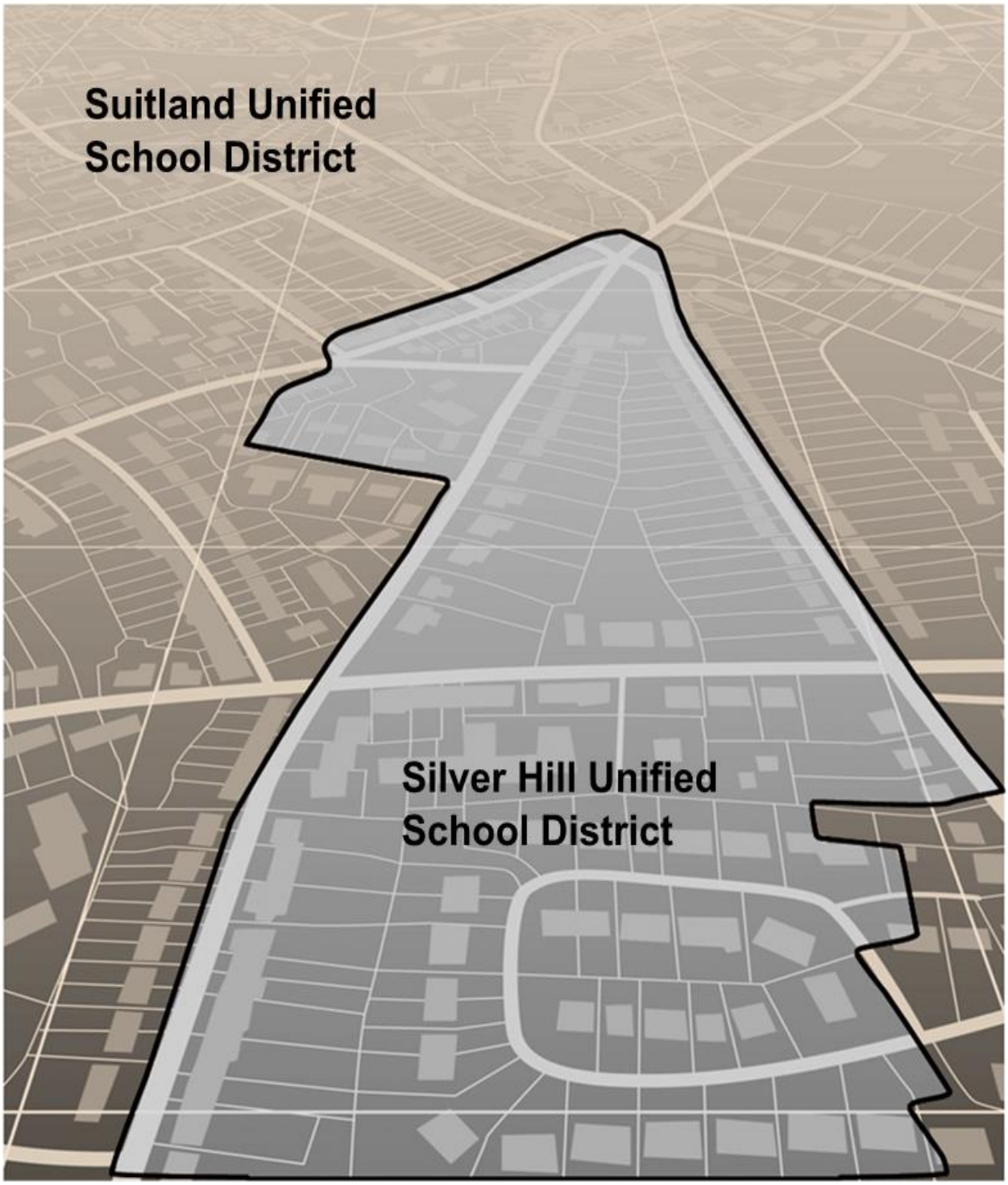
2021 School District Review Program Respondent Guide

Instructions for Using the Submission Log and the Geographic Update Partnership Software (GUPS)



United States Census Bureau

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INTRODUCTION

This guide is divided into several parts. **Part 1 School District Review Program (SDRP)**, **Part 2 How to Use TIGERweb**, **Part 3 How to Use the Submission Log**, **Part 4 How to Use the Geographic Update Partnership Software (GUPS)**, and **Part 5 Submitting Files to the Census Bureau through The Secure Web Incoming Module (SWIM)**.

A. School District Review Program

The School District Review Program (SDRP) is a United States Department of Education National Center for Education Statistics (NCES) sponsored program conducted annually by the U.S. Census Bureau (Census Bureau). It is of vital importance for the state's allocation under Title I of the Elementary and Secondary Education Act (ESEA) as amended by Every Student Succeeds Act of 2015, Public Law 114-95. The updated school district boundary information submitted through this program, along with the 2010 Census population, Small Area Income and Poverty Estimates, and current population estimates, are used in forming the Census Bureau's estimates of the number of children aged 5 through 17 in families in poverty for each school district. These estimates are the basis of the Title I allocation for school districts in each state.

The SDRP consists of two phases—the Annotation Phase and the Verification Phase. In the Annotation Phase, the Census Bureau provides mapping coordinators with current school district boundaries and associated information for their state. The Annotation Phase materials the mapping coordinator receives for the 2021 SDRP reflect the school district names, Federal School District Local Education Agency (SDLEA) Identification (ID) numbers, and boundaries updated during the 2020 SDRP. Each state mapping coordinator reviews their data and reports changes in the school district boundaries or attributes to the Census Bureau.

The review encompasses only Type 1 and Type 2 school districts as defined by the NCES.

Type 1 is a local school district that is not a component of a supervisory union.

Type 2 is a local school district component of a supervisory union sharing a superintendent and administrative services with other local school districts.

After the Census Bureau incorporates changes submitted through the Annotation Phase into the Master Address File (MAF)/Topologically Integrated Geographic Encoding and Referencing (TIGER) System, mapping coordinators will review these changes for accuracy and completeness during the Verification Phase.

B. Mapping Coordinator Responsibilities

The mapping coordinators are the primary liaisons between the Census Bureau and the local school district officials. It is the responsibility of the mapping coordinator to initiate and maintain contact throughout the program with local school district officials. The mapping coordinator must ensure that reviews and submissions are completed within the time frame of the SDRP.

When the mapping coordinator receives updates from local school district officials, they must review them for accuracy and completeness before submitting them to the Census Bureau. This review includes all types of updates submitted: boundary changes, consolidations, dissolutions, grade range updates, etc. For boundary updates, it is the responsibility of the mapping coordinator to confirm that a change is valid and all affected school districts agree to the change.

Note: The state mapping coordinator for **Florida, Hawaii, Maryland, Nevada, West Virginia, or the District of Columbia,** may not have any changes to submit for the SDRP. School Districts in these states are all unified and county-based. Unless the geographic relationship of school districts has changed in the state or a school district's name was changed, the mapping coordinator does not have any changes to report for the 2021 SDRP. If the mapping coordinator has no changes to report, notify the SDRP Team at <geo.school@census.gov>.

Once all of the information is correct and in the proper format, submit this information, by county, to the Census Bureau to complete the Annotation Phase.

After the Census Bureau processes the Annotation Phase changes, the Census Bureau will create new materials for review. This is the Verification Phase of the SDRP. The mapping coordinator is responsible for reviewing and confirming these changes and notifying the Census Bureau if there are any additional changes or corrections, or if the information is correct. The Verification Phase is for reviewing changes submitted during the Annotation Phase and not for submitting new changes.

C. Types of School District Boundary Updates

There are eleven types of school district updates within the SDRP (**Table 1: School District Boundary Change Types**). The following pages contain a table and figures of specific examples of the types of updates and how to report them to the Census Bureau.

- **Boundary Change** (**Figure 1**) refers to the situation where a school district adds area from the same school district level or across a school district level.
- **Complex Consolidation** (**Figure 2**) refers to the situation where two or more school districts merge to create a **NEW** school district with a **NEW** name and **NEW** SDLEA number, along with additional boundary changes. This type of consolidation also contains boundary changes that modify the outer edge of the new school district. Therefore, if the mapping coordinator delineates a complex consolidation, the Census Bureau will expect accompanying boundary changes for the new school district.
- **Complex Dissolution** (**Figure 3**) refers to the situation where a single school dissolves and its area is split between **two or more** other existing school districts, with or without additional boundary changes. Again, a new school district is not created, and the names and SDLEA numbers of the **receiving** school districts are retained.
- **Grade Range Change** occurs when a school district changes the grades it covers; for example, changing from covering 9-12 to 7-12.

- **Level Change** occurs when a school district changes classification; for example, changing from elementary to unified.
- **Name Change** is when a school district changes its name; for example, changing from Oak Union Unified School District to Oak Union School District.
- **New School Districts** (**Figure 4**) are created by transferring area from one or more existing school districts to form a completely new school district.
- **Pseudo School District** (**Appendix B**) refers to the situation where one school district pays for the educational services for a set of grades in a different geographic area than its own.
- **Simple Consolidation** (**Figure 5**) refers to the situation where two or more school districts merge to create a **NEW** school district with a **NEW** name and **NEW** SDLEA number, with no additional boundary changes. There is no change in the overall boundaries of the former school districts.
- **Simple Dissolution** (**Figure 6**) refers to the situation where one or more existing school districts are entirely absorbed by **one** other existing school district. A new school district is **not** created. The name and SDLEA number of the **receiving** school district are retained.
- **SDLEA Number ID Change** is a correction to a previously incorrect SDLEA or replacing a temporary SDLEA ID number (99***) with a permanent number.

Table 1: School District Boundary Change Types

Type of Change	Report Using
Boundary Change	GUPS
Complex Consolidation	GUPS
Complex Dissolution	GUPS
Grade Range Change	Submission Log
Level Change	Submission Log
Name Change	Submission Log
New School District	GUPS
Pseudo School District	Call Census Bureau
Simple Consolidation	Submission Log
Simple Dissolution	Submission Log
SDLEA Number ID Change	Submission Log

