in addition to identifying which legend entries have had cartographic edits performed on them. Before cartographic edits are performed, each legend entry references the source data. As cartographic edits are performed, the legend entries of the edited features are converted from source legend entries to cartographic legend entries. The cartographic legend entries reference the combined cartographic edited feature instances along with the non-edited source feature instances. Map window legends often contain duplicate or derived legend entries. For example, a single feature class may appear multiple times in the map window legend, or a query legend entry may be derived from a feature class legend entry. Checking the **Automatically update related legend entries** check box ensures that related legend entries in the map window legend will also be converted to cartographic legend entries as cartographic edits occur.

The sample data set used in this tutorial illustrates this scenario with each of the road feature classes (Motorvej, Vejo6, and so on.). All of the road feature classes are displayed in the legend twice, once for the main road alignment and once for the bridge alignment. For example, Motorvej and Bro_Motorvej both reference the Motorvej feature class. Attribute Based Symbology (ABS) is used in the Style Properties of each legend entry to differentiate between the two. Separating the bridge segments from the main road alignment segments with multiple legend entries enables the proper display priority to ensure that bridge segments display on top of the main road alignment segments.

Checking the **Set all added legend entries to use paper style scaling** check box sets the option to **Paper scaling** in the **When adding legend entries use** group on the **Map Display** tab in the GeoMedia Professional **Tools > Options** dialog. This setting causes all newly added legend entries to use paper style scaling when added to the map window legend. In the event that existing legend entries are encountered that have their style scaling set to **View** when cartographic edits are initiated, checking the **Convert legend entries to paper style scaling as encountered** check box will set the encountered legend entry to paper style scaling.

11. Click the **General** tab.

The **General** tab provides the ability to optionally create Carto Edit tables in the Carto Edits database and to specify the name and location for a log file where GeoMedia Map Publisher processing errors are logged. For additional information on the creation of Carto Edit tables and multi-user editing mode, see Cartographic Options in the Help.



12. Click **OK**.

The cartographic editing environment has been defined. Associations between the cartographic source and cartographic edits databases have been established. The Carto Master Legend (CML) has been saved as a Named Legend and will be updated as cartographic edits occur.

TIP When adding new legend entries to the map window, the style used to portray the new entry varies based on the presence of a Master Legend and/or Named Styles in the GeoWorkspace. If the items selected in the **Add Legend Entries** command are defined in the Master Legend or if the name of the items selected matches an existing Named Style, the existing style definitions are used with the Master Legend definition taking precedence. If there are no matches, a default style is used. None of these style definitions are being updated as cartographic edits occur. However, the Carto Master Legend (CML) is being continually updated as cartographic edits occur. During the cartographic editing process, it may be desirable to add the cartographic edited version of the features to an existing or new map window. **To ensure that the cartographic edited version of the style definition is used when adding new legend entries**, set the **Master legend** definition on the **Legends** dialog equal to the **Carto Master Legend (CML)** definition specified on the **Cartographic Options** dialog box as follows:

- a. Select **Home > Legend > Legends > Legends**.
- b. In the **Master legend** field, select **MapWindow1** and click **Close**.

13. Select **File > Save** to save the **GeoWorkspace**.

NOTE These tutorials can be done sequentially or by selected subject. For the tutorials that follow you can either continue working with the same workspace and accumulate the results of the exercises that you perform or, alternately open the workspace for each tutorial. Some of the tutorials have dependencies on previous tutorials being completed. This dependency is removed by starting each tutorial with the workspace for that particular tutorial.

TIP Performing cartographic edits in GeoMedia Map Publisher involves at a minimum the use of a GeoWorkspace, a Cartographic Source database, and a Cartographic Edits database, all of which should remain in sync with one another during the cartographic editing process. As cartographic edits are performed on the data, the results are written to the GeoWorkspace and Cartographic Edits database(s) in real-time. Edits written to the Cartographic Edits database(s) are saved immediately as the edit occurs. However, edits written to the GeoWorkspace are not saved until the operator manually saves the GeoWorkspace. For this reason, it is recommended that the GeoWorkspace be saved periodically to ensure that the cartographic edits performed remain in sync between the GeoWorkspace and the Cartographic Edits database(s). There are several scenarios where the GeoWorkspace and the Cartographic Edits database(s) could get out of sync with one another during the cartographic editing process. First, an operator could perform several cartographic edits and then exit the GeoWorkspace without saving it. Second, an operator could perform several cartographic edits and then experience a power outage that prohibited them from saving the GeoWorkspace. In the event that the GeoWorkspace and the Cartographic Edits database(s) get out of sync with one another during the cartographic editing process, the operator can easily get them back in sync with one another by doing the following:

- a. Start GeoMedia Professional and open the affected GeoWorkspace.
- b. Select **Carto > Cartographic Edits > Refresh**.
- c. Select **File > Save** to save the **GeoWorkspace**.