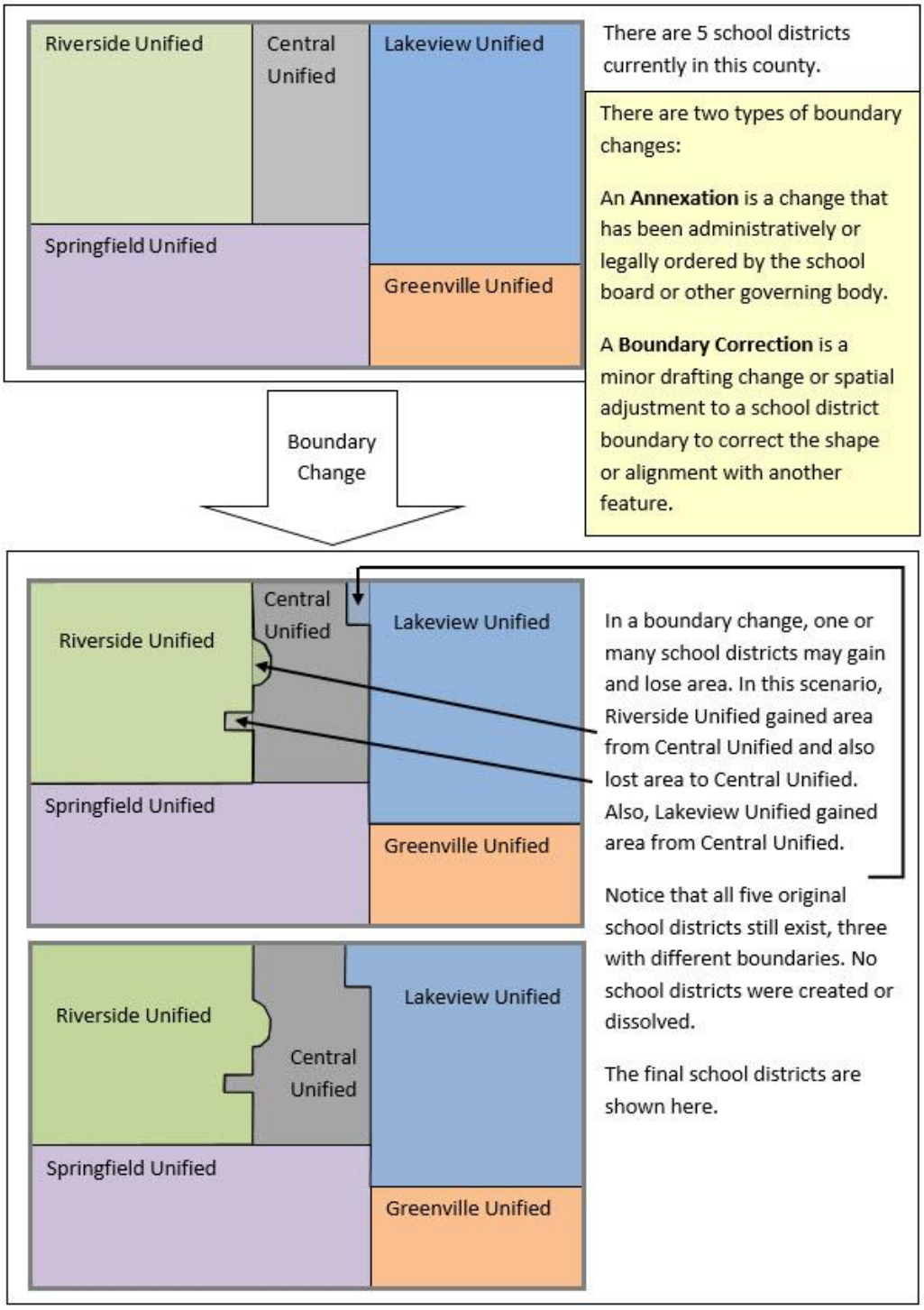


Figure 1. Boundary Change Example—Update Using GUPS

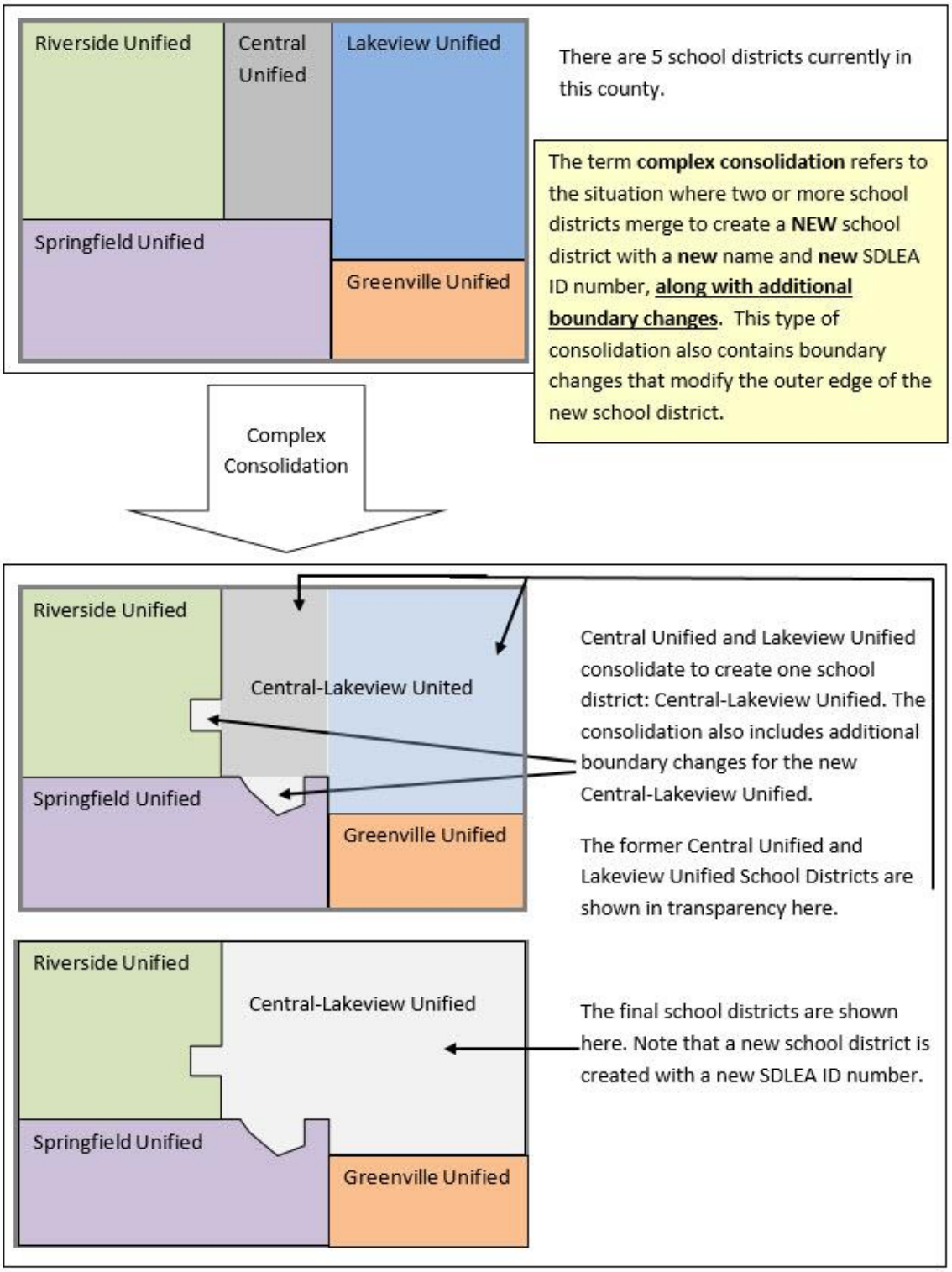


Figure 2. Complex Consolidation Example—Update Using GUPS

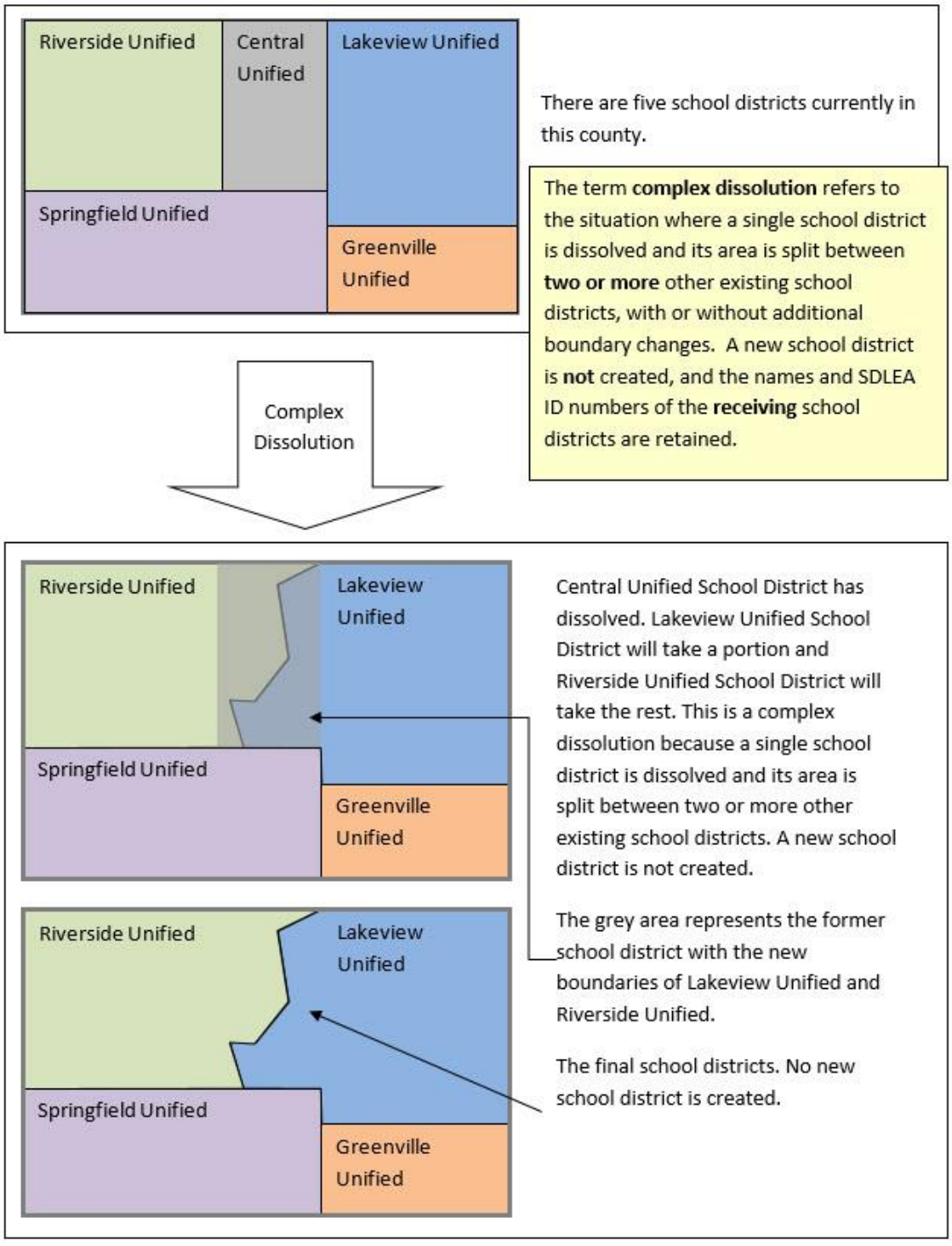


Figure 3. Complex Dissolution Example—Update using GUPS

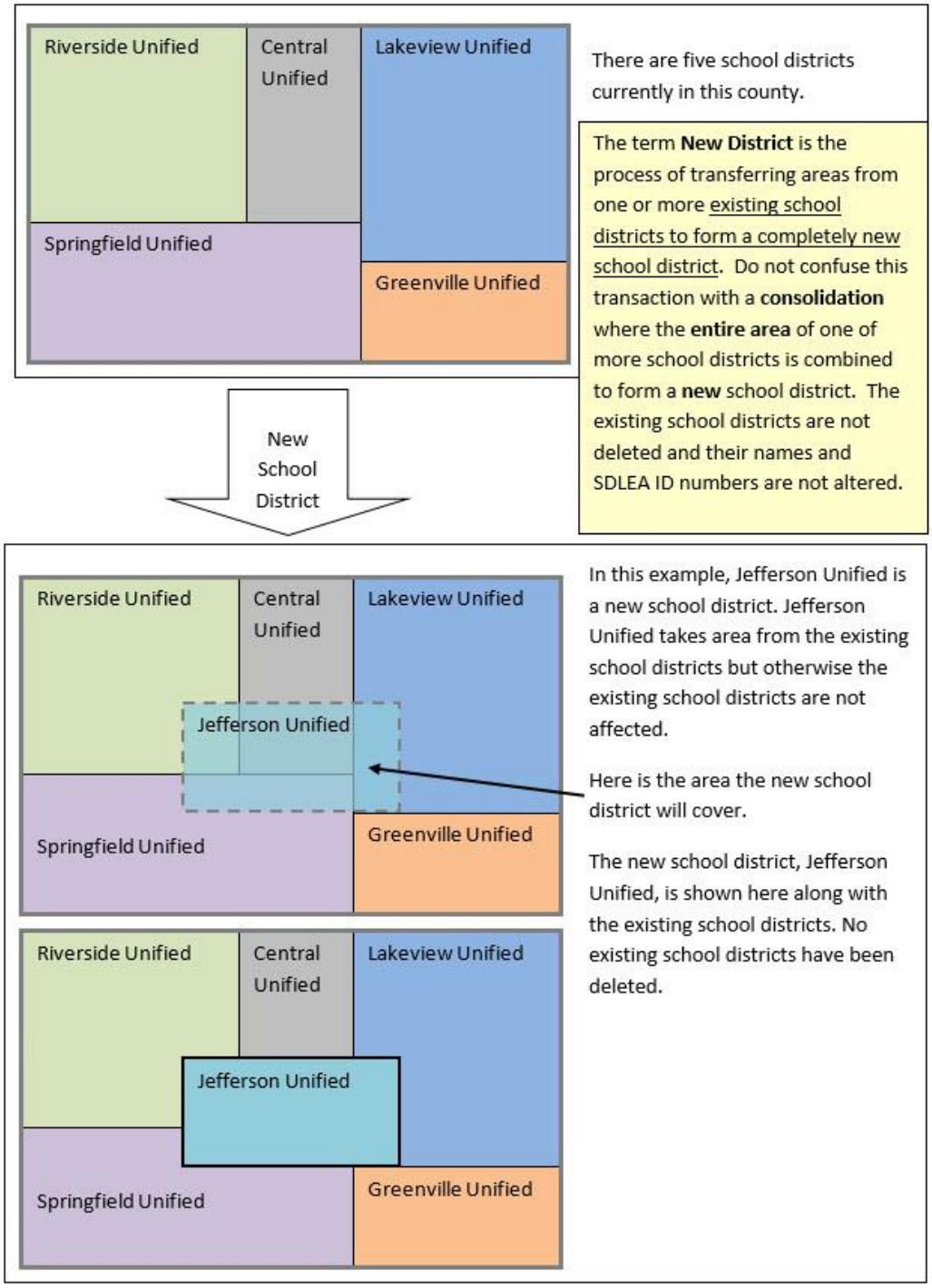


Figure 4. New School District Example—Update using GUPS

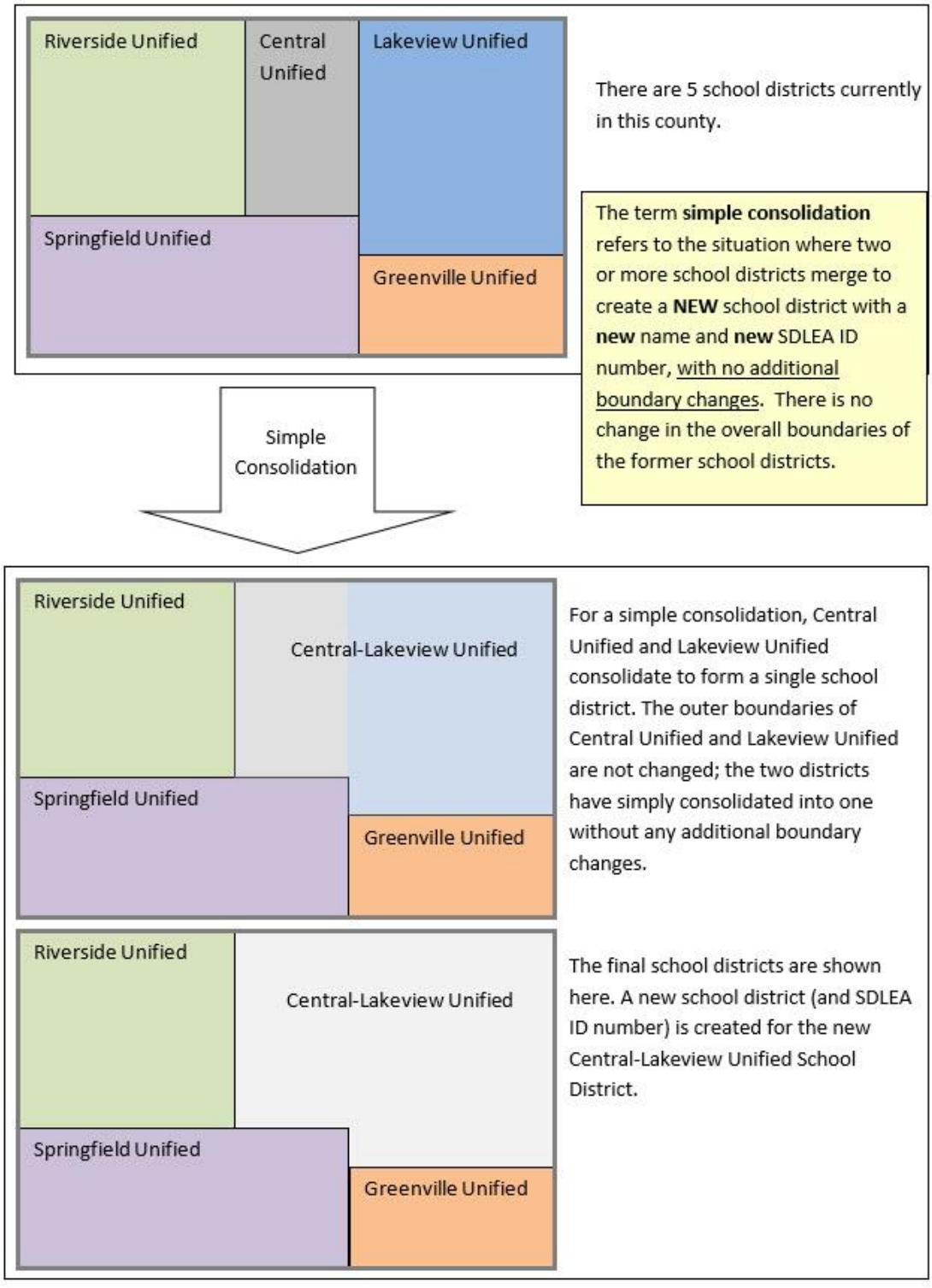


Figure 5. Simple Consolidation Example—Update Using the Submission Log

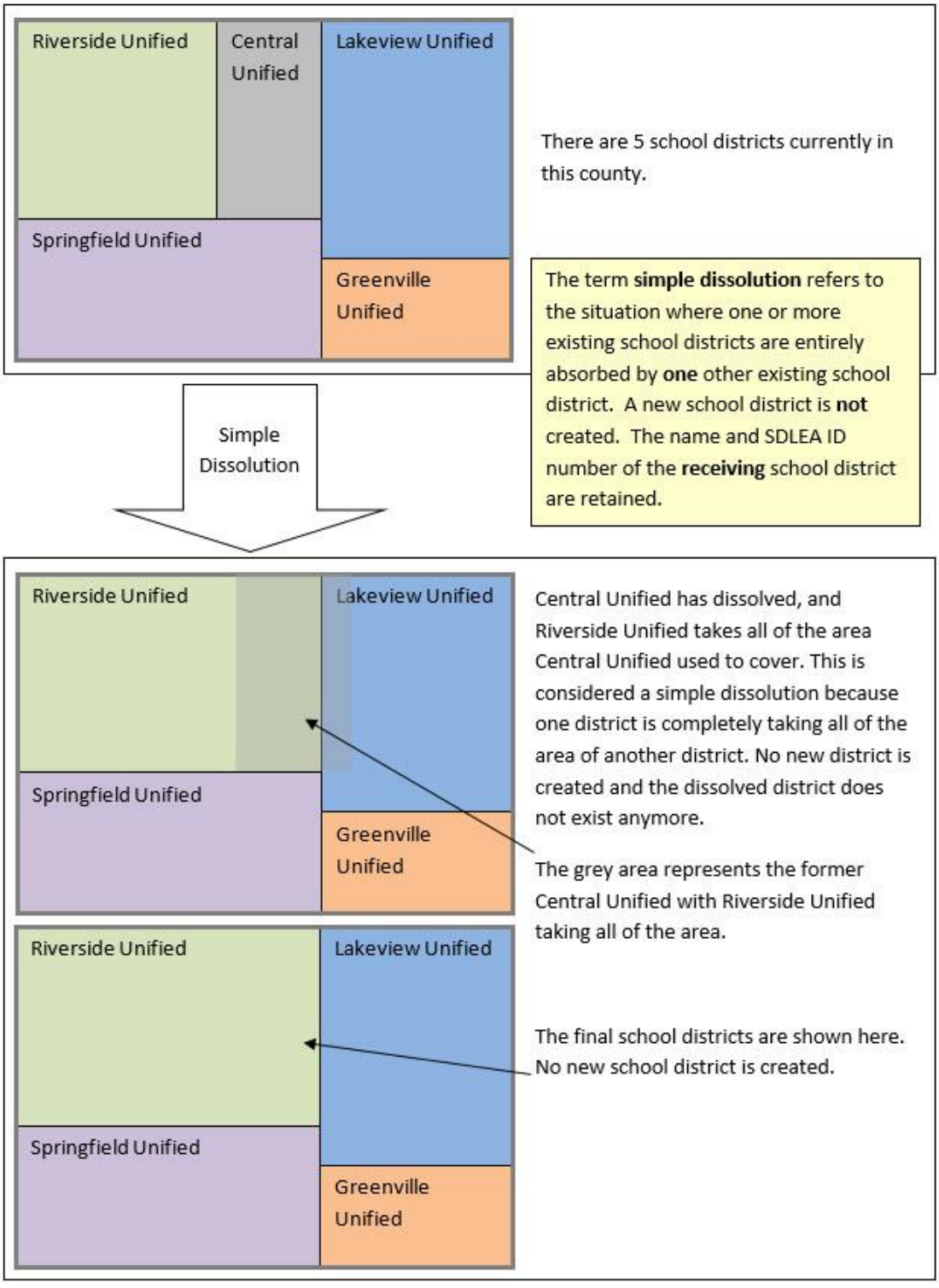


Figure 6. Simple Dissolution Example—Update Using the Submission Log

D. Guidance for Boundary Changes

When reviewing school district boundaries, the Census Bureau encourages the mapping coordinator to focus on updating large changes that affect housing units and population first, and then move to smaller differences if there is time before the SDRP submission deadline. The goal of the SDRP is to obtain major changes that affect population rather than small positional corrections of boundaries.

The Census Bureau generally does not accept boundary changes of less than 30 feet when the correction does not affect housing. In remote areas with sparse population, the Census Bureau considers a difference of 60-75 feet to not be significant if housing units are not present. When reviewing source boundaries against the Census Bureau's boundaries, if the source shows a school district boundary on a road, then use the road as it appears in the Census Bureau's shapefile, even if the road does not seem spatially accurate. Road realignments are not accepted as part of the SDRP.

If there are a large number of positional corrections of school district boundaries for the state, the Census Bureau may be able to make these updates outside of the SDRP cycle. Please contact the SDRP team for additional information.

Boundary Change Types: Annexations and Boundary Corrections

The Census Bureau requires a change type of Annexation or Boundary Correction when submitting boundary changes.

An **Annexation** is a change to a school district boundary that has been administratively or legally ordered by the school board or other governing body. A **Boundary Correction** is a minor drafting change or spatial adjustment to a school district boundary to correct the shape or alignment with another feature. If the mapping coordinator is unsure of which type to select, choose boundary correction.

PART 1 SCHOOL DISTRICT REVIEW PROGRAM (SDRP)

CHAPTER 1 OVERVIEW

The Census Bureau requests that the school district information the mapping coordinator submits reflect the school districts as they exist, or will exist, on January 1, 2021. Contact the Census Bureau immediately if there are deadline concerns.

1.1 SDRP Timetable

- **September 2020**—Mail out instructions and Annotation Phase materials to designated state school district mapping coordinators.
- **October 2020**—Provide SDRP webinar to state school district mapping coordinators.
- **December 31, 2020**—Deadline for submitting school district changes during the Annotation Phase. The Census Bureau strongly encourages partners to submit changes as soon as possible rather than waiting until this deadline. If the mapping coordinator is submitting more than 25 changes, send them on a flow basis by county, rather than waiting to send the entire state.
  In order to participate in the 2021 SDRP's Verification Phase, the Census Bureau must receive all school district updates by December 31, 2020.
- **April 2021**—Review of verification materials.
- **December 2021**—Release of preliminary poverty estimates based on the updated school district geographic framework.

1.2 SDRP Annotation Phase Materials

The SDRP Annotation Phase packet includes a disc containing GUPS and a second disc containing shapefiles, respondent guides, submission log and school district listings files. All materials are also available for download on the SDRP website: <https://www.census.gov/programs-surveys/sdrp.html>.

All participants should review the entire **Quick Start Guide** and this guide **before starting**. These guides explain the guidelines and reporting tools that apply to the state's changes.

1.3 SDRP and GUPS Help

The Census Bureau encourages mapping coordinators to contact the SDRP team with any questions at 301.763.1099 or by email at <geo.school@census.gov>.

1.4 Description and Use of Listing Files Provided

The data discs contain a number of important files. The Readme.txt on the data disc contains a complete list of materials. For convenience purposes, the Census Bureau provides both a text file and an Excel file for each listing on the disc. Depending on the state's school district geography and how the state participates in the SDRP, some listing files may not be included.

1.4.1 Listings

- Inventory and Grade Range File (All States)
- County Coverage File (All States)
- School District to Geography (SD/GEO) Relationship Files (Limited States)
- Legal Entity Coextensive File (Limited States)

1.5 Inventory and Grade Range File (All States)

The Inventory and Grade Range files are named "**<ST>_SD_Inventory_A.txt**" and "**<ST>_SD_Inventory_A.xls**" (see **Appendix A: Data Dictionary and Record Layout for Listings**). These files are a listing of the 2020 school districts recognized by the Census Bureau, including the school district name, SDLEA, level, type, and grade range. Carefully review the information contained in these listings and provide the Census Bureau with updates and corrections.

Note: The Census Bureau requires complete school district coverage; therefore, the listings may contain school districts that are not Type 1 or Type 2. These are flagged in the listings as follows: Pseudo (A) (See **Appendix B** for more information on pseudo school districts), Department of Defense (B), Interstate (C), and Bureau of Indian Affairs [BIA] (D). These files also flag school districts within a state or county that have the same name but different SDLEA numbers with an (E). In these situations, the SDLEA numbers are the means to identify unique school districts that share the same name.

1.5.1 Grade Ranges

The grade ranges included in these files indicate the grade ranges for which each school district is financially responsible. Use this set of grades, based on financial responsibility, to assign the data for each child to exactly one school district.

Examples of Financial Responsibility:

A school district is financially responsible for the education of all children in a geographic area if it is the only district serving that area. It may meet that responsibility by:

- Operating schools that provide education to children in all grades.
- Operating schools that provide education for children in some grades and paying another school district to provide education for the children in the remaining grades; or
- Not operating any schools, but paying another school district to provide education to all the school district's children.

If the children in a geographic area are served by an elementary school district, and also served by a separate secondary school district that receives no payment from the elementary district, then the two school districts share the geographic area and financial responsibility is divided between them. The grade ranges on the listing should show which district is financially responsible for the children in each grade. The grade ranges listed for each of the two school districts must not overlap, and every grade must be assigned to one of the school districts.

Responsibility for a particular grade exists even if, from time to time, there are no children in that grade living in the service area of the school district. Thus, a school district that is responsible for providing 6th grade schooling should appear on the listing with the "6th grade" in its grade range, even if there are no actual 6th grade students living there.

1.5.2 Official School District Names

The official school district name is its legal name including any state-used descriptive wording, such as "Independent School District", "Consolidated School District" or "Supervisory Union."

1.5.3 How Do I Submit Inventory and Grade Range Changes?

Submit grade range changes using the submission log outside of GUPS.

- Include all changes manually using the Excel Submission_Log.xls spreadsheet (referenced in **Chapter 3**); or
- Update either the School District Inventory and Grade Range text **or** Excel file, not both, with all grade range changes, additions (new school districts) and deletions (deleted school districts) making clear what changed by highlighting, changing text color, text bolding, adding, or crossing out the changes.
- Send the Submission Log or updated file through the Secure Web Incoming Module (SWIM). For more information regarding SWIM, see **Part 5 Submitting Files to the Census Bureau through The Secure Web Incoming Module (SWIM)**.

Important: If the mapping coordinator plans to submit more than 25 changes, such as name or grade range changes, contact the SDRP team before filling out the submission log.

1.5.4 County Coverage File (All States)

The County Coverage files are named "**<ST>_County_Coverage_A.txt**" and "**<ST>_County_Coverage_A.xls**" (see **Appendix A** for record layout). These files are sorted by county and list the school districts that are located in each county. There is a separate record for each unique school district/county combination.

The County Coverage files reflect the boundaries of the 2020 school districts as shown in the shapefiles and the TIGERweb map viewer. Use these files to locate each school district and to review the extent of the areas of each school district as they relate to counties.

Review these listings and notify the Census Bureau where a school district to county relationship should no longer be maintained, or where a new relationship should be created and maintained.

1.5.5 School District to Geography (SD/GEO) Relationship File (Limited States)

In Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, Pennsylvania, Rhode Island, and Vermont, school districts are commonly coextensive with one or more incorporated places and/or county subdivisions (towns, townships, boroughs, etc.). Review the relationships listed in the files named: **<ST>_SD_GEO_Relationship_A.txt** or **<ST>_SD_GEO_Relationship_A.xls** to ensure that the state school districts are maintaining the correct relationships with the aforementioned legal governmental entities (See **Appendix A**). Similar to the County Coverage files, these files contain records for each school district/incorporated place and school district/county subdivision coextensive relationship.

Both the **<ST>_SD_GEO_Relationship_A.txt** and the **<ST>_SD_GEO_Relationship_A.xls** files are sorted by SDLEA for use in reviewing the geographic relationship between the local governments (towns, townships, boroughs, etc.) and each school district.

The Census Bureau maintains these relationships without the need for states to submit boundary changes for the listed school districts. All changes to incorporated places and county subdivisions are obtained through the Census Bureau's Boundary and Annexation Survey (BAS). If the mapping coordinator believes that a legal boundary is incorrect, notify the Census Bureau via email at <geo.bas@census.gov>.

Review these listings and notify the Census Bureau where a relationship should no longer be maintained, or where a new relationship should be created and maintained.

1.5.6 Legal Entity Coextensive File (Limited States)

The Legal Entity Coextensive files named "**<ST>_Coextensive_Coverage_A.txt**," and "**<ST>_Coextensive_Coverage_A.xls**," (see **Appendix A**) are being provided to Alabama, Alaska, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Utah, and Virginia because **some** of their school districts are **coextensive** with legal entities such as counties, county equivalents, or incorporated places.

The Census Bureau maintains these coextensive relationships without the need for states to submit boundary changes for the listed school districts. All changes to counties, county equivalents, and incorporated places are obtained through the Census Bureau's BAS. If the mapping coordinator believes that a legal boundary is incorrect, please notify the Census Bureau via email at <geo.bas@census.gov>.

Review these listings and notify the Census Bureau where a coextensive relationship should no longer be maintained, or where a new relationship should be created and maintained.

Note: If the state did not receive an SD/GEO Relationship File or a Coextensive Coverage file, and there are school districts in the state that are legally coextensive with local governments, contact the SDRP team.

1.5.7 How Do I Make Corrections to the "County Coverage," "Relationship" and/or "Legal Entity Coextensive" Files?

- Update either the text file or the Excel file, not both, with all changes, additions, and deletions making clear what changed by highlighting, changing text color, text bolding, adding, or crossing out the changes.
- Send the updated file(s) to the Census Bureau using the SWIM. For more information regarding SWIM, see **Part 5 Submitting Files to the Census Bureau through The Secure Web Incoming Module (SWIM)**.

PART 2 HOW TO USE TIGERWEB

CHAPTER 2 TIGERWEB MAP VIEWER FOR THE SDRP

The Census Bureau provides the TIGERweb online map viewer for state and local education officials to review the Census Bureau's 2020 school district information. The TIGERweb viewer shows features such as roads, waterways, and county, place, city, and school district boundaries at street level detail.

The TIGERweb online map viewer is located at: <https://tigerweb.geo.census.gov/tigerweb/>. Use it to locate a school district and compare it to a local source for school districts to determine if there is a need to make boundary changes. The mapping coordinator should provide boundary changes to the SDRP if the map does not correctly depict the school district boundary in effect as of January 1, 2021.

To review the boundary of a school district, the mapping coordinator will need either the name of the school district or the seven-digit geographic identification code (**GEOID**) for the school district. The GEOID is located in the School District Inventory and Grade Range File (**SD_Inventory.xls**) located on the 2021 SDRP Data disc. The GEOID is comprised of the two-digit Federal Information Processing Series (FIPS) state code for the state in which the school district is located followed by the five-digit SDLEA ID assigned to the school district. TIGERweb uses the GEOID to zoom directly to the school district.

State mapping coordinators, please provide local education officials with these TIGERWeb instructions, which can be downloaded from the 2021 SDRP website under the **Annotation Phase Program Materials** hyperlink.

If a local education official determines that changes need to be reported for the 2021 SDRP, report the changes to a state SDRP mapping coordinator who will submit the changes to the Census Bureau. The SDRP Mapping Coordinator is the liaison between the state's Department of Education and the Census Bureau. Find contact information for mapping coordinators on the SDRP website: <https://www.census.gov/programs-surveys/sdrp.html>.

The Census Bureau will not accept school district boundary changes:

a) Submitted directly to the Census Bureau by local education officials.
b) Annotated on maps printed using the TIGERweb map viewer.

2.1 Getting Started with TIGERweb

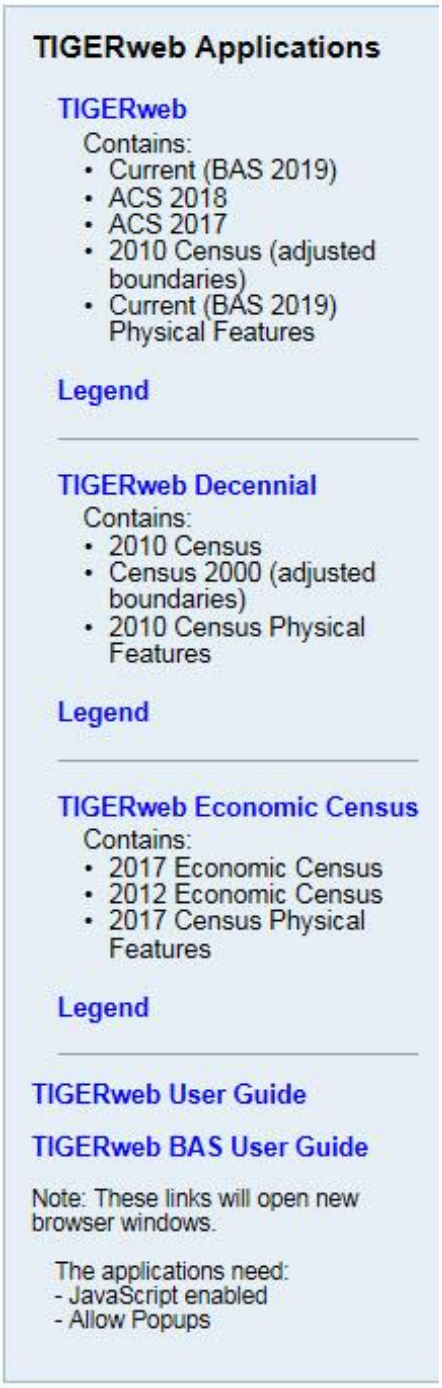


Figure 7. TIGERweb Application List from the TIGERweb Tab

- Navigate to the TIGERweb website located at: <https://tigerweb.geo.census.gov/>.
- TIGERweb supports Microsoft Internet Explorer, Mozilla Firefox, Opera, and Google Chrome internet browsers.
- Click on the TIGERweb Applications tab.
- Click on the **TIGERweb** link under TIGERweb Applications tab on the left side of the screen. **Do not click on the TIGERweb Decennial link**.
- **TIGERweb** contains the geographic school district boundary updates for state school districts submitted during the 2020 SDRP.
- The TIGERweb application offers the ability to view:
  - Roads, highways, and railroads.
  - Rivers, lakes, streams and other "single-line" drainage.
  - Boundaries for legal and statistical geographic entities.
  - Selected special land use areas such as military reservations and national parks.
  - Satellite imagery.

After opening TIGERweb, the map display, navigation tools, layers panel, a legend, and map vintage becomes visible (**Figure 8**).

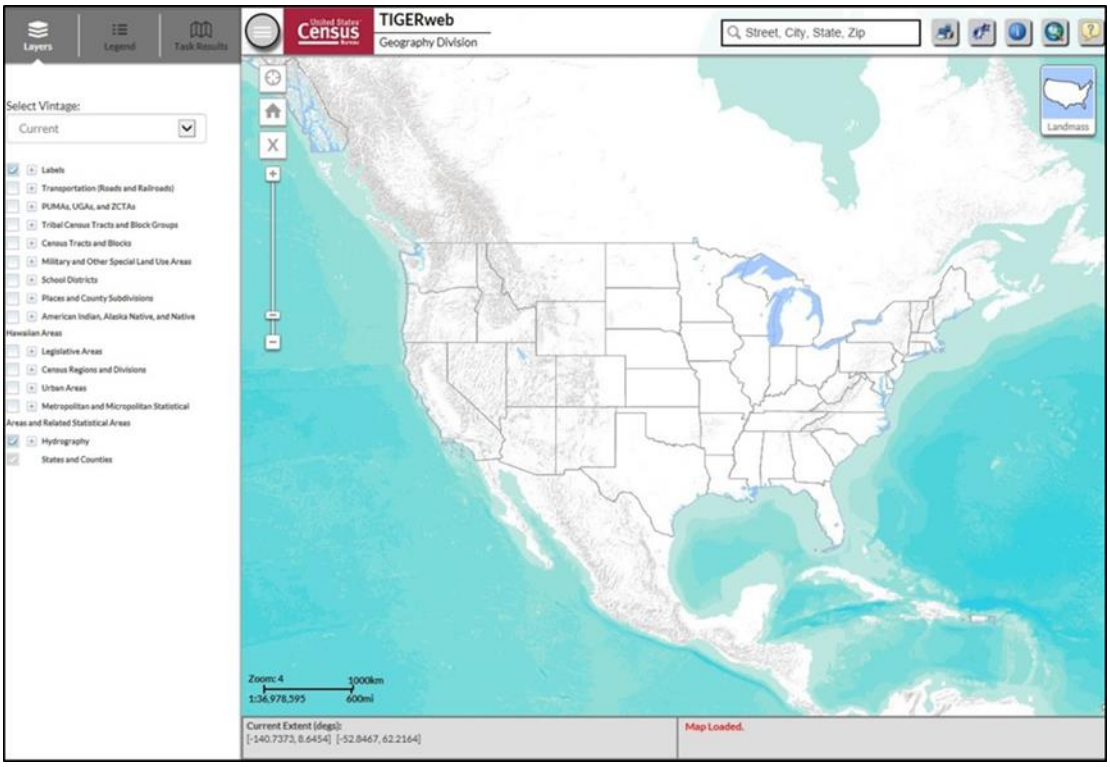


Figure 8. TIGERweb Layout

2.2 Available Map Layers

The Layers panel shows the list of available features and geographic areas. Labels, Hydrography, States, and Counties display by default at startup. The layers organize into separate groups, called map services, based on geographic type. Expand each map service by clicking on the '**+**' symbol to see all of the available layers that include physical features such as roads and water features, as well as legal and statistical boundaries such as census blocks and incorporated places. Limit the amount of data on the map by selecting only the applicable types of linear features and geographic entities. Click on the '**+**' sign to expand a map layer and view the **Slider** tool to make the layer more or less transparent.

2.3 Selecting a Map Layer

The **Select Vintage** dropdown in the **Layers** panel shows the vintages of TIGERweb geography that are available for display in the application (**Figure 9**). Select **Current**, if not already selected, to view the geographic updates for entities submitted during the 2020 SDRP. Click on the '**+**' sign next to each map service in the **Layers** panel to expand the map service and view the layers within it. Click on the small boxes (check/uncheck) to select the Transportation, Places and County Subdivisions, and School Districts map layers.

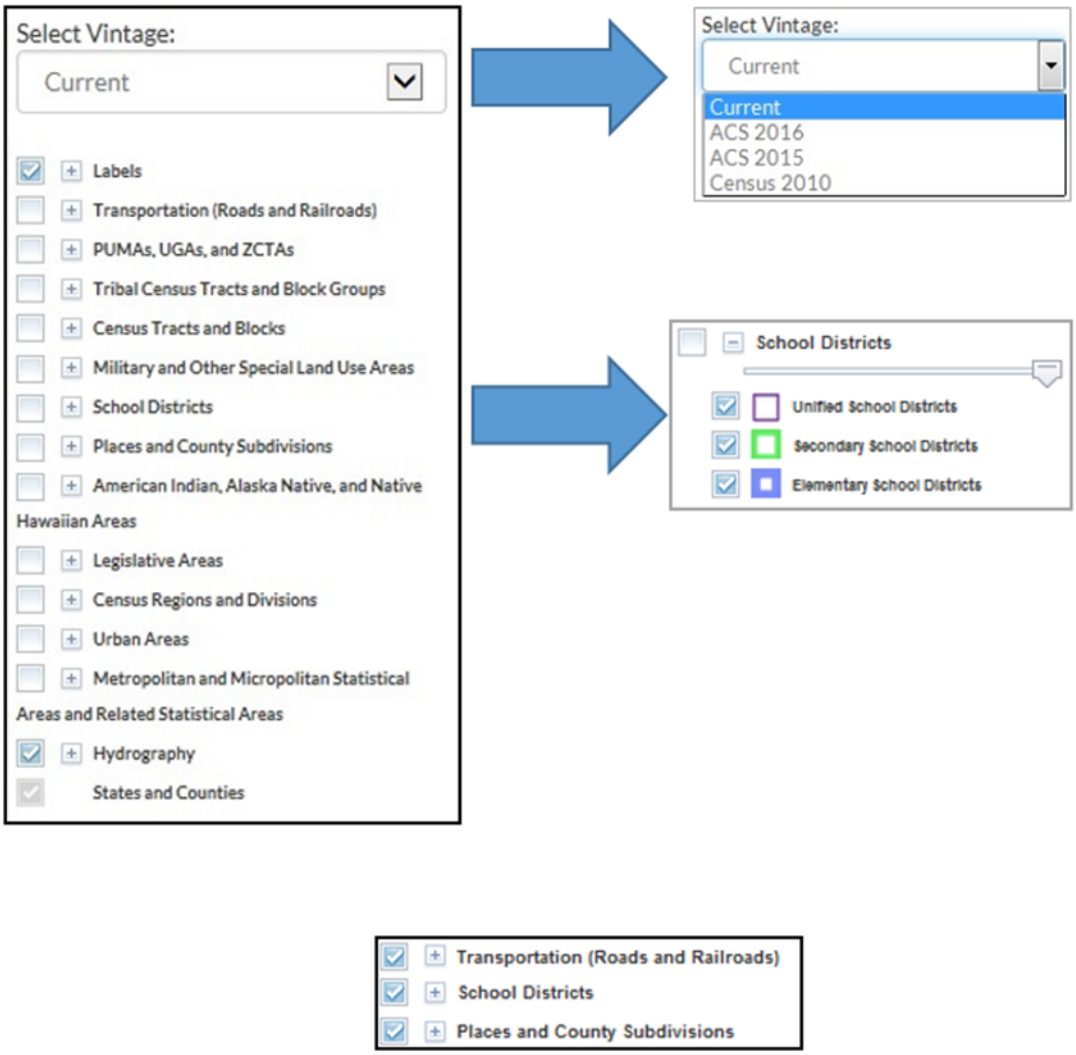


Figure 9. TIGERweb Vintage Dropdown Menus Used for Reviewing School District Boundaries

2.4 TIGERweb Tools and Functions

2.4.1 Move Around/Zoom In/Zoom Out of Map Display

The features and geographic areas contained in the map services do not immediately appear. This is because each layer has a range of zoom levels at which it will display. In other words, visibility is scale dependent. More details appear when zooming in on the map.

At Zoom level 6, counties appear; at Zoom level 7, school districts begin to appear; at Zoom level 9, places appear; and at Zoom level 10, roads and railroads appear. The current Zoom level displays on the scale bar in the lower left of the Map display (**Figure 10**).

Use the **Zoom In** scrollbar tool located on the vertical Scale Bar, shown on the left, to zoom in to see more detail on the map or zoom out to see less detail (**Figure 11**Error! Reference source not found.). Click on the '**+**' to zoom in for more detail or click on the '**-**' to zoom out for less detail. Also, zoom in or out by rolling the wheel on a computer mouse.

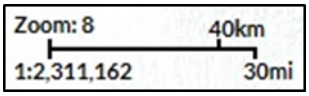


Figure 10. TIGERweb Map Scale Zoom

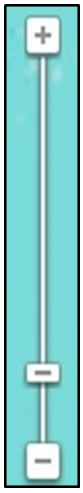


Figure 11. TIGERweb Map Scales Shown in the Application for Reviewing School District Boundaries

2.4.2 TIGERweb Symbology

Click on the **Legend** tool (**Figure 12**) at the top of the screen to view the symbology used for each layer.

Figure 12. TIGERweb Legend

If the layer selected does not appear in the legend, zoom in on the map for the feature to appear on the map and on the legend. Click on **Detailed Legend** to see at what zoom level the layers and labels appear.

To see boundaries for only some types of place and county subdivision features, click on the appropriate item in the Layers panel to turn them off or on (**Figure 13**). The figure below shows the different Places and County Subdivisions to select to display.

More detail appears when zooming in on the map viewer. Select the '**Transportation**' layer to display road and rail features to help recognize local areas.

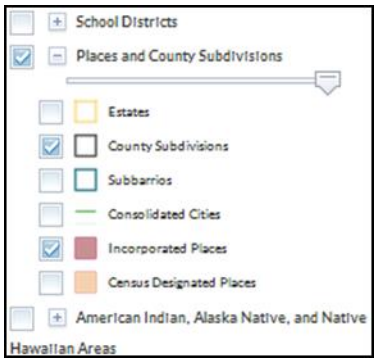


Figure 13. Check-Boxed Map Layers Are Selected for Display

2.4.3 Locating a School District

TIGERweb allows SDRP participants to quickly locate an entity visually using the **Zoom In** tool or by using the **Query** tool to search for a school district by its name or unique GEOID. The GEOID code is on the School District Inventory and Grade Range Listing (**SD_Inventory.xls**) located on the 2021 SDRP Data disc. Type the GEOID in the **Enter GEOID of Feature** box. In addition, a school district is searchable by typing its name in the **Enter Name of Feature** box. ***Enter a GEOID or a Name, but not both.***

 Select the **Query** Tool from the toolbar. Select the **Attribute** Tab.

From the **Select Map** dropdown, select one of the following map services:

- States and Counties to locate a county.
- Places and County Subdivisions to locate a city or town.
- School Districts to locate a Unified, Secondary, or Elementary school district.

Figure 14 shows the Query window in TIGERweb and how to select the items listed above to review.

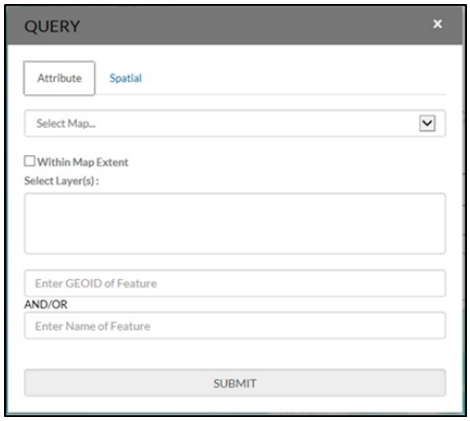


Figure 14. TIGERweb Query Window

Use the Query examples (**Figure 15** and **Figure 16**) to locate an entity. Searching by unique GEOID will take users directly to an entity. Searching by Name could produce a list of school districts with the same or similar name.

Example: Locating a unified school district, using West Prairie Community Unit School District 103, Illinois - GEOID 1700314.

1. Select the **Query** tool.
2. From the **Select Map** dropdown, select School Districts.
3. From the **Select Layer(s)** dropdown, select Unified School Districts.
4. Enter the **GEOID** for the school district (1700314) in the GEOID field.
5. Click **SUBMIT** to search for the unified school district.

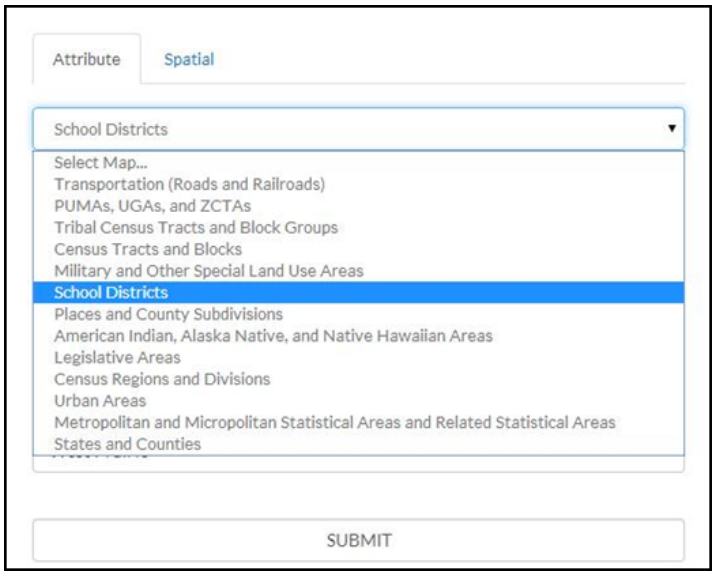


Figure 15. Using Query Tool to Locate a School District by its Unique GEOID

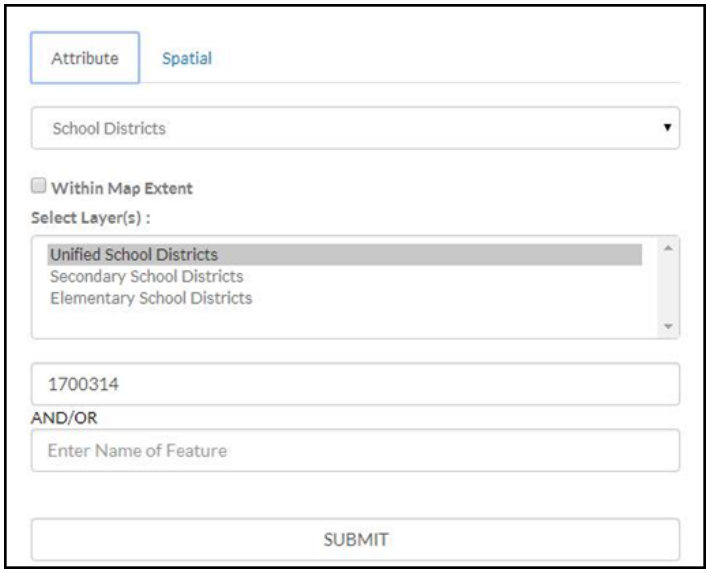


Figure 16. Using Query Tool to Locate a School District by its Unique GEOID

TIGERweb displays the result(s) of the query under the **Query Results** tab to the left of the map (**Figure 17**). TIGERweb also displays the **Info** panel (**Figure 18**) containing attribute data for the entity. Minimize or close the **Info** panel by clicking on the '**-**' or '**x**' symbols in the top right of the **Info** panel.

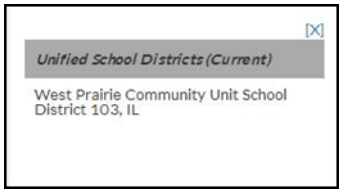


Figure 17. Query Found West Prairie Community Unit School District

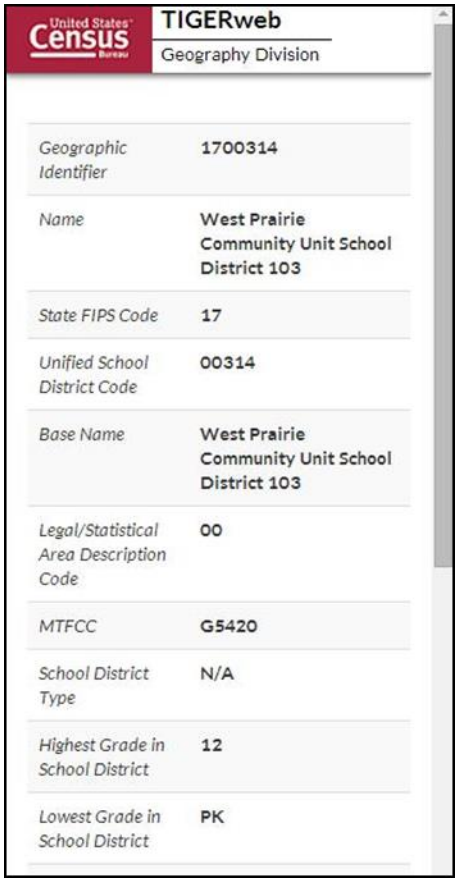


Figure 18. TIGERweb Info Panel

Click on the name of the result listed under the **Unified School Districts** heading of Query Result(s) and TIGERweb will display the school district highlighted in the center of the map display (**Figure 19**).

To start a new Query, click **Clear Map** on the navigation toolbar above the **Zoom-In** scrollbar. The Query window reappears and the located entity is no longer highlighted.

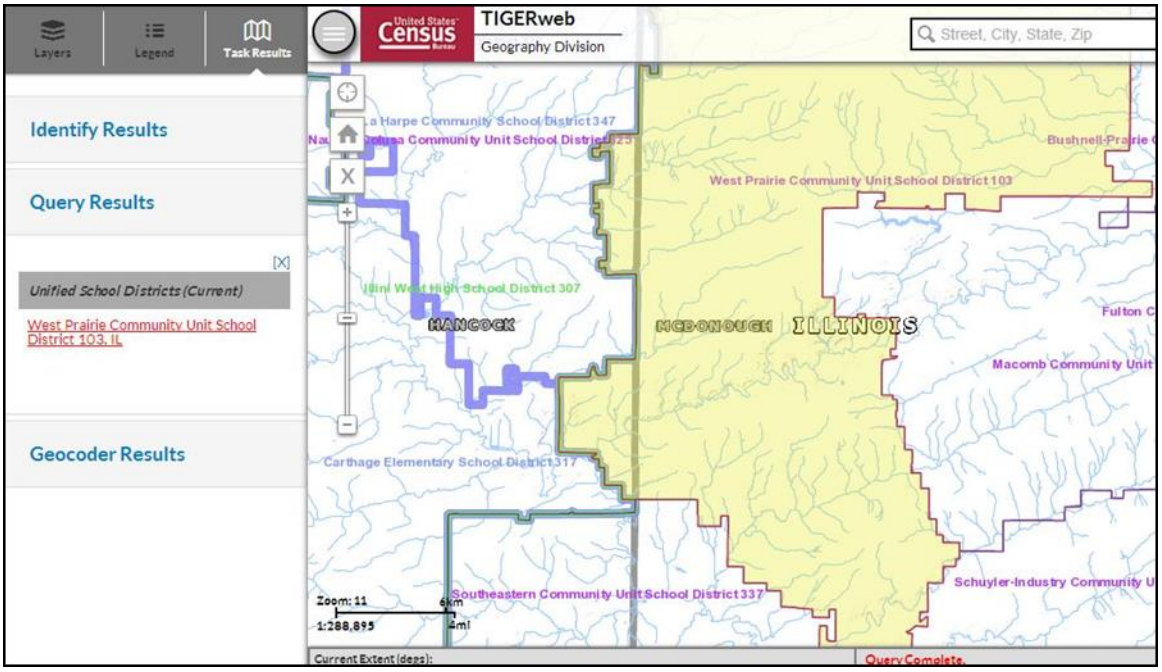


Figure 19. Query Result West Prairie Community Unit School District

Example: Locating a school district named Bridgeport in Connecticut without knowing its school district level.

1. Select the **Query** tool.
2. From the **Select Map** dropdown, select School Districts.
3. From the **Select Layer(s)** dropdown, hold down the Control or Shift Key and click on **Unified**, **Secondary**, and **Elementary**. All three will display as highlighted.
4. Enter the name Bridgeport in the Name of Feature field.
5. Click **SUBMIT** to search.

Searching by name (**Figure 20**) could produce a list of school districts with the same or similar names. The Query result (**Figure 20**) and will include the state in which the entity is located.

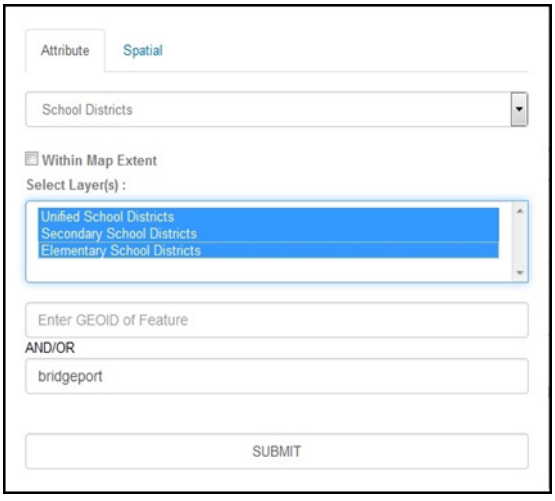


Figure 20. Query by Name

Figure 21. Query by Name Results

TIGERweb displays the selected entity highlighted in the center of the map display (**Figure 22**), along with the **Info** panel containing attribute data for the entity. Minimize or close the **Info** panel to view the entire map and Query Result(s) box.

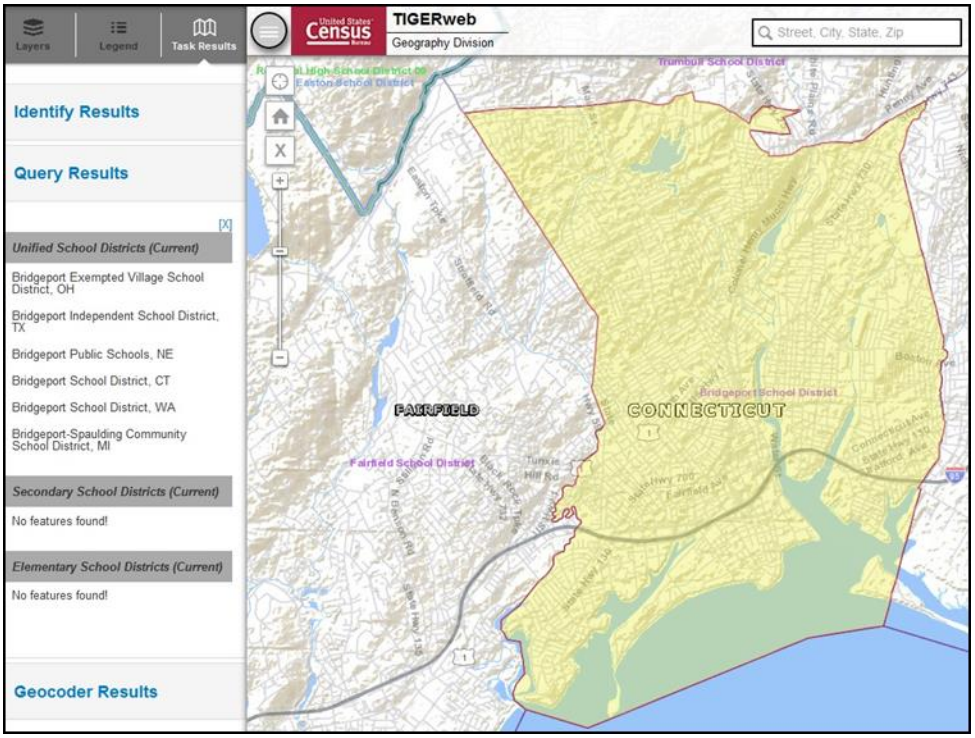


Figure 22. Bridgeport School District in Connecticut

View additional layers such as Transportation and Places by clicking the small boxes next to the map services in the Layers panel. Use the same action to deselect layers no longer wanted in the map view. Other types of entities can also be searched for using the same process.

Example: Locating the City of Sweetwater, Tennessee (Incorporated Place), GEOID 4772540.

1. Select the **Query** tool.
2. From the **Select Map** dropdown, select Places and County Subdivisions.
3. From the **Select Layer(s)** dropdown, select Incorporated Places.
4. Enter the GEOID (4772540) for an Incorporated Place in the **GEOID** field.
5. Click **SUBMIT** to search for an Incorporated Place.

TIGERweb displays the located entity highlighted in the center of the map display (**Figure 23**), along with the **Info** panel containing attribute data for the entity. Minimize or close the **Info** panel to view the entire map and Query Result(s) box.

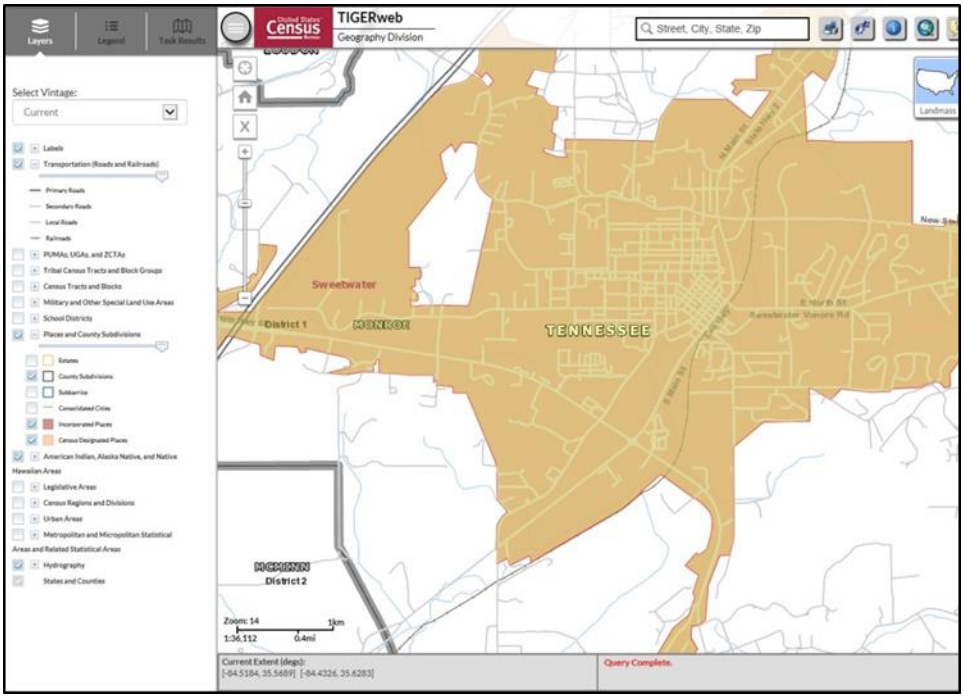


Figure 23. Sweetwater Incorporated Place Located Using its GEOID

2.4.4 Identify Tool

Identify features on the map by using the 'Identify' tool  .

- Click on the **Identify** tool at the top of the screen and click on the area of the map or feature to identify.
- In the **Identify Results** panel (**Figure 24**) click on any of the features to get attribute information about the area or feature.
- When clicking on a feature, its area on the map is highlighted. The **Identify** tool shows attribute information only for visible layers (checked in the Layer dropdown).

Example: Use the **Identify** tool to get attribute data for the Fairfield School District adjacent to the Bridgeport School District is below.

- Click on the **Identify** tool on the toolbar (cursor changes from a pointer to crosshairs '**+**').
- Click inside the boundary of Fairfield School District.
- Click on Fairfield School District displays the Info panel and attributes about the school district including grade range, land area, and water areas (right side of **Figure 24**).

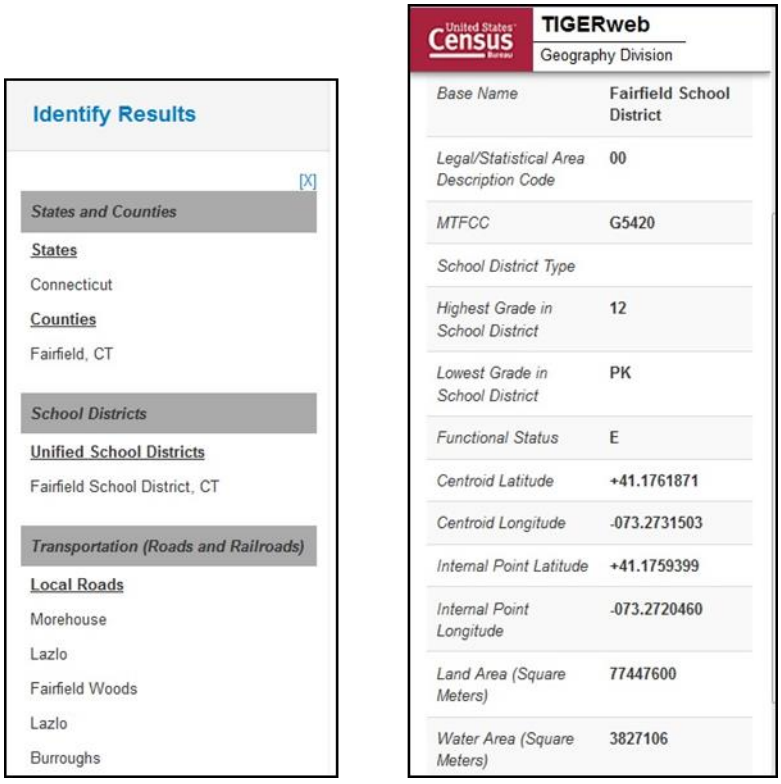


Figure 24. Identify Results and Attribute Information is Displayed

2.4.5 Changing Transparency

When multiple layers are displayed, one layer may obscure another layer. Change the transparency (**Figure 25**) of each layer by moving the sliding bar below the layer name to the left or right.

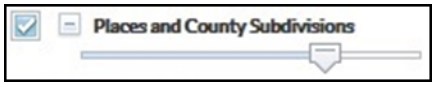


Figure 25. Transparency Slider for TIGERweb

2.4.6 Map Background

TIGERweb has landmass, satellite imagery, or terrain options as the background for the map display. Landmass is the default when opening TIGERweb. After locating and zooming into an entity, click on the Topography button (**Figure 26**) until the **Satellite** Icon appears and imagery overlays the entity. This dual view allows users to see the relationship between the location of a boundary in the Census Bureau's file to the location of real-world features such as roads.

Figure 26. Satellite Icon

2.4.7 Reviewing and Reporting School District Boundaries

After using the TIGERweb Query Tool to locate a school district, compare the TIGERweb map of the school district to a local source for the school district boundary.

Provide boundary update information to the state mapping coordinator if the TIGERweb map does not correctly depict the school district boundary shown in a local source.

2.4.8 Printing and Saving a Map

The TIGERweb application has the functionality to save maps, print paper maps, or capture screen images of the areas where the boundary requires an update or annotate changes. TIGERWeb also has the functionality to forward these updates or changes to the state mapping coordinator. **Figure 27** shows the Print window located in TIGERweb.

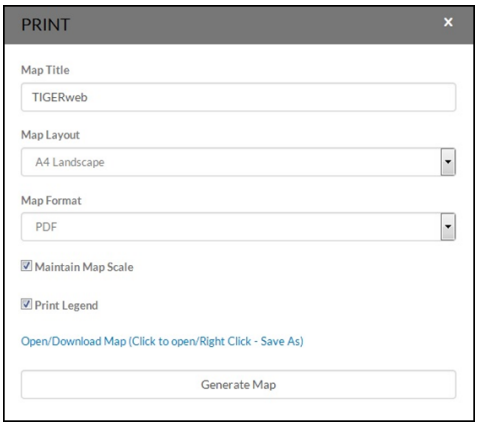


Figure 27. Print screen in TIGERweb

Note: The Census Bureau will not accept boundary changes for the SDRP submitted directly to the Census Bureau annotated on maps printed using the TIGERweb map viewer.

PART 3 HOW TO USE THE SUBMISSION LOG

CHAPTER 3 SDRP SUBMISSION LOG

3.1 Purpose

The submission log is a Microsoft Excel spreadsheet provided to state mapping coordinators on Disc 2 in the SDRP Annotation Phase materials. The Census Bureau also provides the submission log for download on the SDRP website in the Annotation Phase Program Materials section. Record each type of acceptable school district change as a separate record in the submission log.

The Census Bureau accepts the following changes using the submission log:

- Name
- Grade Range
- SDLEA ID number
- Simple Consolidations
- Simple Dissolutions
- Level Change
- Coextensive School District Updates

The Census Bureau requires the use of the submission log for the change types listed in Sections **3.2** to **3.6**. **Not all fields are displayed in the examples.**

3.2 School District Name Change

A school district name change is usually a result of a misspelled or legal school district name change. **Figure 28** shows the fields in the log requiring information are: Type of Change, County(ies) FIPS code(s), SDLEA of Change, Old Name, and New Name.

Note: Contact the School District Team if submitting a more than 25 name changes.

TYPE OF CHANGE	COUNTY	SDLEA OF CHANGE	OLD NAME	NEW NAME	OLD GR LOW	OLD GR HIGH	NEW GR LOW	NEW GR HIGH	OLD LEVEL	NEW LEVEL	OLD SDLEA	NE
NAME	005	19320	BLUE STONE	BLUESTONE								
NAME	009 021	20603	JENNERSVILLE	JENNERSVILLE USD 219								

Figure 28. School District Name Change Example

3.3 Grade Range Change

Note: A grade range change is the result of an incorrect grade range previously reported to the Census Bureau or a new change (e.g., changing from Kindergarten to Pre-Kindergarten). Gaps and overlaps in grade range coverage cannot exist. Contact the School District Team if submitting more than 25 grade range changes.

Grade range changes require information in the Type of Change, County(ies) FIPS code(s), SDLEA of Change, Old Grade Range Low, Old Grade Range High, New Grade Range Low, and New Grade Range High fields (**Figure 29**).

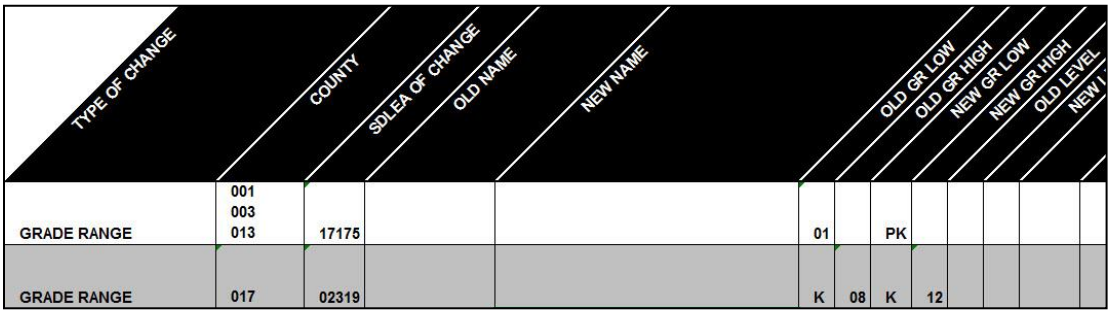


Figure 29. School District Grade Range Change

3.4 Federal School District Local Education Agency (SDLEA) Identification (ID) Number Change

SDLEA changes include a correction to a previously incorrect SDLEA or replacing a temporary SDLEA ID number (99***) with a permanent number. SDLEA changes require information in the Type of Change, County(ies) FIPS code(s), SDLEA of Change, Old SDLEA (same as SDLEA of Change), and New SDLEA fields (**Figure 30**).

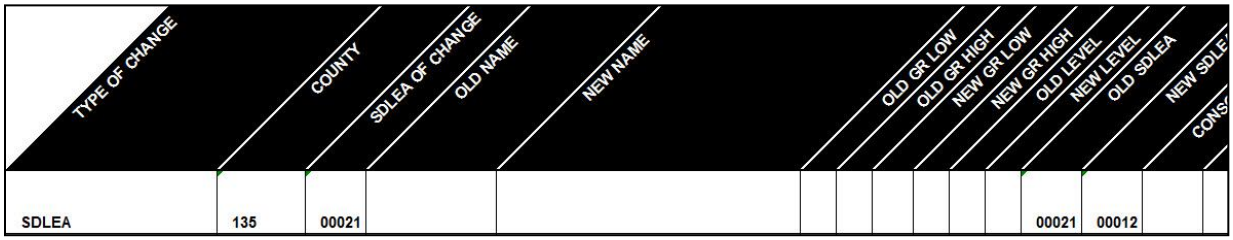


Figure 30. SDLEA ID Number Change

3.5 Simple Consolidation (School District with New Name and New SDLEA ID Number)

A simple consolidation occurs when two or more school districts merge to create a new school district with a new name and new SDLEA. There are no additional boundary changes.

Simple consolidations require information in the Type of Change, County(ies) FIPS code(s), New Name, New Grade Range Low, New Grade Range High, New Level, Consolidation 1 SDLEA (first school district being merged), Consolidation 2 SDLEA (other school district being merged),

Consolidation New SDLEA (SDLEA of newly formed school district, if known; otherwise place "unknown" in this field), and Narrative/Description fields (**Figure 31**). Consolidation 3 SDLEA and Consolidation 4 SDLEA fields only require information if three or more school districts are consolidating (merging). If five or more school districts are consolidating, enter the remaining SDLEA ID numbers on the next row starting in the Consolidation SDLEA field.

TYPE OF CHANGE	COUNTY	SDLEA OF CHANGE	NEW NAME	NEW GR LOW	NEW GR HIGH	NEW LEVEL	CONSOLIDATION1 SDLEA	CONSOLIDATION2 SDLEA	CONSOLIDATION3 SDLEA	CONSOLIDATION4 SDLEA	CONSOLIDATION NEW SDLEA	NARRATIVE/DESCRIPTION
SIMPLE CONSOLIDATION	025		CORKFARM SYMPHONY	PK	12	U	39504	45003	46004		UNKNOWN	Farmdale USD (39504) merged with Cork USD (45003) and Symphony (46004) to form Corkfarm Symphony.

Figure 31. School District Simple Consolidation

3.6 Simple Dissolution (into Existing District)

A simple dissolution occurs when one or more existing school districts entirely dissolve(s) into one other existing school district. A simple dissolution never results in the creation of a new school district. The receiving school district retains its name and SDLEA ID number.

Note: A separate entry is required for each school district that dissolves into the existing school district through this change.

Simple dissolutions require information in the Type of Change, County(ies) FIPS code(s), SDLEA of Change (school district that is gaining area), Added Area SDLEA (same as SDLEA of Change), Deleted SDLEA(school district being dissolved), and Narrative/Description (include county/counties FIPS code(s)) and if applicable, the Old Grade Range Low, Old Grade Range High, New Grade Range Low, New Grade Range High, Old Level, and New Level fields (**Figure 32**).

TYPE OF CHANGE	COUNTY	SDLEA OF CHANGE	OLD GR LOW	OLD GR HIGH	NEW GR LOW	NEW GR HIGH	OLD LEVEL	NEW LEVEL	ADDED AREA SDLEA	LOST AREA SDLEA	DELETED SDLEA	NARRATIVE/DESCRIPTION
SIMPLE DISSOLUTION	071	40001							40001		69069	Columbia USD (69069) dissolved into Shaw USD (40001)
SIMPLE DISSOLUTION	071	40001							40001		00021	Albermarle USD (00021) dissolved into Shaw USD (40001)
SIMPLE DISSOLUTION	035	24678	PK	08	PK	12	E	U	24678		13589	Hill High School (13589) dissolved into Avon Grove School District (24678)

Figure 32. School District Simple Dissolution

Note: Complex consolidations, complex dissolutions, and boundary changes all require updates using GUPS. Review **Chapter 5** to complete these updates.

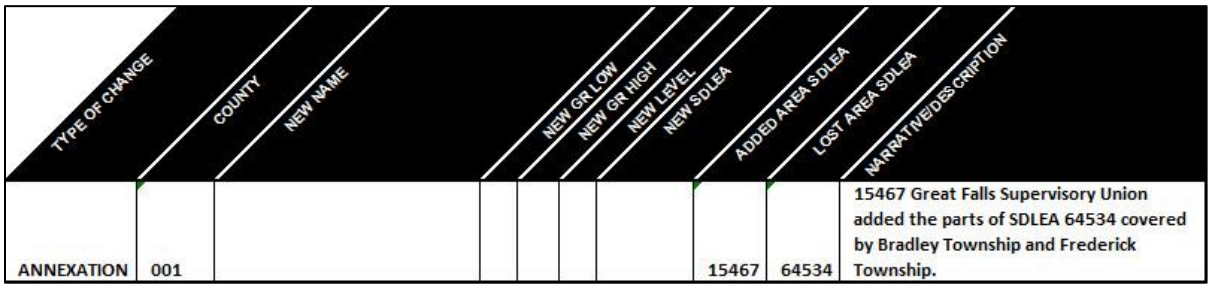
3.7 Level Change

A level change occurs when a school district changes classification; for example, changing from elementary to unified. Contact the Census Bureau for assistance in documenting this change.

3.8 Coextensive School District Updates

A coextensive school district update occurs when the area that is being added to a school district is also an existing minor civil division or incorporated place in the Census database. A boundary change or a new district may be submitted this way. These types of spatial updates may also be submitted in GUPS if preferred.

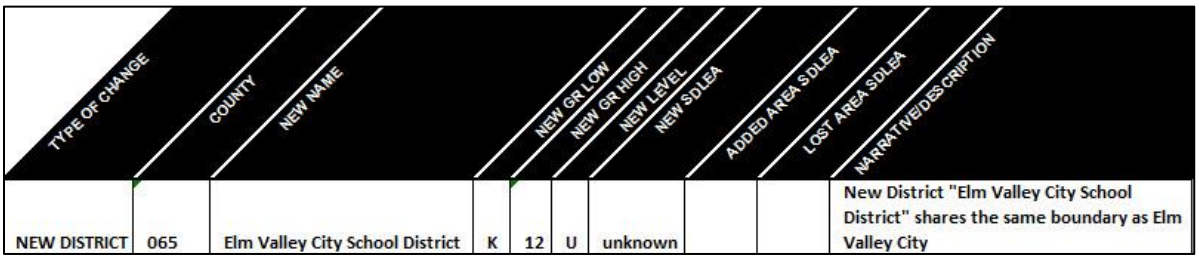
Coextensive school district boundary changes, defined as either an Annexation or Boundary Correction, require information in the Type of Change, County(ies) FIPS code(s), Added Area SDLEA, Lost Area SDLEA, and Narrative/Description. The Narrative/Description field must contain the minor civil division(s) or incorporated place(s) that are being added to the school district. For information on choosing whether a boundary change is an Annexation or Boundary Correction, refer to Page xx.



TYPE OF CHANGE	COUNTY	NEW NAME	NEW GR LOW	NEW GR HIGH	NEW LEVEL	NEW SDLEA	ADDED AREA SDLEA	LOST AREA SDLEA	NARRATIVE/DESCRIPTION
ANNEXATION	001						15467	64534	15467 Great Falls Supervisory Union added the parts of SDLEA 64534 covered by Bradley Township and Frederick Township.

Figure 33. Coextensive Annexation

Coextensive new school district updates require information in the Type of Change, County(ies) FIPS code(s), New Name, New GR Low, New GR High, New Level, New SDLEA and Narrative/Description. The Narrative/Description field must contain the minor civil division(s) or incorporated place(s) that make up the new school district.



TYPE OF CHANGE	COUNTY	NEW NAME	NEW GR LOW	NEW GR HIGH	NEW LEVEL	NEW SDLEA	ADDED AREA SDLEA	LOST AREA SDLEA	NARRATIVE/DESCRIPTION
NEW DISTRICT	065	Elm Valley City School District	K	12	U	unknown			New District "Elm Valley City School District" shares the same boundary as Elm Valley City

Figure 34. Coextensive New District

PART 4 HOW TO USE THE GEOGRAPHIC UPDATE PARTNERSHIP SOFTWARE (GUPS)

CHAPTER 4 GETTING STARTED

This part of the guide includes information needed to use GUPS. It offers a description of the GUPS application and gives specific instructions (in the form of step-action tables) for how to use GUPS to make SDRP updates.

Chapter 4 Getting Started

- Lists the hardware and software requirements for GUPS and SWIM, and
- Provides instructions for installing the application.

Chapter 5 GUPS Basics

- Provides instructions to open GUPS, start a project, and load Shapefiles,
- Explains the GUPS interface (including the Menu, Toolbars, Table of Contents or map legend, and the Map View area),
- Offers instructions for using the tools available through the menu and toolbars,
- Gives instructions to make required and optional updates in the application, and
- Provides instructions to print, share, and export zip files.

4.1 GUPS Hardware and System Requirements

In the SDRP packet, Disc 1 includes the setup file needed to install GUPS. GUPS is also available for download on the SDRP website.

GUPS resides within QGIS (formerly known as Quantum Geographic Information System (GIS)), a free and open-source desktop geographic information system application. To learn more about QGIS visit <https://www.qgis.org/en/site/>. The GUPS application was developed for use on a desktop PC or a network environment.

Before beginning the installation, ensure that the computer used meets the minimum hardware and software requirements.

Table 2 lists these hardware and software requirements to install and run GUPS. Also included are the software requirements to submit files through the SWIM website.

Table 2: GUPS Hardware and Software Requirements

Hardware	Operating System	Browser
Disk Space Needed to Run GUPS: 4 GB **Disk Space Needed to Store Shapefiles:** Shapefile sizes vary by state. To view the shapefile sizes, open Disc 2, select the '**Shape**' folder, right-click, and choose **Properties** in the drop-down menu. *The **Files Properties** box opens and displays the folder size.* Select multiple files/folders in the list to view their properties via the same method. **RAM:** 4 GB minimum, 8 GB or more recommended for optimal performance.	**Windows:** To run GUPS, Windows users need one of the following operating systems: • Windows 7 • Windows 8 • Windows 10 **Apple Mac OS X:** Mac OS X users must secure a license for Microsoft Windows and use a Windows bridge. The suggested bridge software is Boot Camp, which comes pre-installed on all Mac computers. See instructions for using Boot Camp at: <https://support.apple.com/boot-camp>. **Important:** Since Boot Camp requires a restart of the computer to set up the bridge, be sure to print the instructions provided at the URL above before beginning the installation.	Minimum Browser Versions to Use SWIM: SWIM supports the current internet browser version, plus one previous version of the major browsers (internet Explorer, Google Chrome, Mozilla Firefox, and Apple Safari).

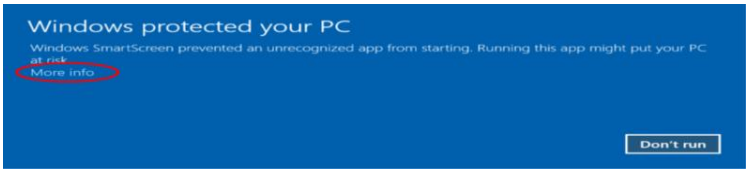
Depending on the Windows OS version, the GUPS dialog boxes may have a different appearance than the screenshots contained in the user guide, although the content is the same.

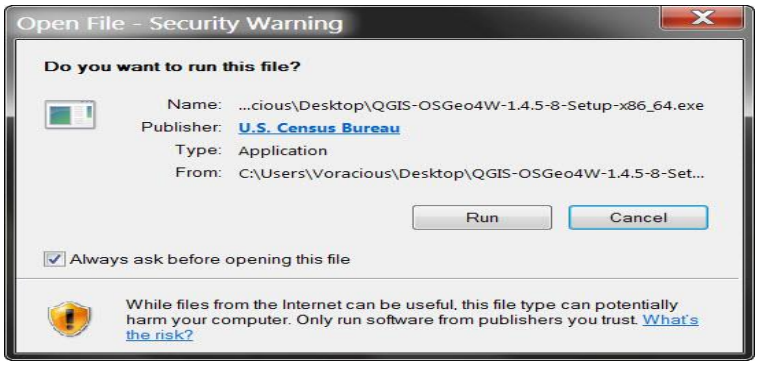
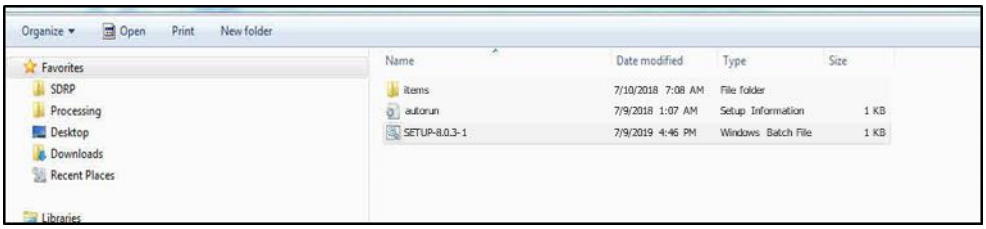
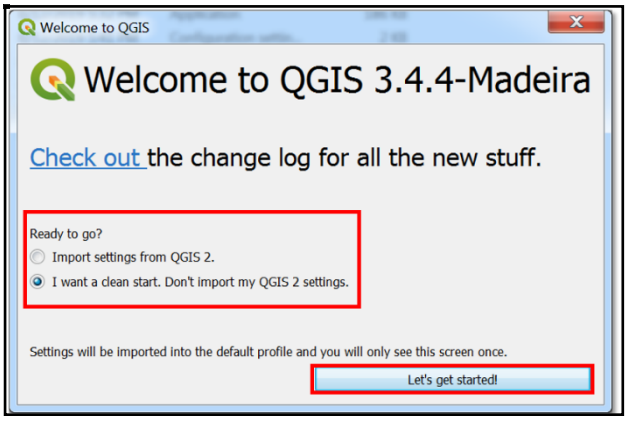
4.2 How to Install GUPS

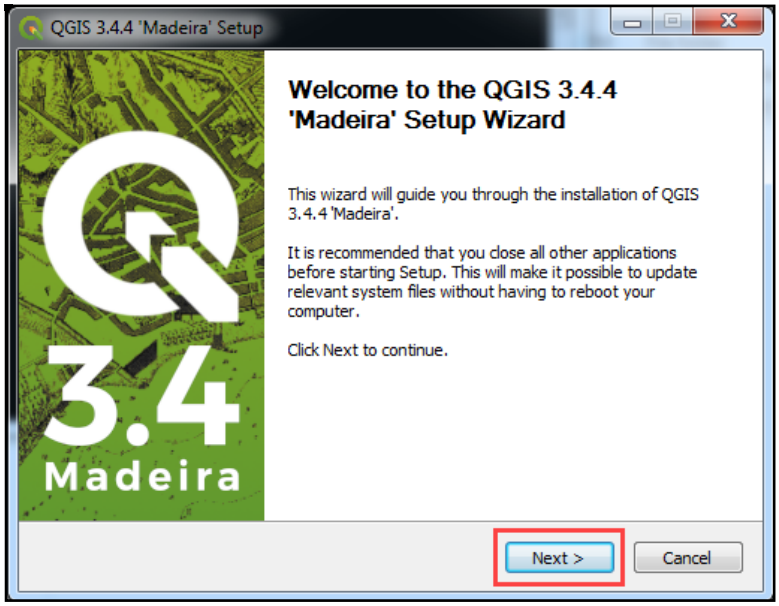
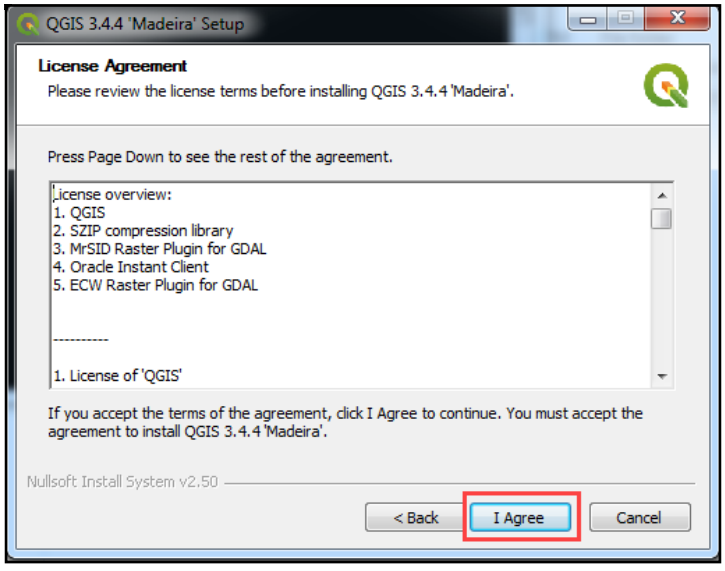
To complete the installation, follow the steps in **Table 3**.

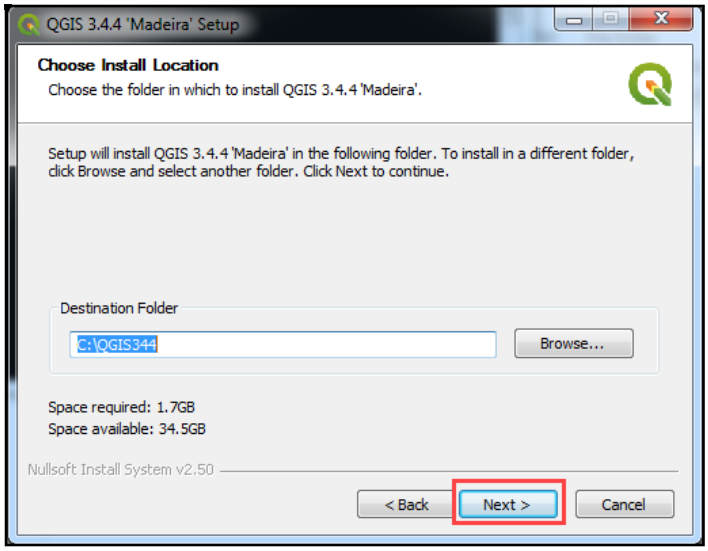
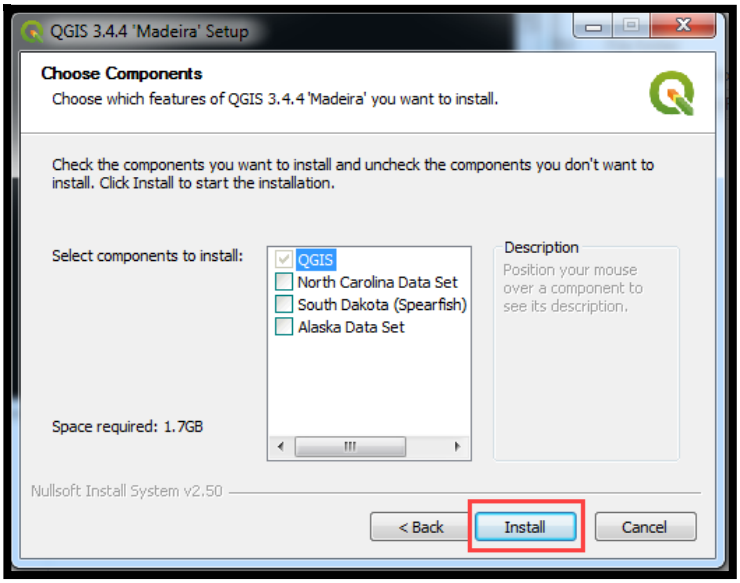
Note: If an older version of QGIS or GUPS exists on the computer, the installer will automatically remove the old version before it installs the latest version.

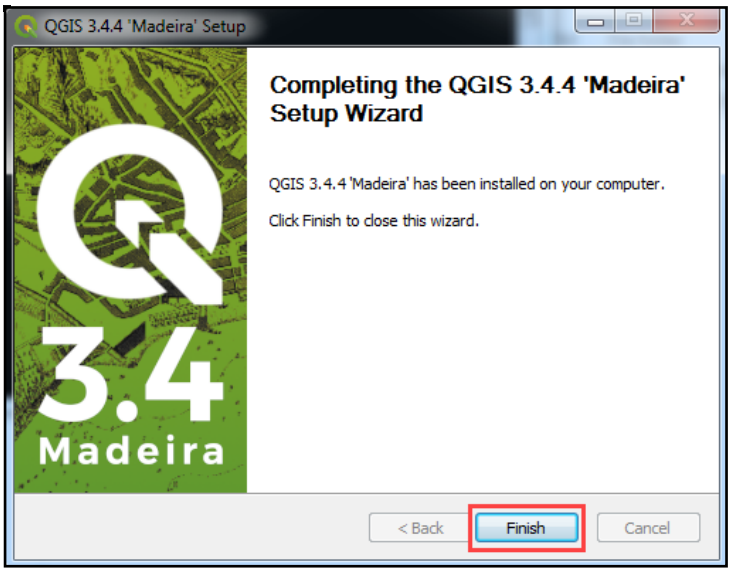
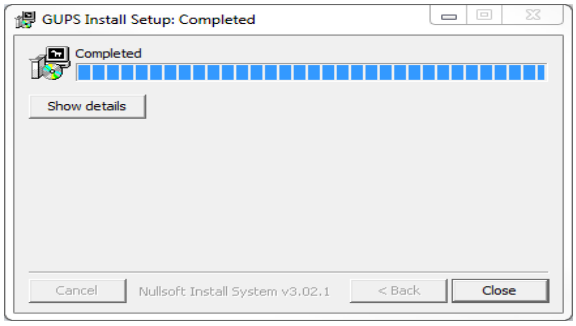
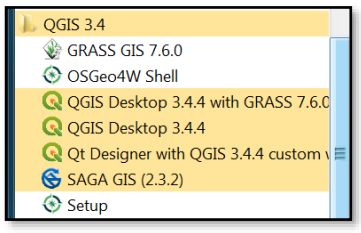
Table 3: How to Install the GUPS Application

Step	Action and *Result*
Step 1	Download GUPS from the Annotation Phase Program Materials page on the SDRP website or place the installation DVD into the computer's DVD drive. *For some users, a **Windows protected your PC** pop-up box may appear.*  To continue, click 'More info,' then select 'Run anyway.'

Step	Action and *Result*
Step 2	Other users may receive a user account control pop-up that asks, “Do you want to run this file?”, “Do you want to allow the following program from an unknown publisher to make changes to this computer?”, or a similar query. See an example below.  If this pop-up occurs, click **Run, Yes, Allow,** or an option that allows the installation to proceed. *The software should begin to run automatically.*
Step 3	If the software does not run automatically, open Windows Explorer, navigate to the CD/DVD drive, and double-click on the file named ***Setup-8.0.3-1.bat***. **Note:** The name of this file may vary slightly, but it will be the only setup **.bat** file available.  If the software still does not run properly, contact a System Administrator for assistance.
Step 4	A ***Welcome to QGIS 3.4.4-Madeira*** window pops up allowing users to import previous settings used into the default profile. Users may choose to import their settings or to have a clean start. Select the desired options and click “Let’s get started”.  Before proceeding, close all other programs or applications. Once other programs and applications are closed, click the **Next** button.

Step	Action and *Result*
Step 5	When the installer opens, the **Welcome to the QGIS Setup Wizard** screen appears.  Before proceeding, close all other programs or applications. Once other programs and applications are closed click the **Next** button.
	For mapping coordinators with QGIS 3.4.4 already installed, select the **Cancel** button on the QGIS 3.4.4 Setup screen in **Step 5** to update GUPS **without** reinstalling QGIS 3.4.4. The setup will bypass the QGIS installation and immediately begin to update the GUPS plugin supported for this SDRP. This is only applicable for existing installations of QGIS 3.4.4.
Step 6	The **License Agreement** screen appears.  Read the **License Agreement** and click the **I Agree** button to continue.

Step	Action and *Result*
Step 7	The **Choose Install Location** screen opens. It is recommended to install the application at the default: (i.e., C:\Program files\QGISGUPS). Otherwise, use the Browse button to navigate to a preferred location.  To begin the installation click **Next** to continue.
Step 8	The **Choose Components** screen opens.  '☑QGIS' in the **Select components to install** field is checked and grayed out since it is the default. Simply click **Install** to continue.
	To review a previous screen or reread the license agreement, click the **Back** button (each screen contains this button).

Step	Action and *Result*
Step 9	The software should take between five and 10 minutes to install. *When installation is finished, the **Completing the QGIS 3.4.4 'Madeira' Setup Wizard** screen opens.*  Click the **Finish** button.
Step 10	*The **GUPS Install Setup: Completed** screen opens showing the status of the installation of GUPS.* When completed, click the close button on the following screen: 
Step 11	To complete the installation, click the **Close** button at the bottom of the **GUPS Install Setup: Completed Setup Wizard** screen. Once the application installs, *QGIS will be added to the All Programs Start Menu list.* 
	The installer will include additional open source software packages. Although included, this software will not be used during the SDRP. These additional packages are, OSGEO4W Shell, GRASS GIS 7.6.0, MYSYS, QGIS Desktop 3.4.4 with GRASS 7.6.0, Qt Designer with QGIS 3.4.4, and SAGA GIS (2.1.2).

CHAPTER 5 GUPS BASICS

5.1 Using GUPS (GUPS Basics and Map Management)

With GUPS installed, the SDRP updates can begin. There are three ways to retrieve shapefiles when starting a new project:

- From the Census Bureau website (loads directly into GUPS).
- From DVD (Disc 2 of the SDRP packet).
- From My Computer (if the shapefiles exist on an internal or external hard drive).

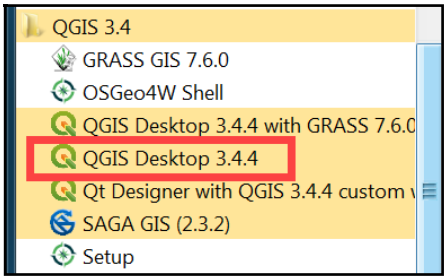
Table 4 shows the steps to open GUPS and start a new project using the Census Bureau website. The steps to start a new project using the Census Bureau provided DVD or My Computer are very similar. The CD/DVD option is recommended in the event of a slow internet connection.

Follow the steps in **Table 5** to properly save and close a project. **Table 6** reviews how to open a saved project.

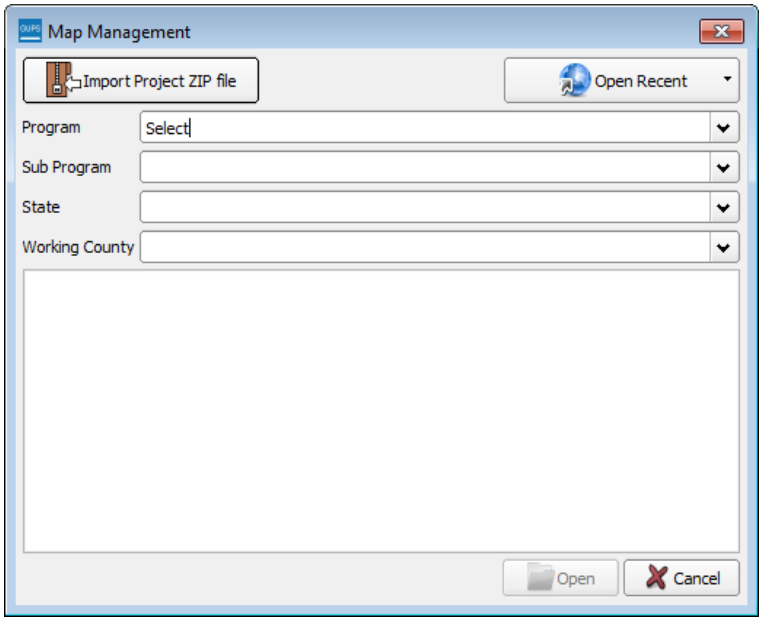
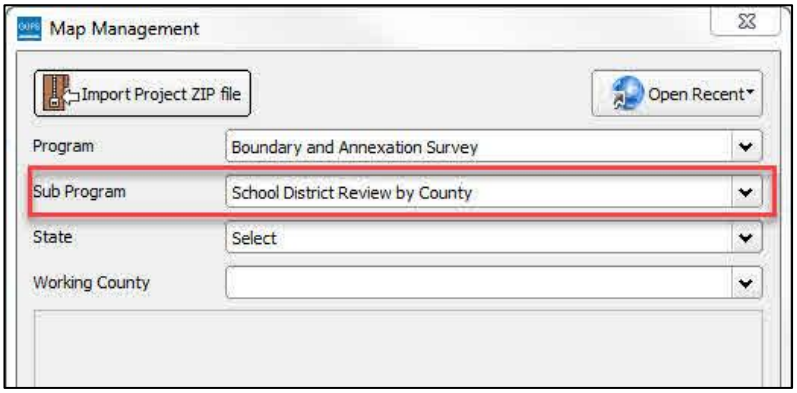
5.2 How to Start a New Project from the Census Bureau Website

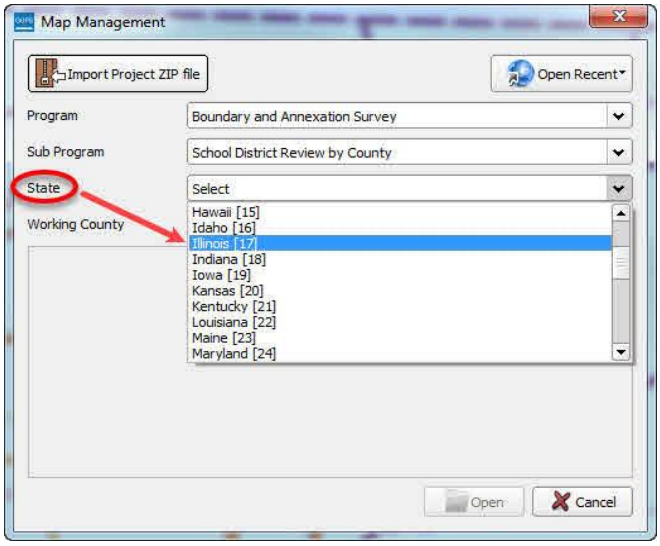
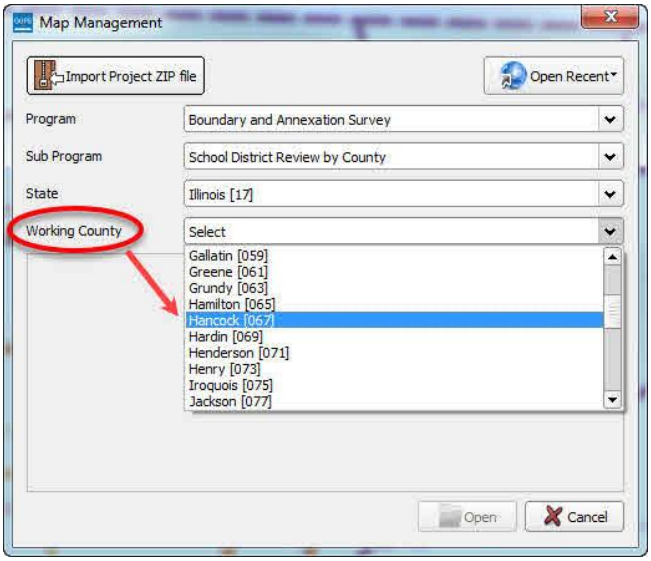
To open GUPS, follow the steps in **Table 4** below.

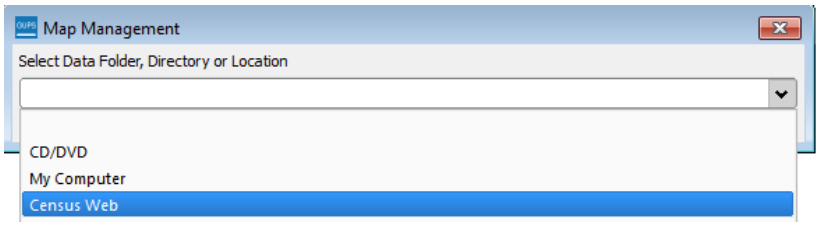
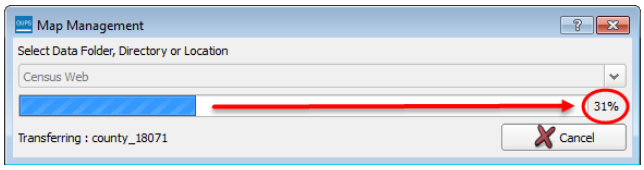
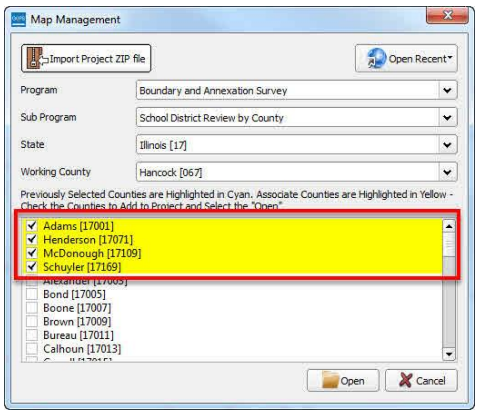
Table 4: Open GUPS and Start a New Project

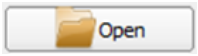
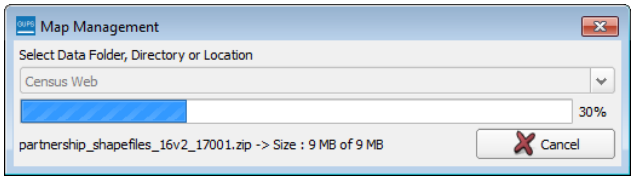
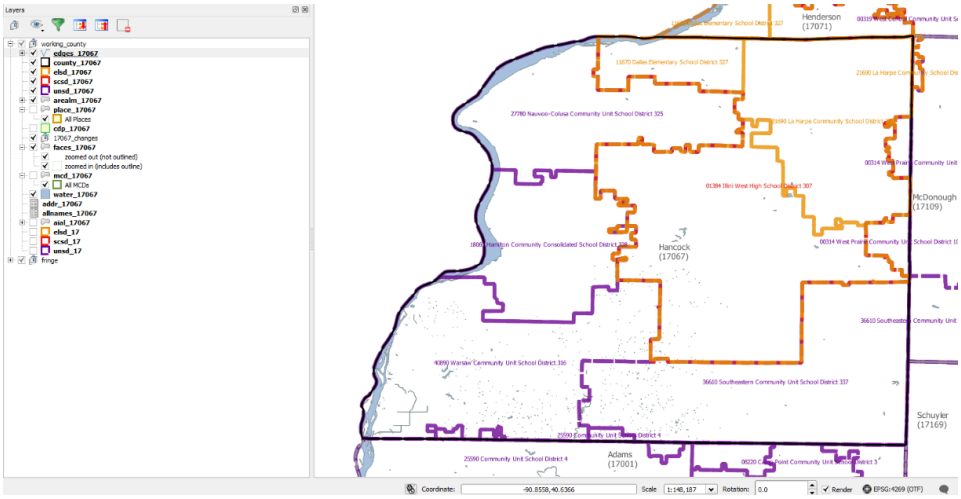
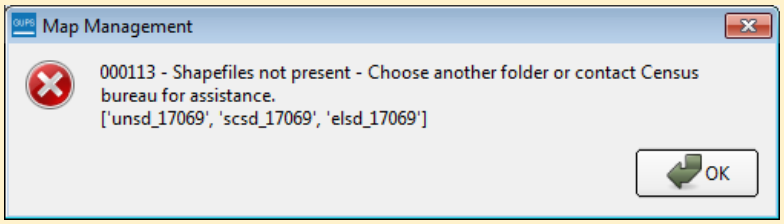
Step	Action and *Result*
Step 1	Select **QGIS Desktop 3.4.4** from the All Programs Start Menu list. 

Step	Action and *Result*
	*The QGIS splash screen appears. (**Note:** QGIS provided the open-source platform for building GUPS.)* 
Step 2	Click the **Next** or **Previous** buttons to review the QGIS System tips. To disable QGIS Tips on start-up, click the ***I've had enough tips, don't show this on start up any more!*** *button.* 

Step	Action and *Result*
Step 3	To begin a GUPS project close the **QGIS Tips!** box by clicking the **OK** button. *The box closes and the **Map Management** dialog box opens, as shown below.* 
Step 4	In the **Map Management** dialog box, use the drop-down menu next to the **Program** field to select, **Boundary and Annexation Survey** and then **Sub Program, School District Review by County.** 

Step	Action and *Result*
Step 5	In the State field, use the drop-down menu to a state. Use the scroll bar to move up and down the list of states.  This example uses Illinois.
Step 6	In the **Working County** field, use the drop-down menu to select the county to make updates. This example uses Hancock County, Illinois. 
Step 7	After selecting the working county, GUPS will prompt for a download location of the county shapefiles. *The **Select Data Folder, Directory or Location** box opens.* 

Step	Action and *Result*
	GUPS only asks to specify a data download location once per project. When a project has been closed and reopened, the shapefiles automatically load, even if no changes were made during the first session.
Step 8	In the ***Select Data Folder, Directory or Location*** box drop-down menu select a data download location. This example assumes the user is pulling the data from the SDRP website so click on **Census Web** in the drop-down menu. 
Step 9	When **Census Web** is *chosen, the shapefile for the county begins to load and progress is displayed by a blue striped bar (color may vary), with the percentage of the upload completed displayed to the right.* 
Step 10	As GUPS loads the data it unzips and copies the files to a folder in the home directory created during the installation process. The data is then loaded into the GUPS application.
Step 11	In this example, data is loaded for Hancock County, Illinois. After the files load, GUPS returns to the **Map Management** box. *A list of counties in the state appears at the bottom of the **Map Management** box. Adjacent counties (counties that share school districts with the chosen working county) are highlighted in yellow and checked.*  **Note:** Only select adjacent counties needed to complete a project. Loading adjacent counties may slow the performance of GUPS. To select additional counties in the state to display, check the checkboxes next to them. Scroll down using the scroll bar to the right to see the full list of counties. A **total of 10** adjacent counties, plus the working county, can be loaded into GUPS.

Step	Action and *Result*
Step 12	In this example, all neighboring counties, Adams, Henderson, McDonough, and Schuyler Counties, are selected. Click the Open button at the bottom of the **Map Management** dialog box. 
Step 13	GUPS will automatically download the adjacent counties from Census Web. The progress is displayed by the blue striped bar (color may vary), with the progress percentage noted to the right. 
Step 14	GUPS unzips and copies the files to the GUPS home directory then loads them into the application. The map management screen, with all selections grayed out, will show while the project is loading followed by a progress bar with the message "Starting GUPS." The data layers for Hancock County appear in the **Table of Contents** and the maps for the selected adjacent (or other selected counties) appear next to that for the working county in **Map View**. The **Map View** displays the maps for Hancock and all adjacent counties. 
	If for any reason shapefiles are missing from the chosen location in the **Select Data Folder, Directory or Location** drop-down menu or the files are corrupted and cannot be loaded, an error message will display.  Click **OK** to return to the **Map Management** dialog box and then close **Map Management**. Reopen **Map Management** from the **Standard Toolbar**. Try loading the file(s) from another location. After reopening map management, reselect the desired working county and pick another option for loading the files.

Follow the steps in **Table 5** to properly save and close a project.

Table 5: Saving and Closing a Project

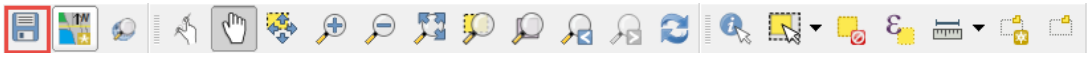
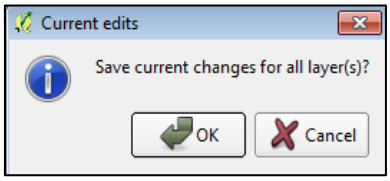
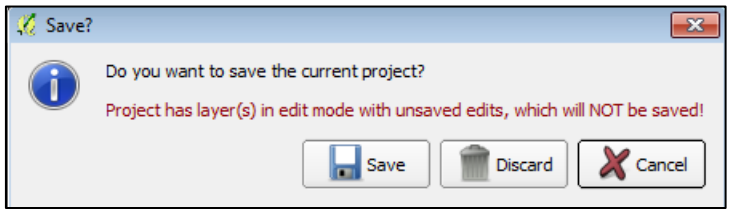
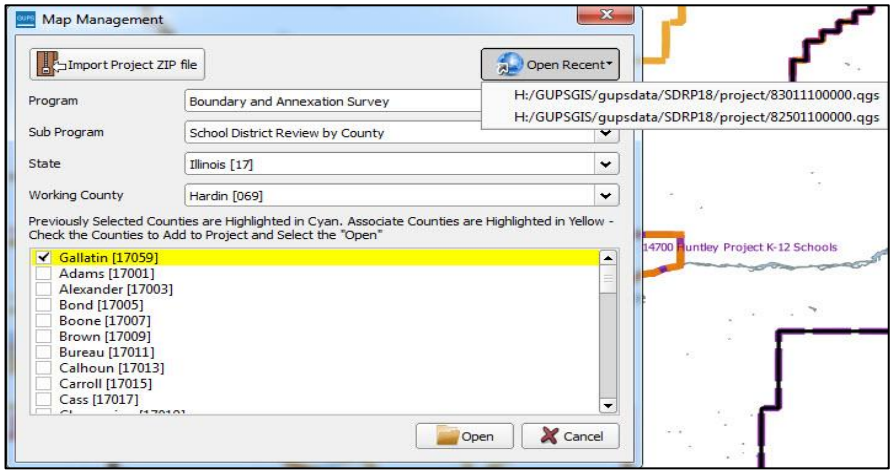
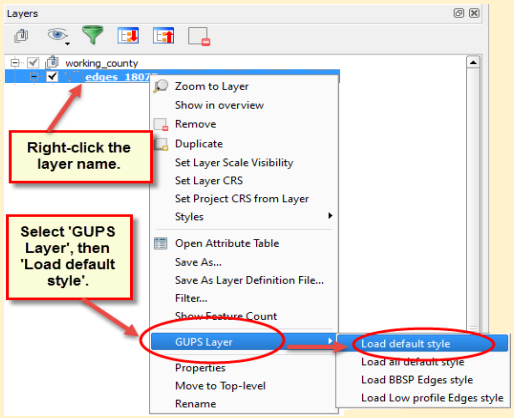
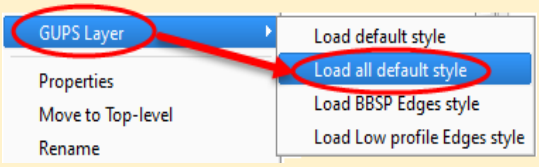
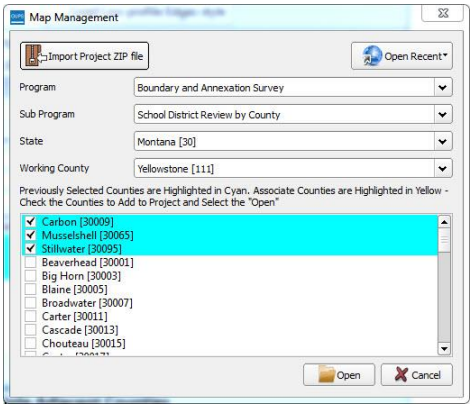
Step	Action and *Result*
Step 1	After working on a project, be sure to save before exiting. Otherwise, any edits will be lost. Click the **Save** icon on the **Standard toolbar** to save the project.  The Current edits pop-up box asks to save current changes for all layer(s).  Click **OK**. The changes are saved.
Step 2	Close the application to discard any changes (click the red X in the upper right-hand corner of the main GUPS page). *A **Save?** pop-up warning prompts to choose either save, discard, or cancel.*  Click **Discard** to not save the current project.

Table 6 details how to open a saved project.

Table 6: Opening a Saved Project

Step	Action and *Result*
Step 1	In the **Map Management** dialog box click the down arrow next to the **Open Recent** button. *The drop-down menu opens with a list of current projects*. 

Step 2	When a file is chosen, the map for the project automatically loads with the layers shown in the **Table of Contents**.
	Census Bureau-defined default layers and view settings are loaded each time a new project is started in GUPS. If these default settings have been changed and then are saved during a project, reopening the project will load these saved changes rather than the Census Bureau-defined default layers and view setting. To restore the default settings for a layer: • Right-click on the layer in the **Table of Contents**. *A drop-down menu opens*. • In the drop-down menu, select **GUPS Layer**. *A submenu opens*. • In the submenu, select **Load default style** (see illustration below).  To reset the default settings for all layers, select **Load all default style**. 
Step 3	When a project is opened in Map Management, any previously selected adjacent (or other selected) counties appear in cyan blue and remain checked. 
	Loading Multiple Adjacent Counties 11 county datasets can be loaded in a project (the working county plus 10 other counties).

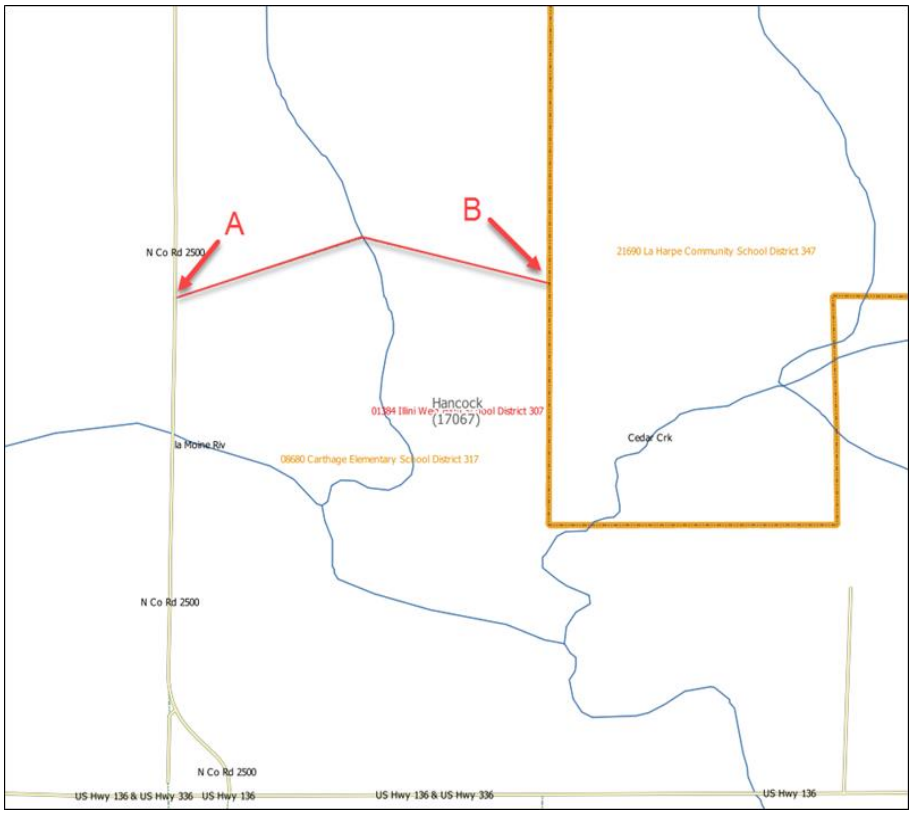
5.3 Making SDRP Updates in GUPS

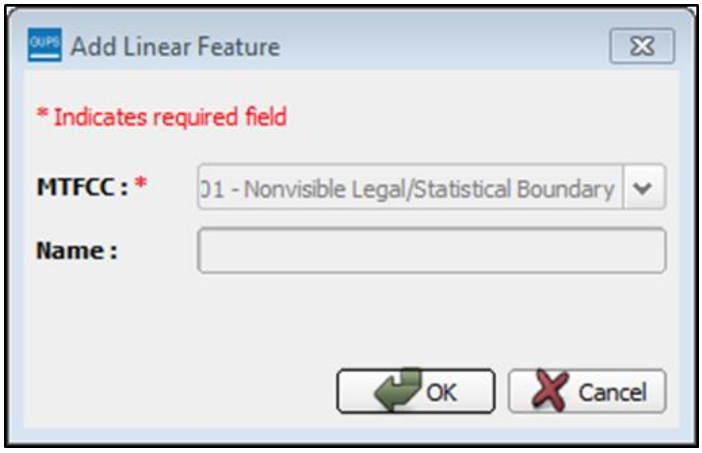
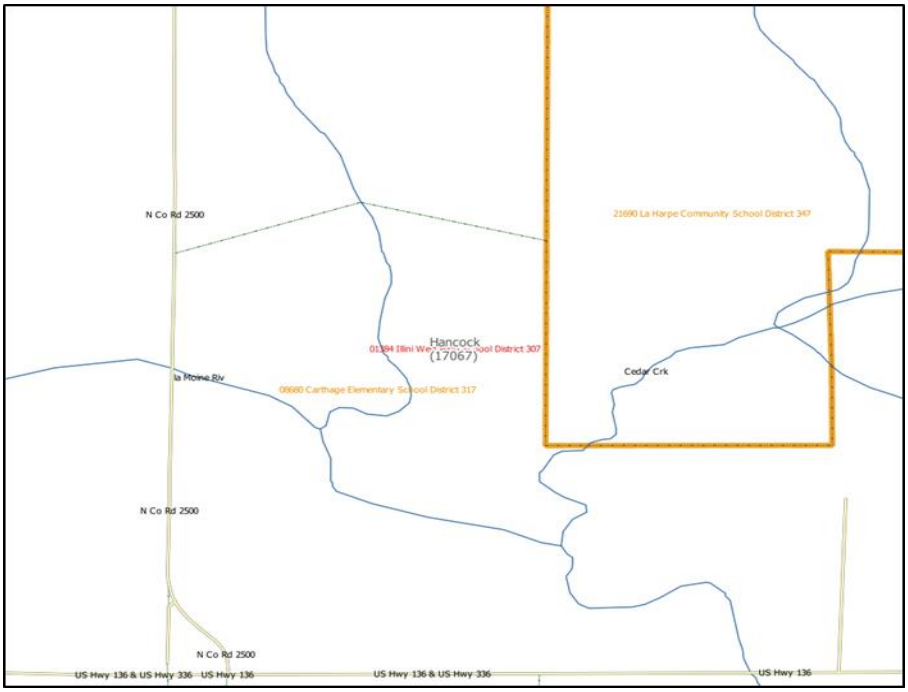
The tables in this section provide systematic instructions for making updates. All examples shown here will begin with a new Map Management project for the state of Illinois and Hancock County with fringe counties. Although using real data all changes are purely fictitious. They are employed for purposes of illustration only and do not indicate any actual geographic changes.

5.3.1 Adding a Linear Feature

Add a linear feature to split a face if the whole area of a selected face (polygon) is not to be included in the boundary change. Follow the steps in **Table 7**.

Table 7: Adding a Linear Feature

Step	Action and *Result*
Step 1	In the Map View, navigate and zoom to the face (polygon) to split.
Step 2	Click on the **Add Linear Feature** button in the SDRP Toolbar. 
Step 3	 Left-click the mouse at the starting point of the line (A) and continue to left-click the mouse at each vertex (shape) point of the line. When the line is complete, right-click the mouse (B) to finish drawing.

Step	Action and *Result*
Step 4	*When the line is complete the **Add Linear Feature** dialog box opens indicating that a **Nonvisible Legal/Statistical Boundary** is about to be added*. Select OK.  *GUPS adds the linear feature to the map while also splitting faces (polygons).* 

5.3.2 Deleting a Linear Feature

Linear features can be deleted one segment (**Table 8**) at a time or multiple segments at a time (**Table 9**).

Table 8: Deleting a Linear Feature One Segment at a Time

Step	Action and *Result*
	Only user added linear features can be deleted using the **Delete Linear Feature** tool in GUPS.

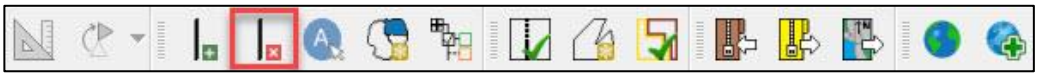
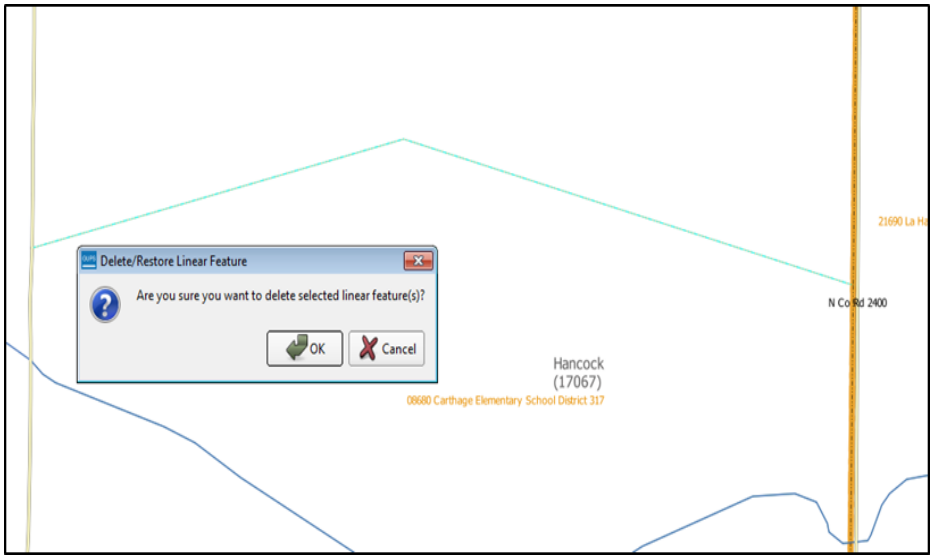
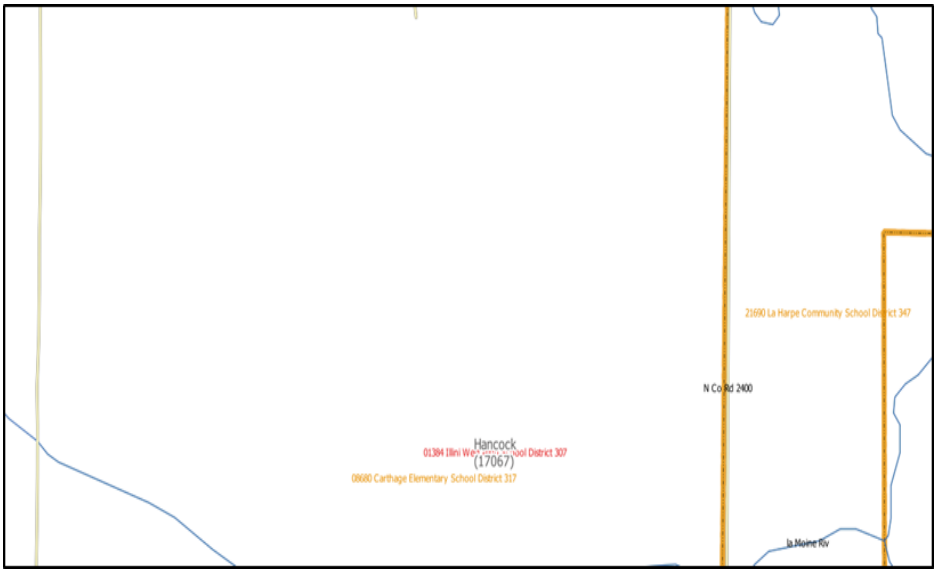
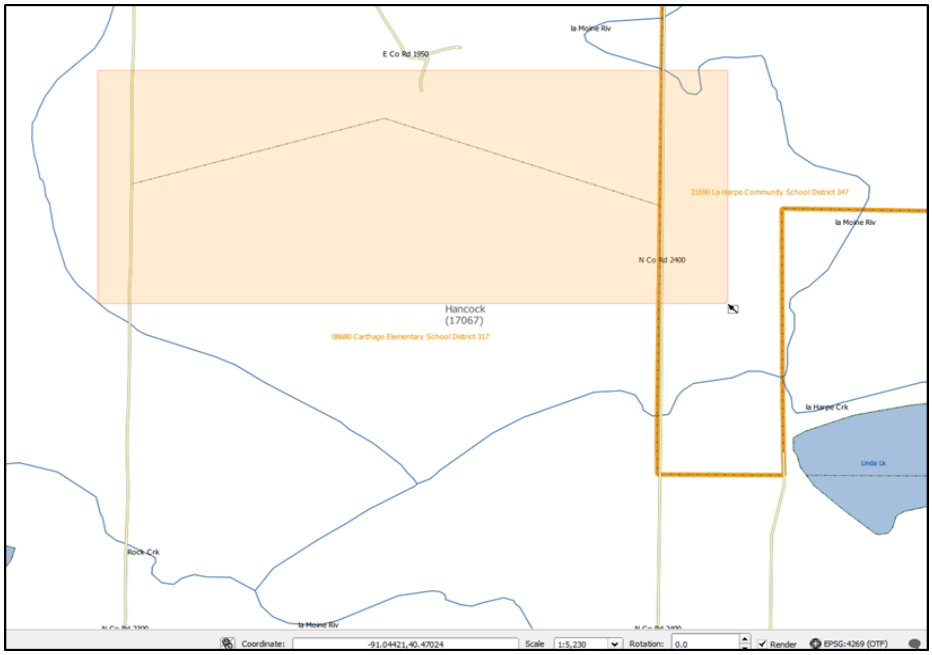
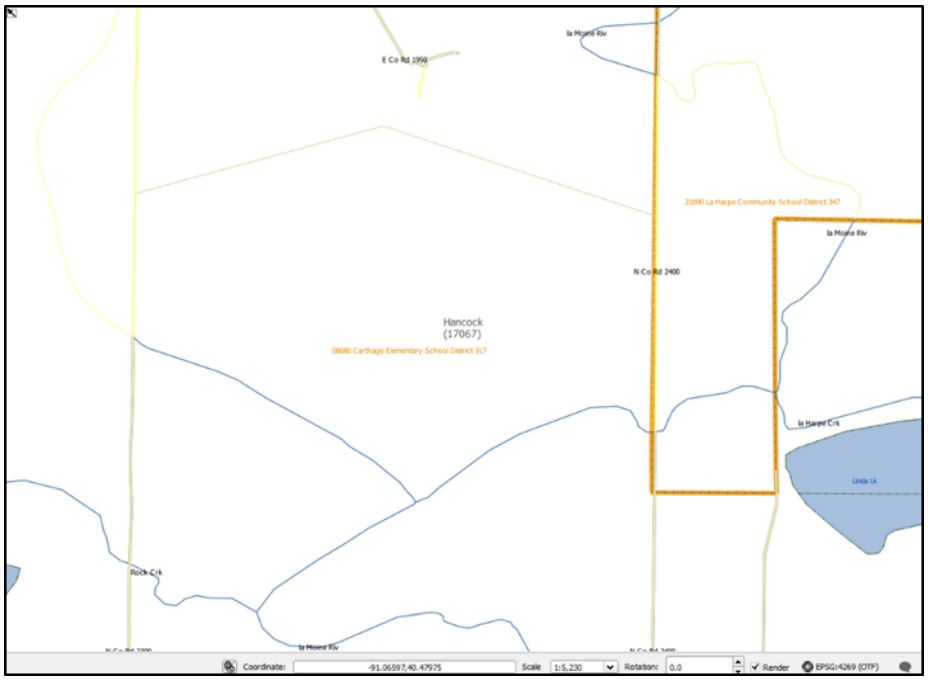
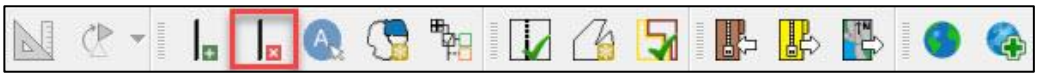
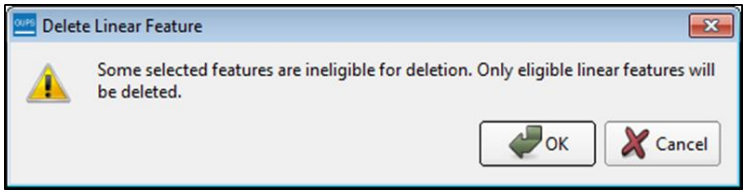
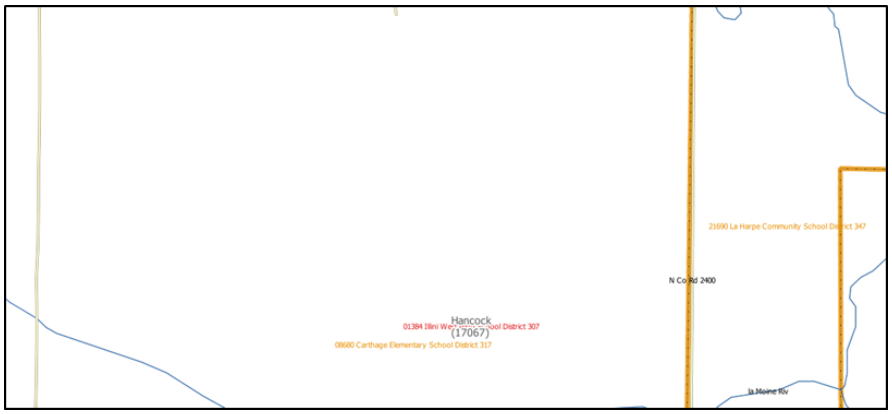
Step	Action and *Result*
Step 1	Select the **Delete Linear Feature** button from the SDRP toolbar to delete the linear feature created in the previous steps. 
Step 2	Left click on the segment to delete. When the **Delete Linear Feature** tool is active *the mouse cursor turns into a cross-selection*. Hover over the line segment to delete and left mouse click. *A dialog box opens to confirm whether or not to delete the selected features(s). Click **OK** and GUPS deletes the line segment.*   Another way to delete a linear feature is by using the **Select Features** tool to draw a selection region over the line to delete.

Table 9: Deleting Multiple Segments or Features

Step	Action and *Result*
Step 1	Select the **Select Features** tool from the standard toolbar. 
Step 2	Left click on the map and drag a selection box around the linear features added to the map. *GUPS will highlight selected features yellow (color may vary)*.  

Step	Action and *Result*
Step 3	From the SDRP toolbar select the **Delete Linear Feature** button.  *GUPS will notify if any of the selected features are ineligible for deletion*. Only user added linear features are eligible for deletion. Select **OK**.  The map refreshes and the linear feature is deleted. 

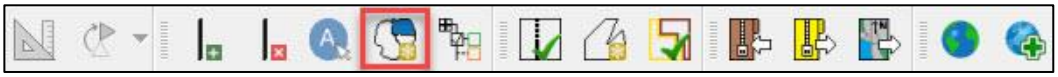
5.3.3 Making Boundary Changes Using Whole Faces

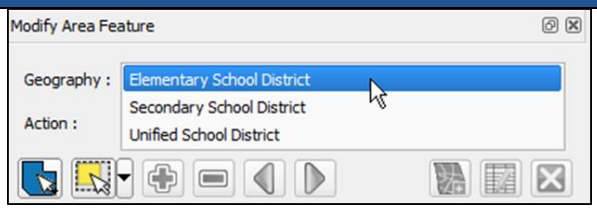
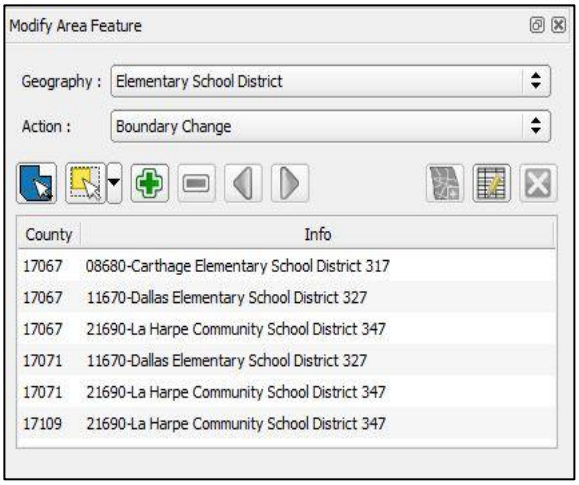
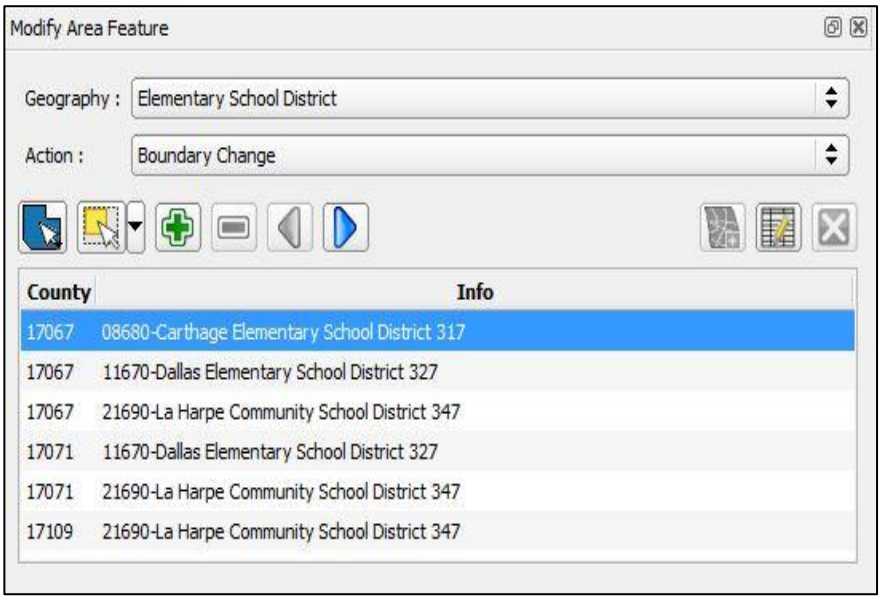
When making boundary changes using GUPS, keep the following in mind:

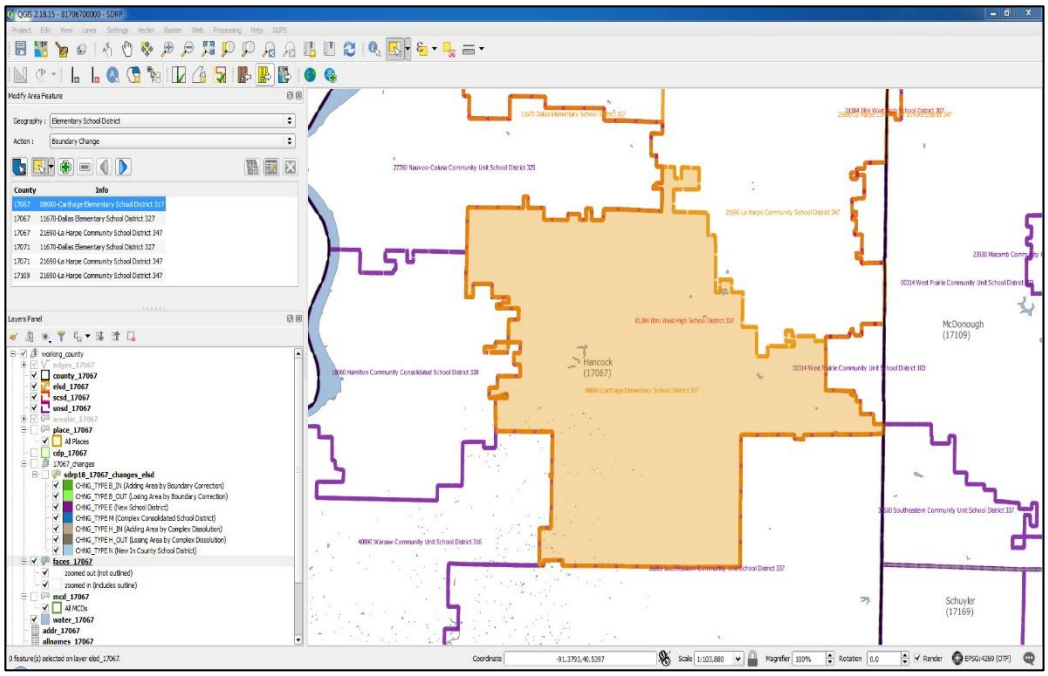
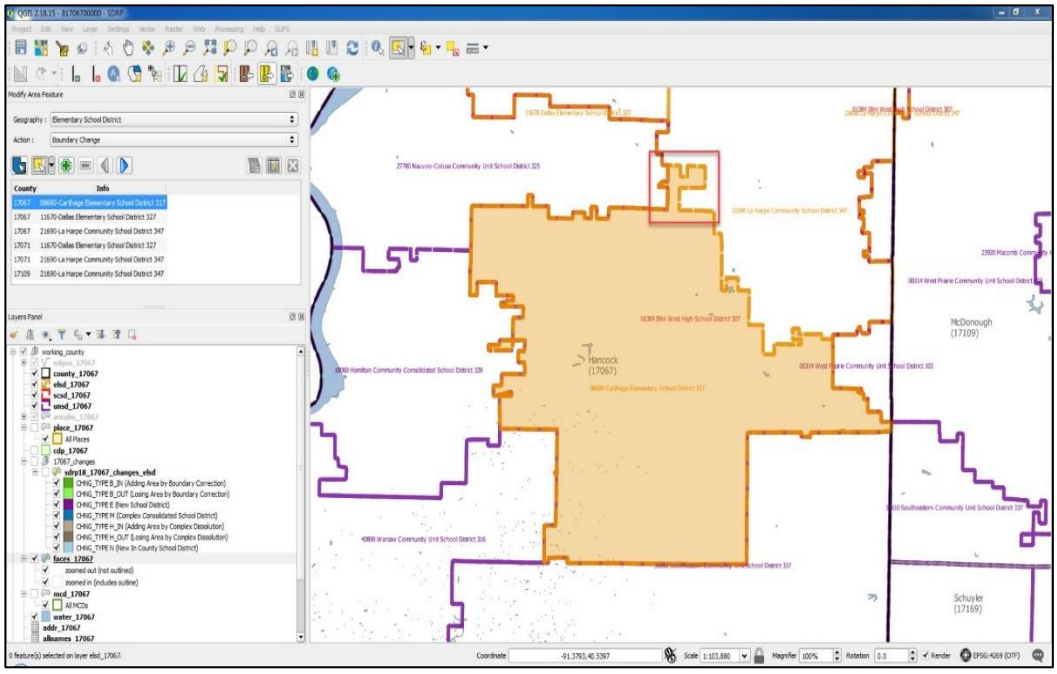
- Which school district is the **target district** (i.e., the one adding area), and if it is a(n) elementary, secondary, or unified school district.
- Which school is **losing** area, and if it is a(n) elementary, secondary, or unified district.
- If faces need to be split to support boundary changes.

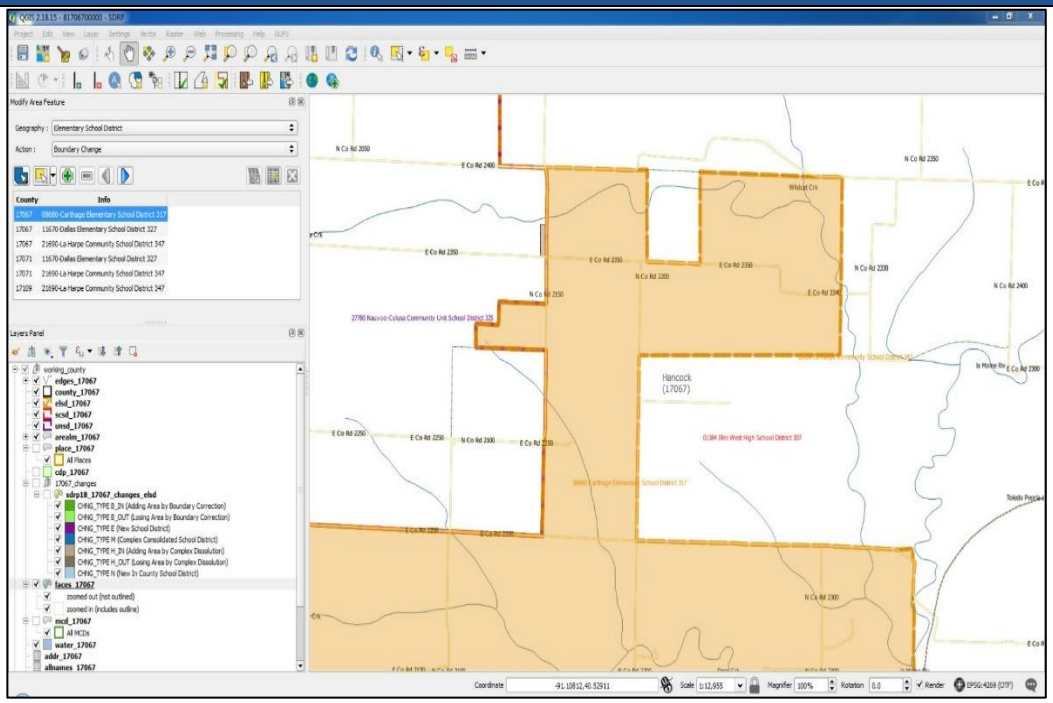
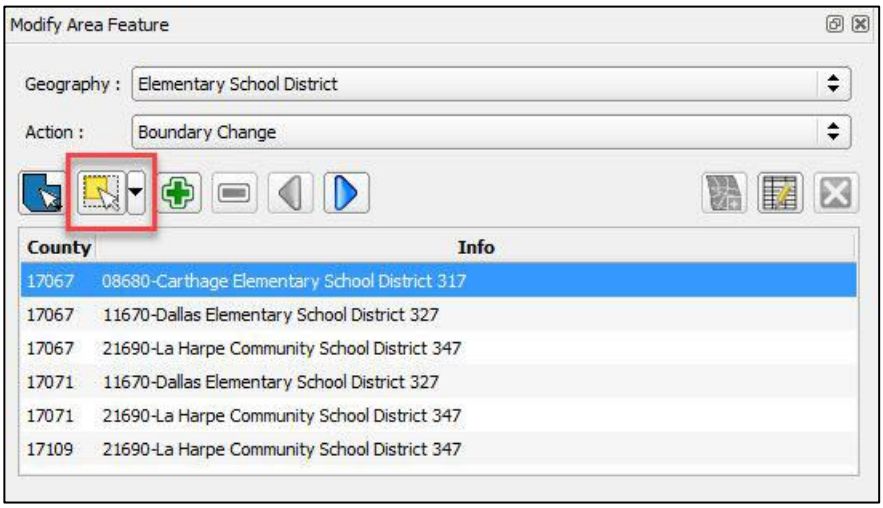
Follow the steps in **Table 10** to perform a boundary change by adding area to an existing school district.

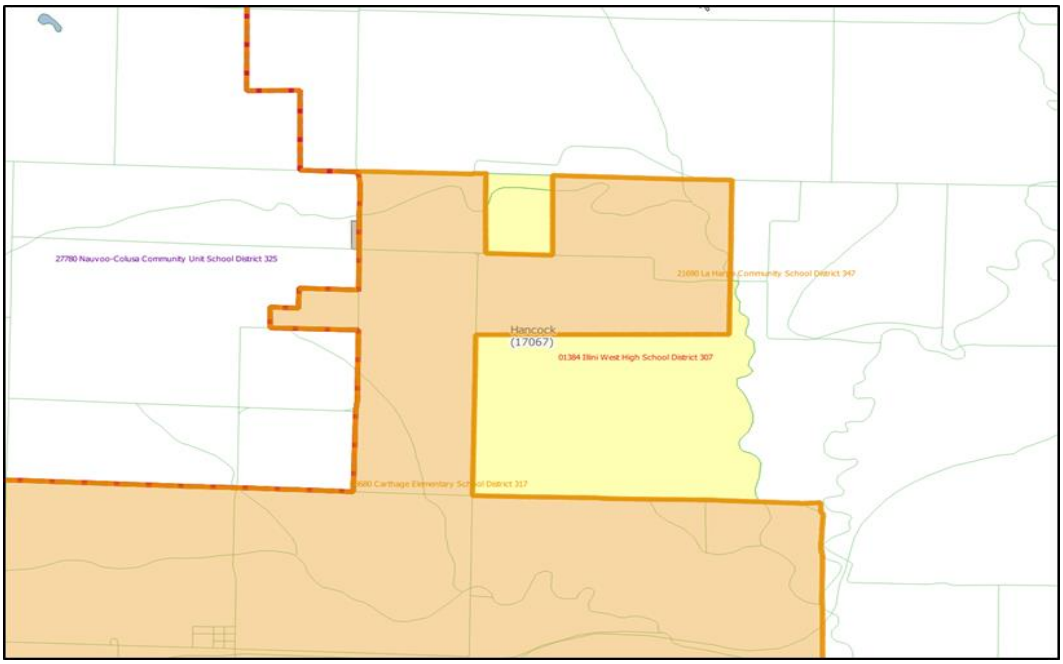
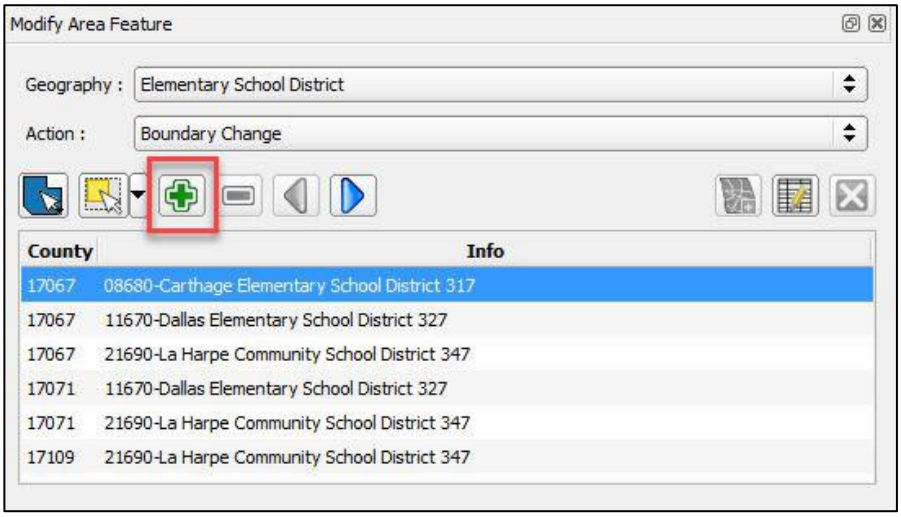
Table 10: Boundary Change Using Whole Faces

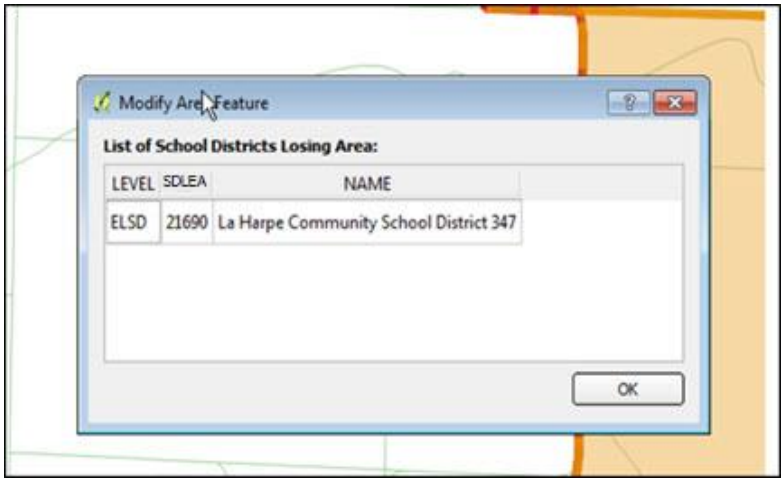
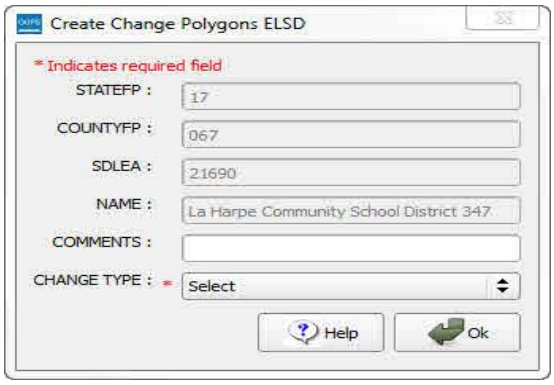
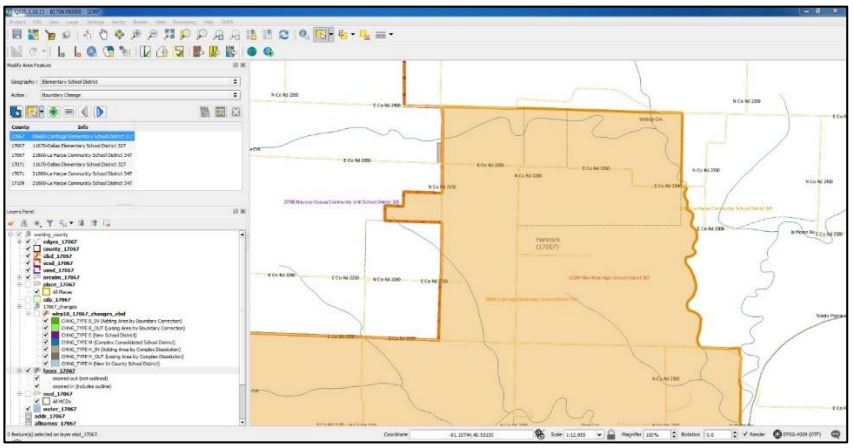
Step	Action and Result
Step 1	Click the **Modify Area Feature** button on the **SDRP Toolbar** to open the **Modify Area Feature** tool. 
Step 2	In the **Modify Area Feature** dialog box click the drop-down arrow next to the **Geography** field. In this example, choose **Elementary School District**.

Step	Action and Result
	 When an elementary school district is chosen*, the **Modify Area Feature** tool populates the table with the list of available elementary school districts with the county and SDLEA ID number displayed for each district*. The list is sorted by Working County ID, then by school district name. 
Step 3	From the **Modify Area Feature** table list, select **08680 – Carthage Elementary School District 317**. 

Step	Action and Result
Step 4	*Immediately after the selection, the **Modify Area Feature** tool highlights the school district in the map view. A single left click highlights the school district. Double-clicking zooms to the extent of Carthage Elementary School District.* 
Step 5	In this example, whole faces from neighboring **21690 La Harpe Community School District 347** are added to the selected target layer **08680 Carthage Elementary School District 317**. Using the **Zoom** tool in the standard toolbar zoom into the following area: 

Step	Action and Result
	
Step 6	From the **Modify Area Feature** tool activate the **Select Features** tool. 

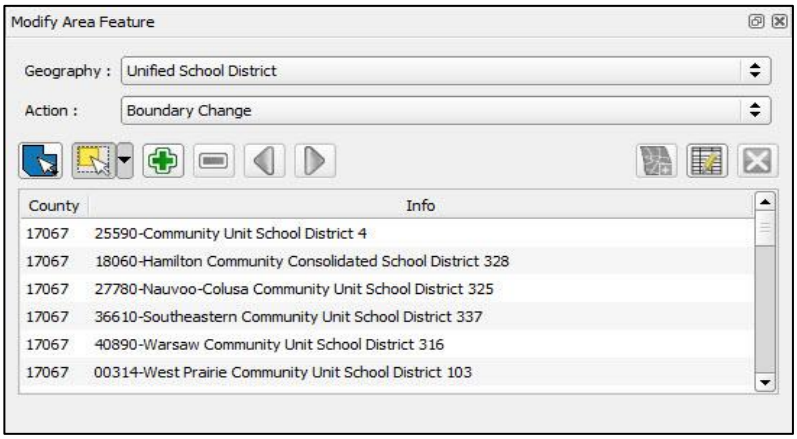
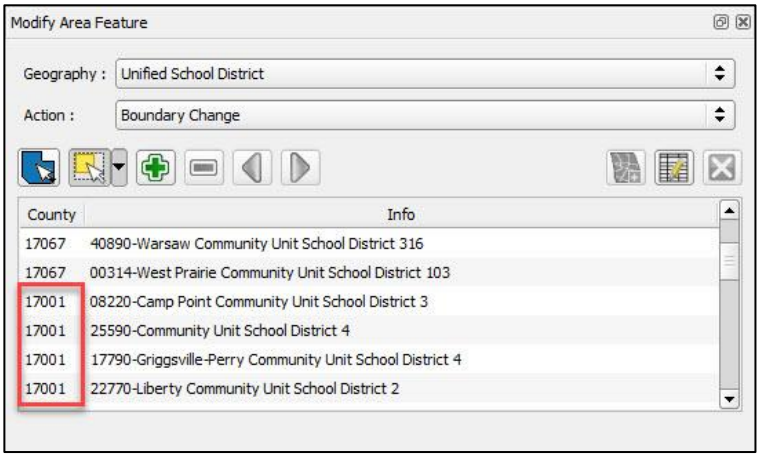
Step	Action and Result
Step 7	From the map view left-click to select the following **three faces from 21690 La Harpe Community School District 347**. To select multiple faces hold down the **CTRL** button on the keyboard while clicking. *With each click the face highlights in yellow to indicate an active selection*. 
Step 8	Click the add area button in the **Modify Area Feature** tool to initiate the Boundary Change. 

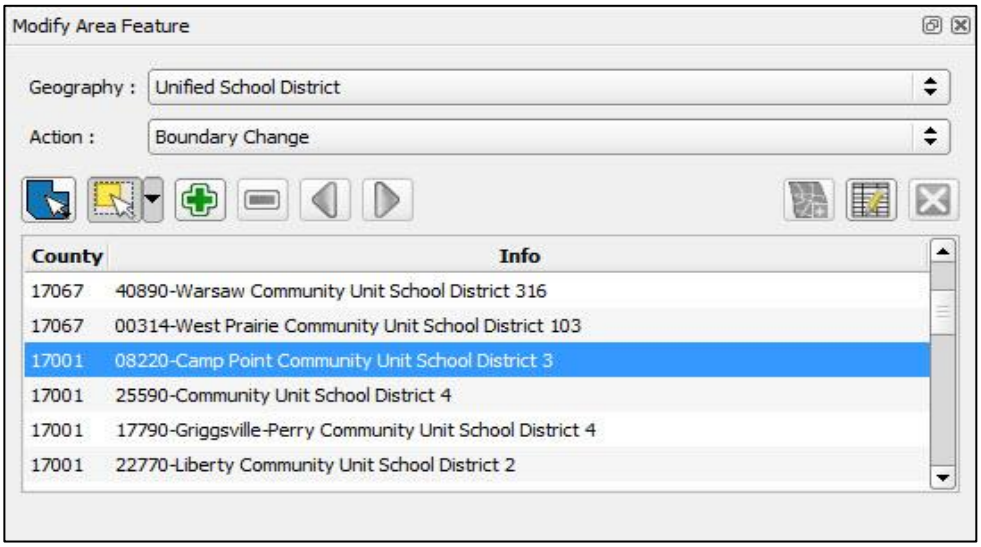
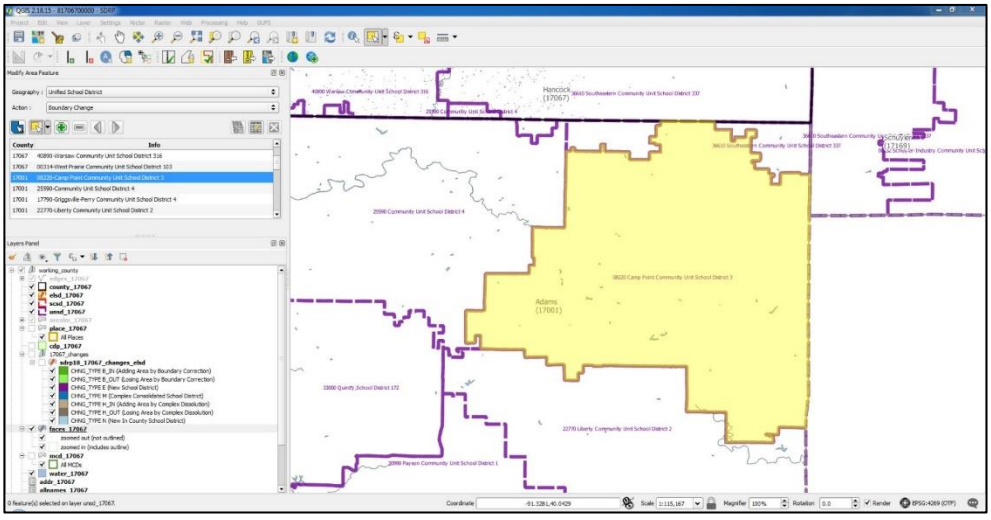
Step	Action and Result
Step 9	*The following notification pops up once the Boundary Change has completed listing the school district(s) that are losing area because of the boundary change*. Select **OK**. 
Step 10	The following pop-up provides non-editable and editable attribute information of the target elementary school district. The **CHANGE TYPE** field is a mandatory field. Select Boundary Correction or Annexation. The **COMMENTS** field is optional. Select **OK**. 
Step 11	*The map view updates to reflect the change in boundary made to Carthage Elementary School District*.  Save edits by selecting the save icon from the **Standard Toolbar**.

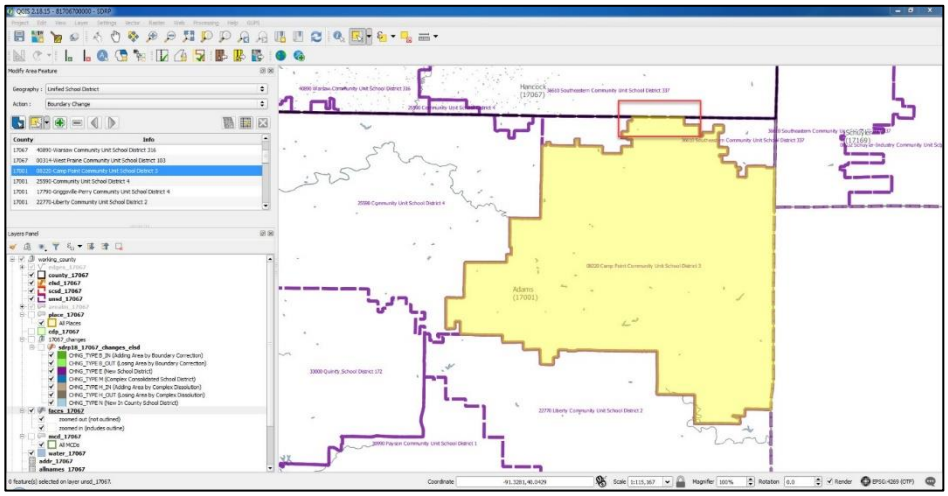
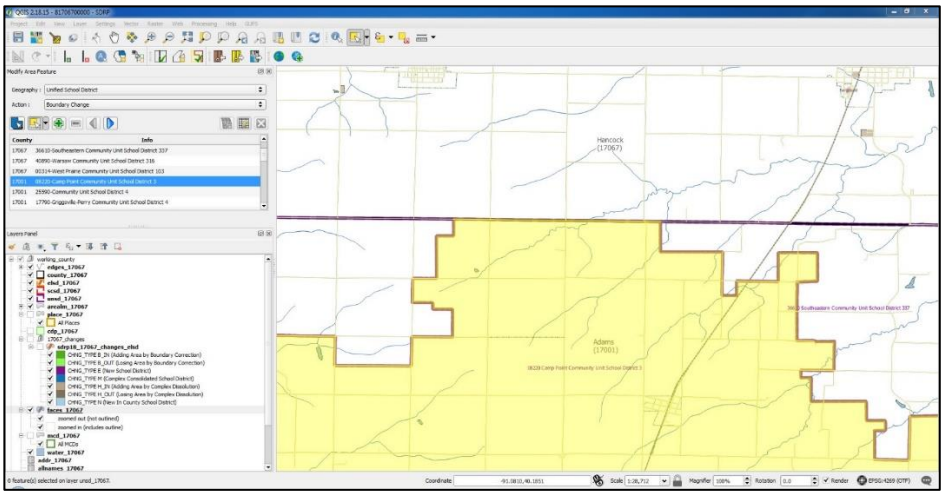
5.3.4 Making Boundary Changes from Adjacent Counties

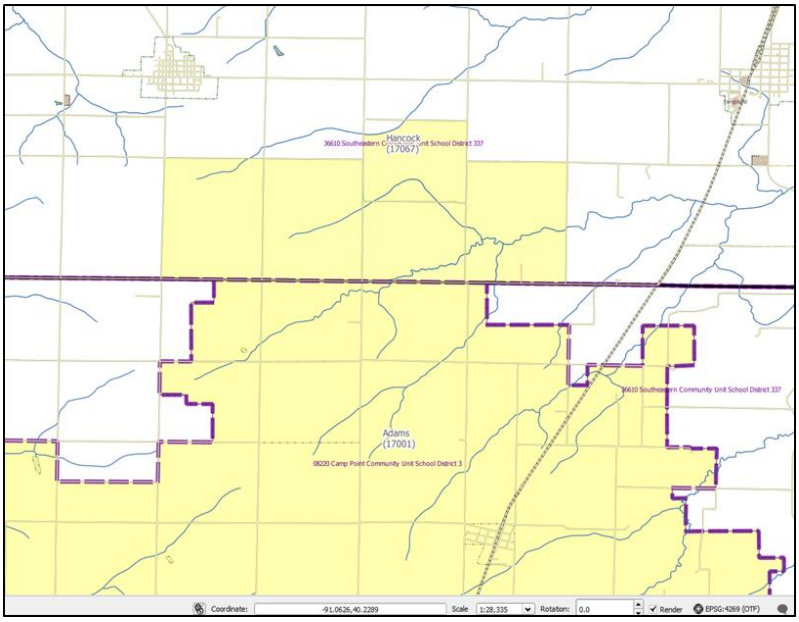
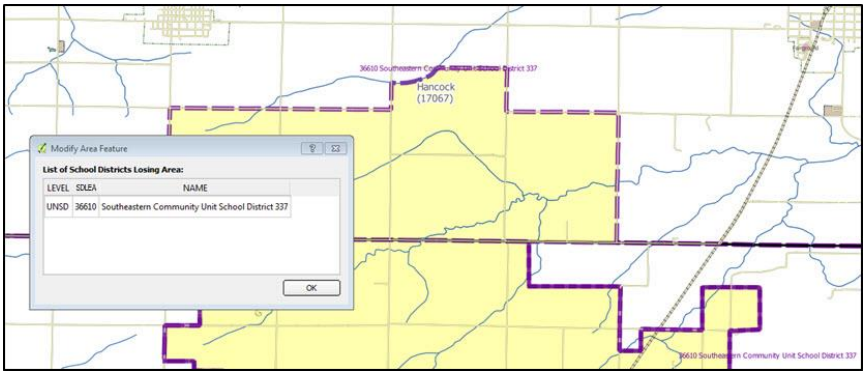
Boundary changes can also be made from adjacent counties (**Table 11**). This is useful if there is a school district in an adjacent county that also needs to exist in the working county.

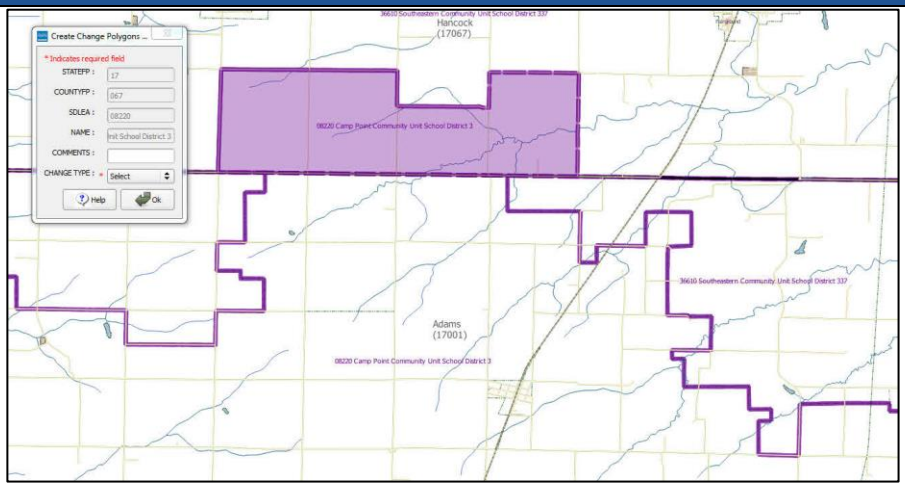
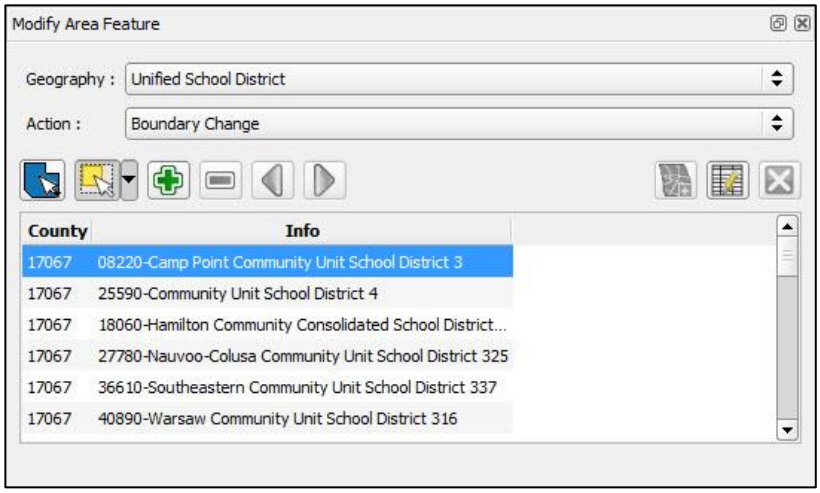
Table 11: Making Boundary Changes from Adjacent Counties

Step	Action and *Result*
Step 1	Select **Unified School District** for the **Geography** and **Boundary Change** for the **Action** from the **Modify Area Feature** tool. 
Step 2	From within the Modify Area Feature tool info list scroll down to the school districts that belong to the adjacent county for **Adams County [17001]**. 

Step	Action and *Result*
Step 3	From this list, select **08220 – Camp Point Community Unit School District 3** as the target layer. The adjacent county school district is highlighted yellow in the map view.  Double-click to zoom to the extent of the school district if **Camp Point Community School District 3** does not appear in the current map view. 

Step	Action and *Result*
Step 4	From the map view zoom to the border between **Camp Point Community Unit School District 3** and **Southeastern Community Unit School District**.  

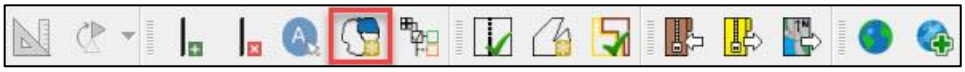
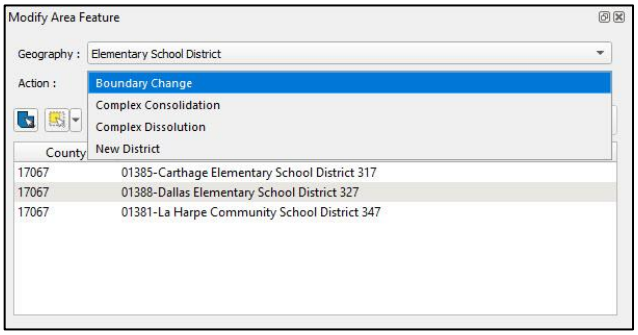
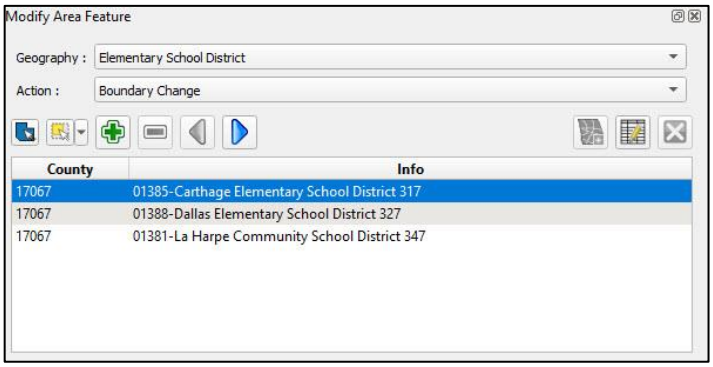
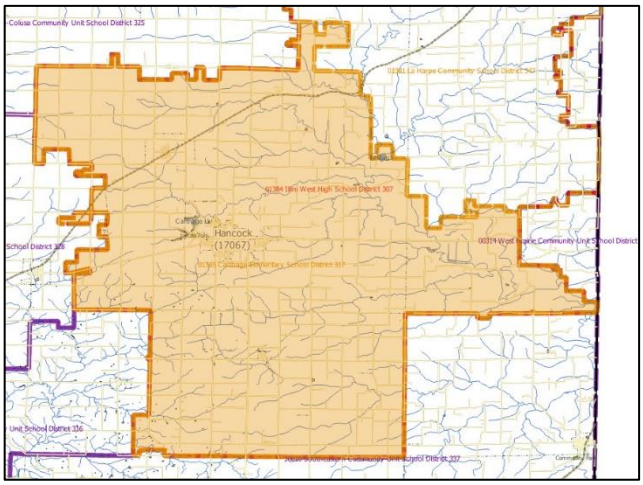
Step	Action and *Result*
Step 5	Using the **Select Features** tool from the **Modify Area Feature** tool select the following faces (polygons) from the working county. 
Step 6	From the **Modify Area Feature** tool select the **Add Area** button to initiate the boundary change.  The **Modify Area Features** dialog box opens to indicate the school districts losing area followed by the **Create Change Polygon** dialog box. Choose a Change Type and Select **OK**.

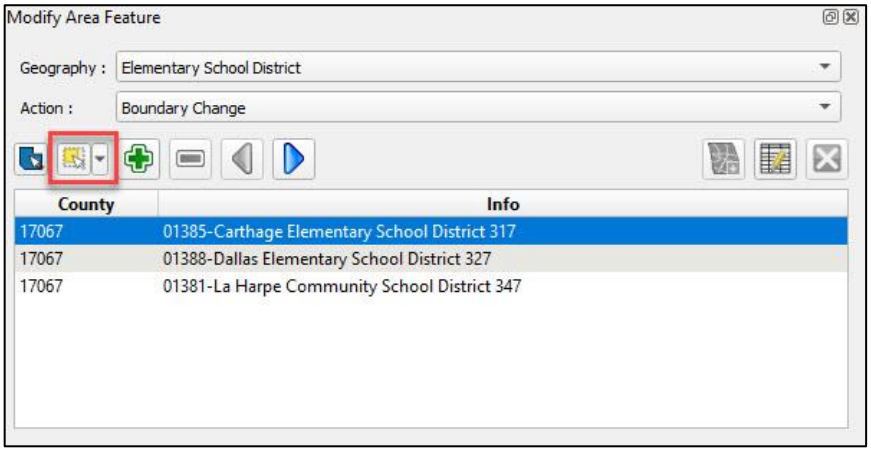
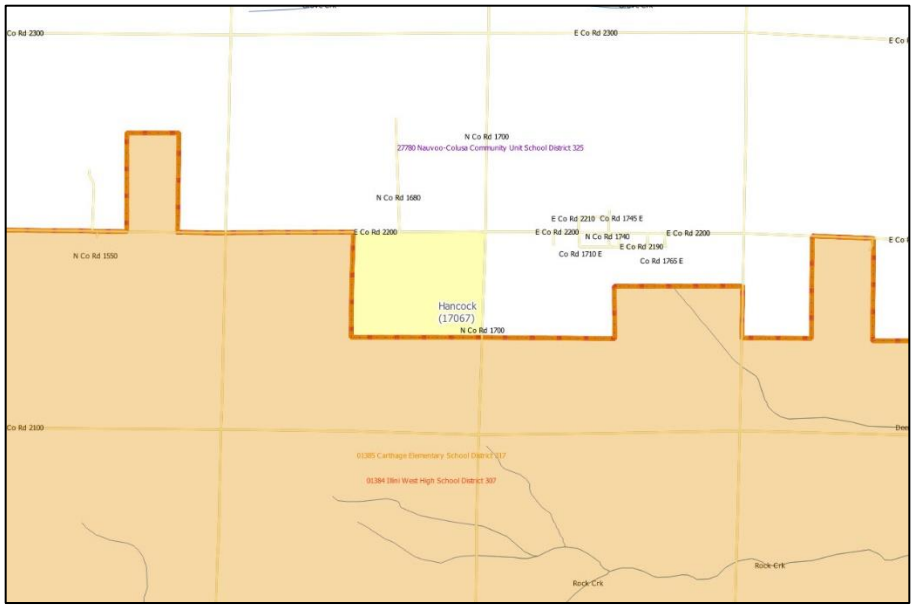
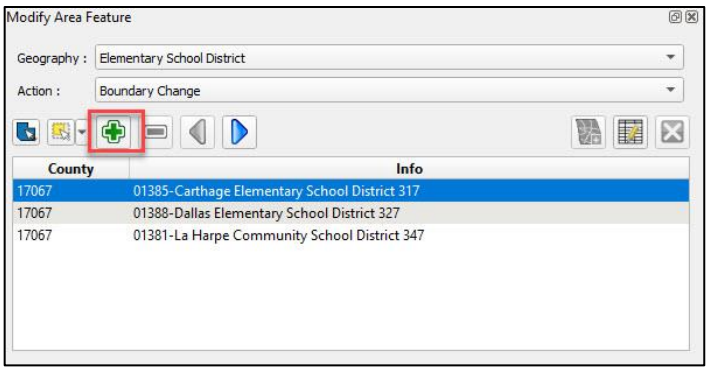
Step	Action and *Result*
	 Once complete, adjacent county school district **Camp Point Community Unit School District** is added to the working county and the **Modify Area Feature** tool is updated to reflect the addition of **Camp Point Community Unit School District 3** into the working county.  Save edits by selecting the save icon from the **Standard Toolbar**.

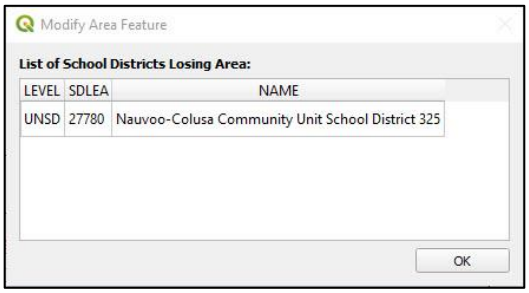
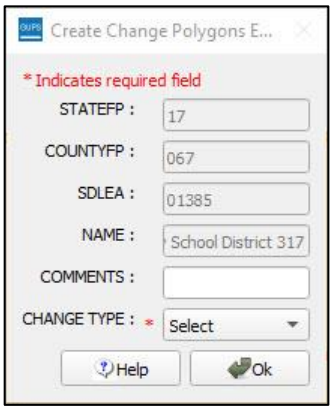
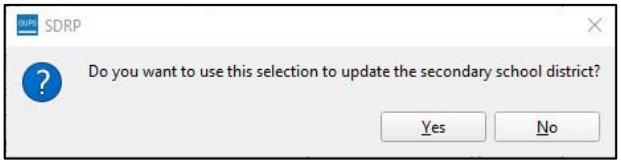
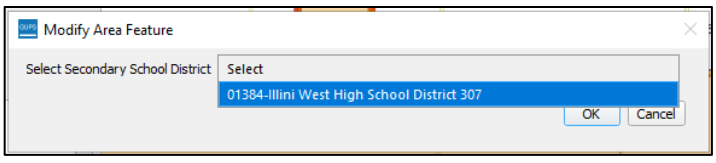
5.3.5 Making Elementary and Secondary School District Boundary Changes in the Same Update

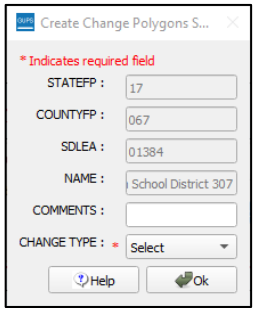
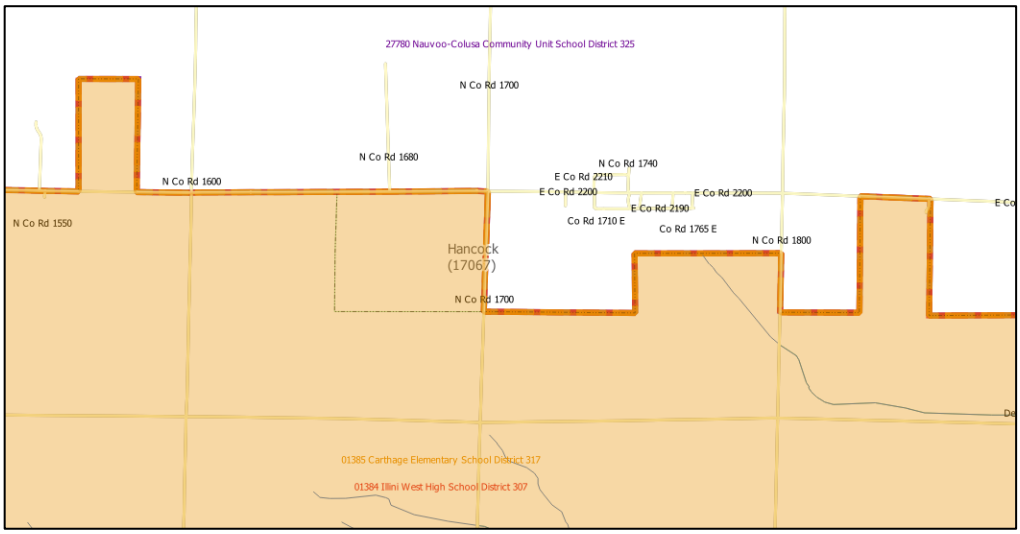
If GUPS detects that an elementary school district boundary change may require a corresponding secondary school district boundary change, GUPS will offer the user the option to proceed with the secondary boundary change once the elementary change is complete. The user may choose to use the same face selection from the elementary school district boundary change to update the secondary school district, or the user can decline if the secondary update is not appropriate. Follow the steps in **Table 12** to complete this action.

Table 12: Secondary School District Boundary Changes

Step	Action and *Result*
Step 1	Begin by opening the **Modify Area Feature** tool from the SDRP toolbar. 
Step 2	In this fictitious example, a boundary change will be completed between **01385 Carthage Elementary School District 317, 01384 Illini West High School District 307,** and **27780 Nauvoo-Colusa Community Unit School District 325**. In the **Modify Area Feature** tool select **Elementary School District** from the **Geography** drop down menu and then choose **Boundary Change** from the **Action** drop down menu. 
Step 3	Double-click to select **01385 Carthage Elementary School District 317** from the target layer list. *Upon selection, the map view zooms to the extent of Carthage Elementary School District*.  

Step	Action and *Result*
Step 4	Choose the **Select Features** tool from the **Modify Area Feature** tool. 
Step 5	From the map view, select any face from **27780 Nauvoo-Colusa Community Unit School District 325** using the Select Features tool. The selected face will be highlighted in **Yellow**. 
Step 6	*From the **Modify Area Feature** tool, click the **Add Area** button to begin the boundary change.* 

Step	Action and *Result*
Step 7	GUPS will begin to process the boundary change. A **List of School Districts Losing Area** window will appear. Select **OK**. 
Step 8	The following pop-up provides non-editable and editable attribute information of the target elementary school district. The **CHANGE TYPE** field is a mandatory field. Select Boundary Correction or Annexation. The **COMMENTS** field is optional. After the CHANGE TYPE has been chosen, select **OK**. 
Step 9	*GUPS opens a new dialog window that asks, "**Do you want to use this selection to update the Secondary School District?"** If **No** is selected, the update completes, leaving the elementary school district boundary change intact and making no change to the secondary school district. To update the secondary school district, select **Yes**.* 
Step 10	*GUPS opens a new dialog window with the prompt "**Select Secondary School District". ***This drop-down menu provides a list of all Secondary School Districts in the working county, sorted by Secondary School District name. In this example, **01384-Illini West High School District 307** is the only Secondary School District in the working county. Choose **01384-Illini West High School District 307** then select **OK.*** 

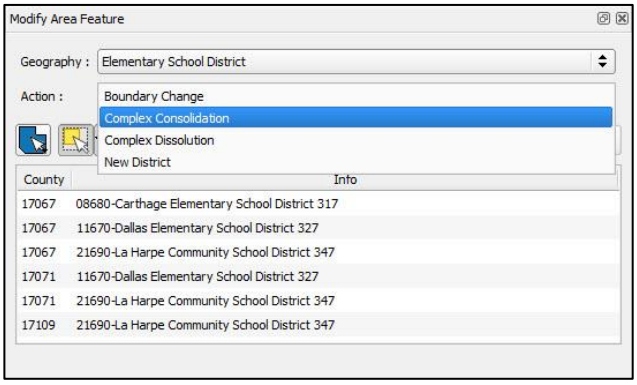
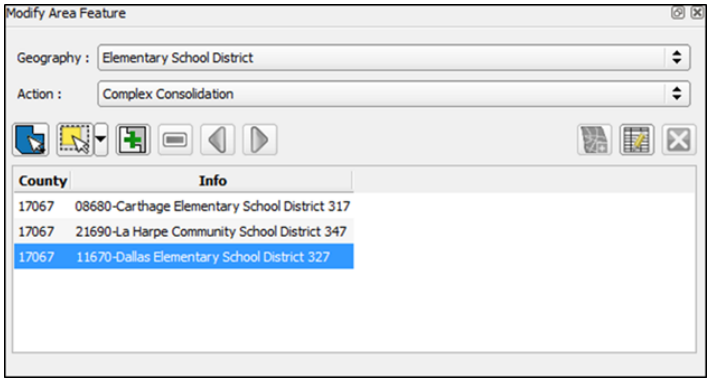
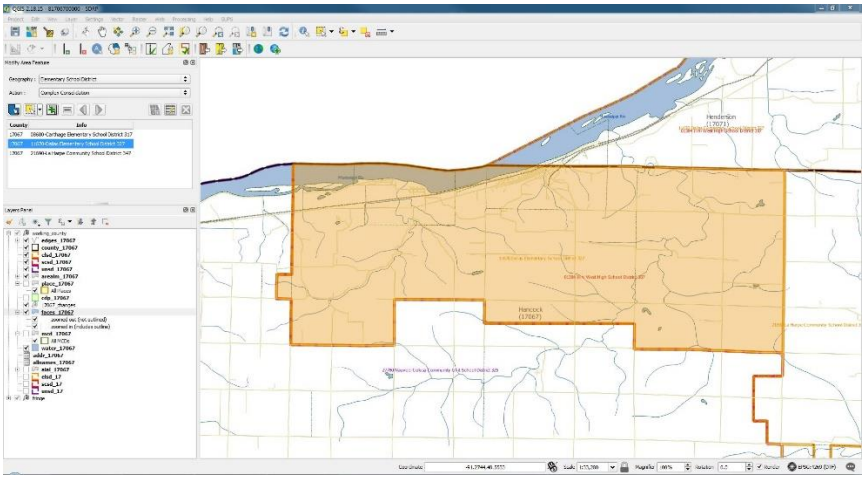
Step	Action and *Result*
Step 11	GUPS begins to process the boundary change. The following pop-up opens, providing non-editable and editable attribute information of the target secondary school district. The **CHANGE TYPE** field is a mandatory field. Select Boundary Correction or Annexation. The **COMMENTS** field is optional. After the CHANGE TYPE has been chosen, select **OK**. 
Step 12	GUPS refreshes the map view and the secondary school district boundary change is complete. 
Step 13	Save edits by selecting the save icon from the Standard Toolbar.

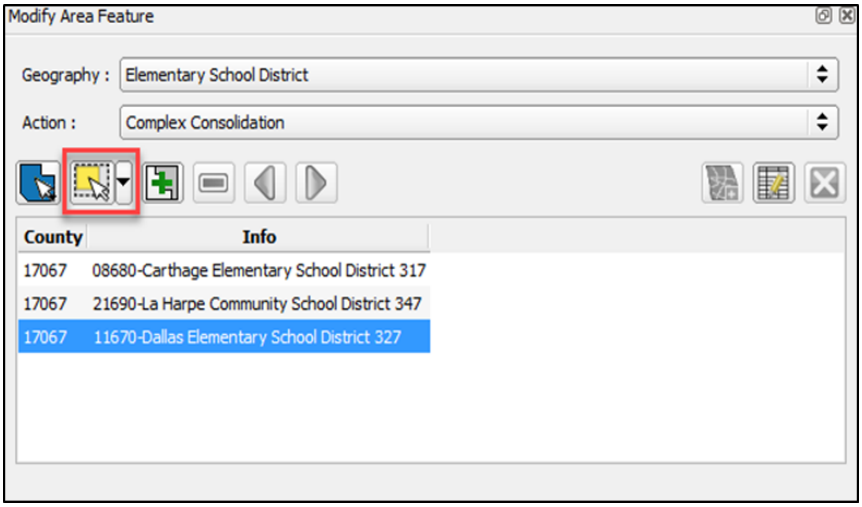
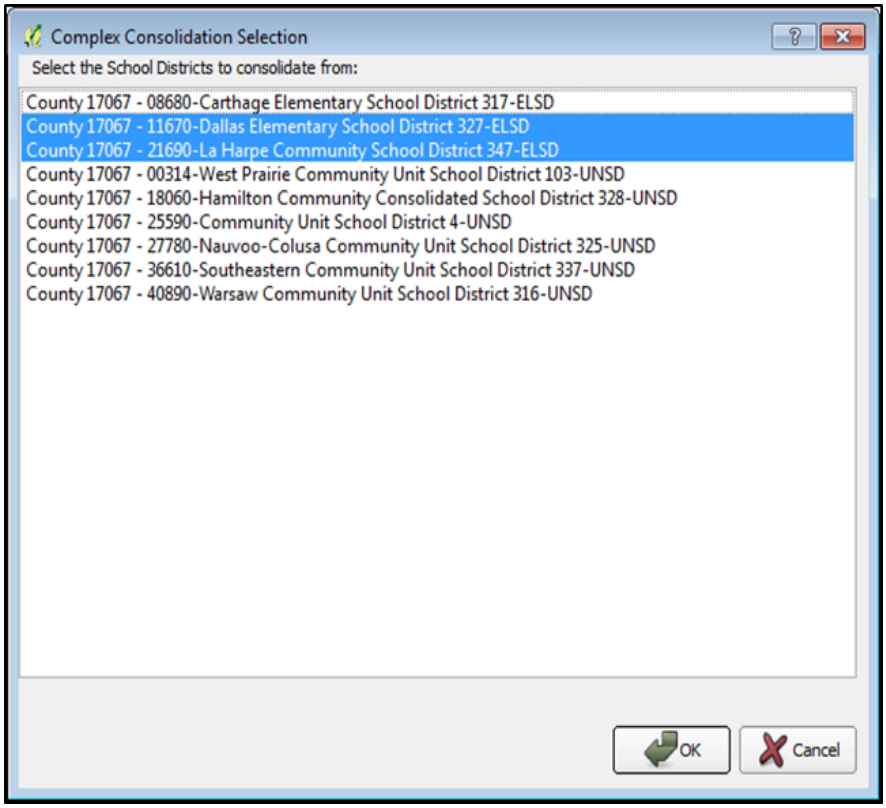
5.3.6 Complex Consolidation

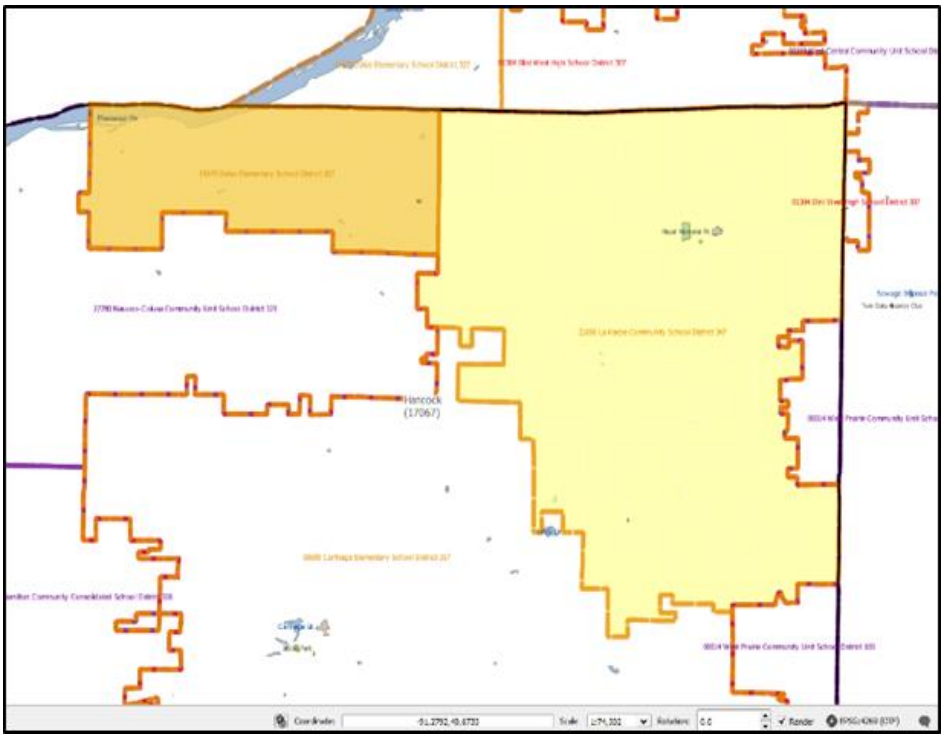
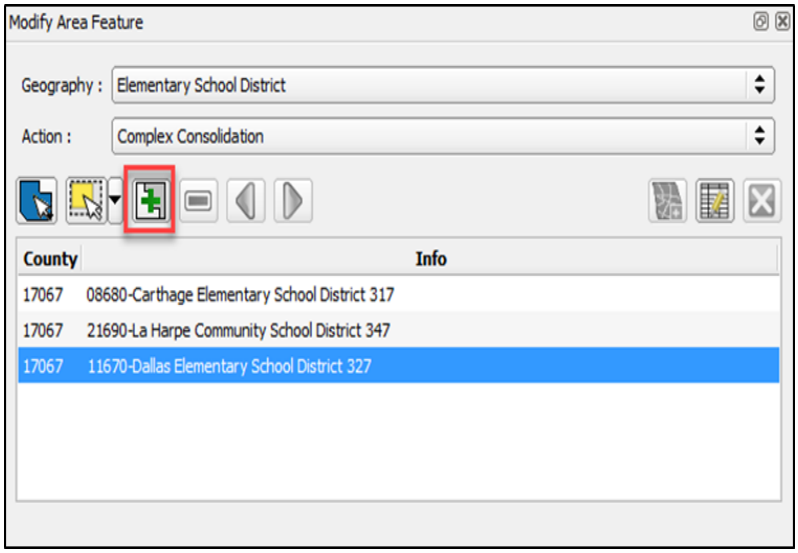
Complex consolidation refers to the situation where two or more school districts merge to create a **new school district** with a **new name** and **new SDLEA ID number** along with **additional boundary changes**. Follow the steps in **Table 13** to perform a complex consolidation.

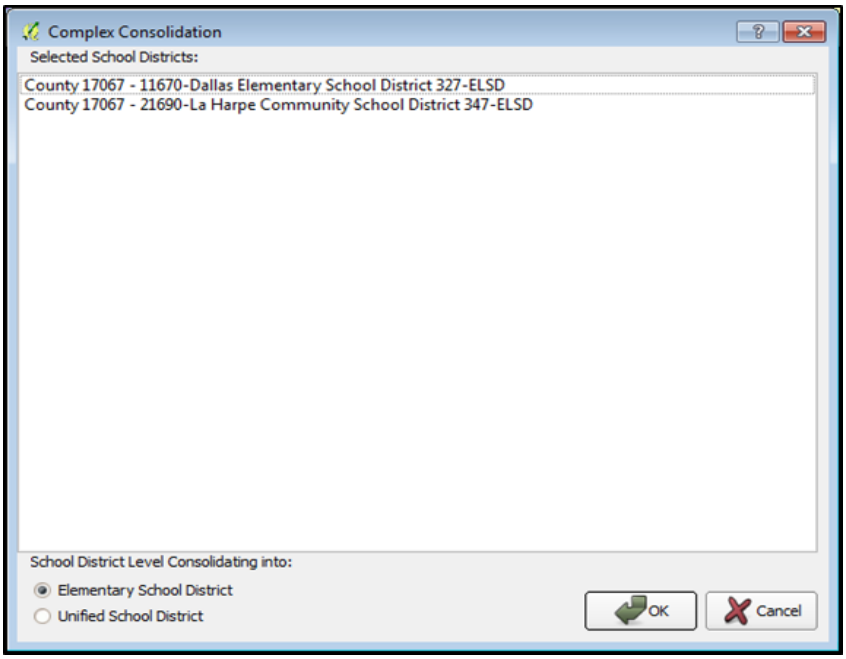
Table 13: Performing a Complex Consolidation

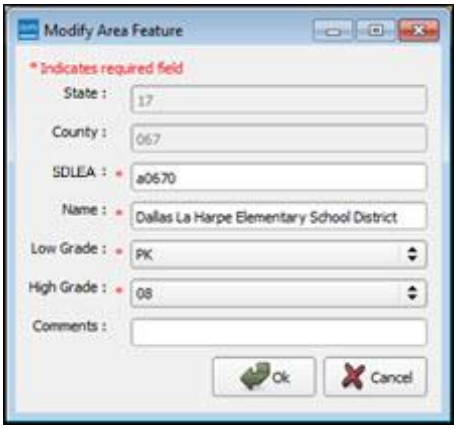
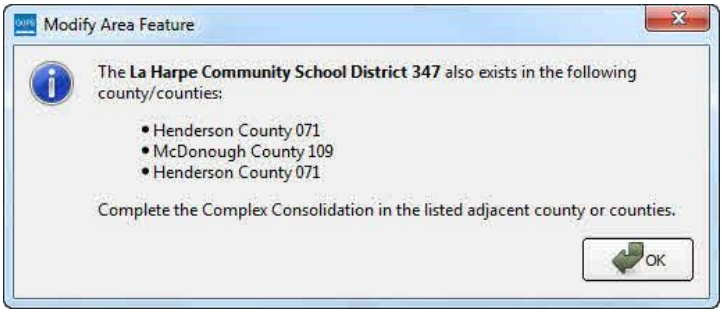
Step	Action and *Result*
Step 1	Begin by opening the **Modify Area Feature** tool from the SDRP toolbar. 

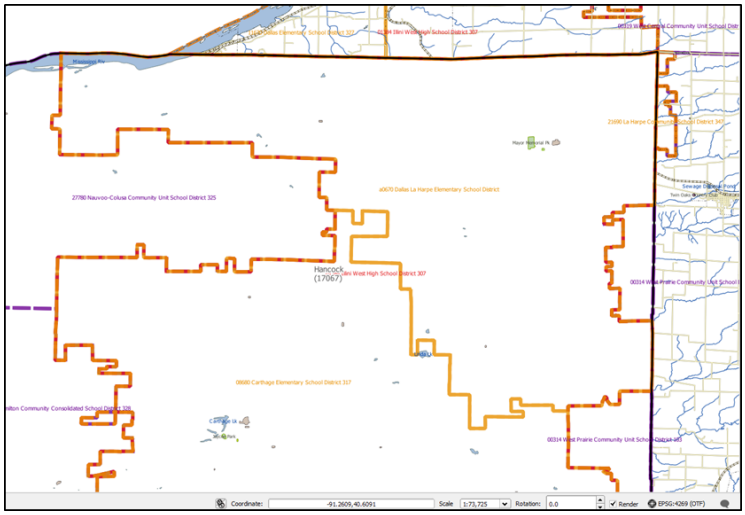
Step	Action and *Result*
Step 2	In this fictitious example, a complex consolidation will be completed between **11670 Dallas Elementary School District 327** and **21690 La Harpe Community School District 347**. In the **Modify Area Feature** tool select **Elementary School District** from the **Geography** drop down menu and then choose **Complex Consolidation** from the **Action** drop down menu. 
Step 3	Double-click to select **11670-Dallas Elementary School District 327** from the target layer list. *Upon selection, the map view zooms to the extent of Dallas Elementary School District*.  

Step	Action and *Result*
Step 4	To begin the consolidation, choose the **Select Features** tool from the **Modify Area Feature** tool. 
Step 5	Using the Select Features tool, select any face (polygon) from **21690 La Harpe Community School District 347**. This selection is for identifying in GUPS the second school district that is included in the complex consolidation. *As soon as the face is selected, the **Complex Consolidation Selection** dialog opens with a list of all unified and elementary school districts in the working county*. This dialog box confirms the school districts to consolidate from. Select **OK**. 

Step	Action and *Result*
	There could be a lag between selecting the school districts included in the consolidation and when the faces (polygons) are selected in the map view. If there is a noticeable lag, GUPS is still in the process of selecting all the faces (polygons) and completes once all school districts are highlighted in yellow.
Step 6	*The Map View refreshes and the entire **La Harpe Community School District 347** is highlighted: yellow to indicate that the entire school district has been selected.* 
Step 7	With both school districts selected, select the **Complex Consolidation** button from the **Modify Area Feature** tool to begin the consolidation. 

Step	Action and *Result*
Step 8	*The first screen to appear is the **Selected School Districts** dialog box*. This dialog box includes a layer list of school districts to be consolidated as well as two radio buttons to choose the school district type to consolidate into.  *The radio button automatically defaults to the school district type of the selected target layer*, in this case, Elementary School District. It is also possible to consolidate the chosen elementary school districts into a unified school district by selecting the Unified School District radio button. In this example, the chosen elementary school districts are consolidated into a new elementary school district. Select **OK**.
Step 9	*The next dialog box to open is the **Modify Area Feature Attribute** dialog box*. This dialog box is used to provide the attribute information for the new consolidated school district. Required fields include **SDLEA**, **Name**, **Low Grade**, and **High Grade**. **Comments** are optional. 

Step	Action and *Result*
	*GUPS automatically generates a temporary **SDLEA***. If an approved **SDLEA** exists, enter the code into the **SDLEA** field. In this example, the automatically generated **SDLEA** is used. Fill in the remaining required fields as shown below.  Select **OK**.
Step 10	*The final dialog box to appear is a reminder pop-up concerning school districts that exist in adjacent counties*.  If the consolidated school districts exist outside the working county, the complex consolidation must also be completed in the adjacent county/counties. Switch the working county to the listed adjacent counties to complete the complex consolidation. In this scenario, Dallas Elementary and La Harpe Elementary exist in the adjacent counties, Henderson and McDonough, which means that a complex consolidation has to be completed in Henderson and McDonough County as well. Select **OK**.

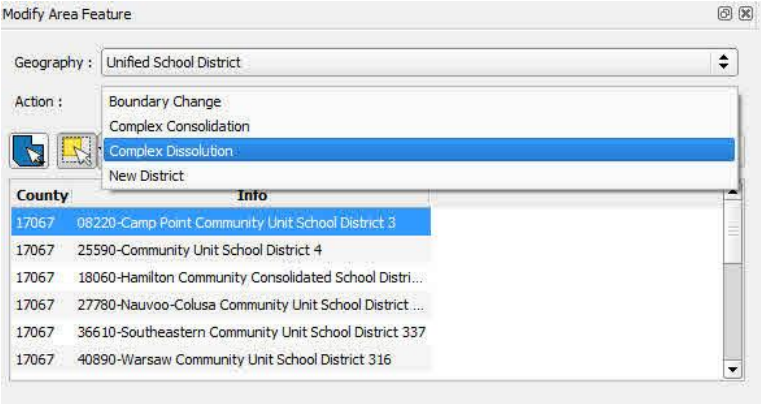
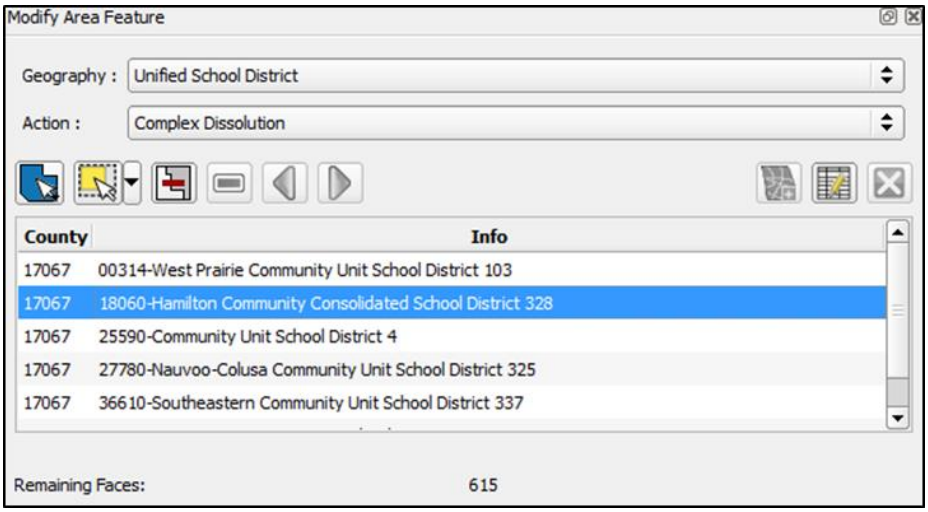
Step	Action and *Result*
Step 11	*The Map View refreshes and the newly consolidated* ***Dallas La Harpe Elementary School District 347*** *appears on the map*. 
Step 12	A complex consolidation must also include boundary change(s). The next step is to complete the boundary changes. Refer to **Table 10**, **Table 11**, and **Figure 1** for directions on how to perform a boundary change.
Step 13	Save edits by selecting the save icon from the Standard Toolbar.

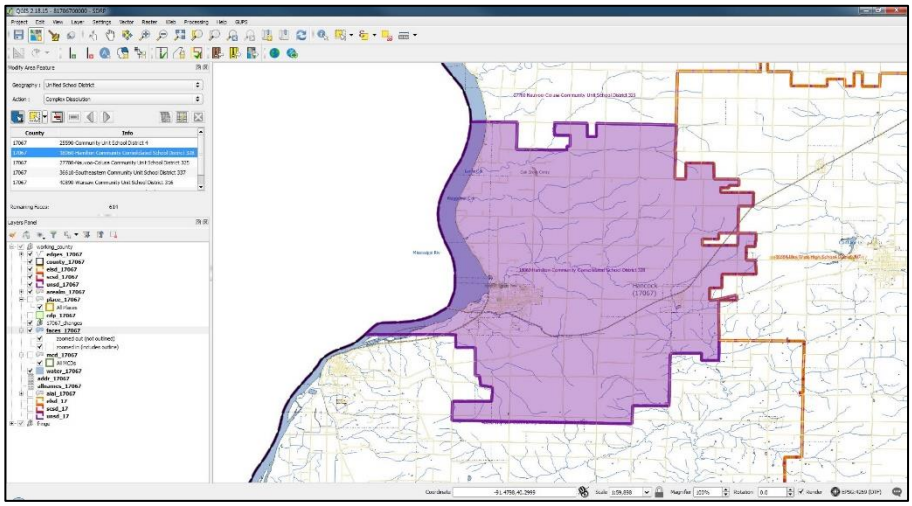
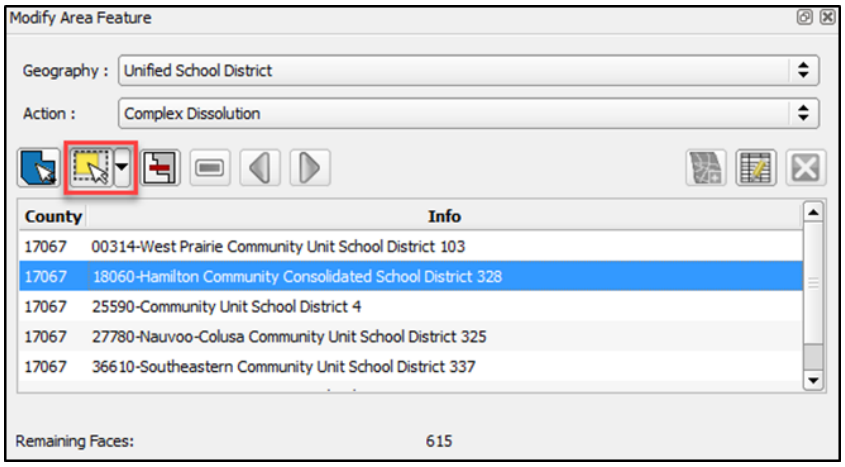
5.3.7 Complex Dissolution

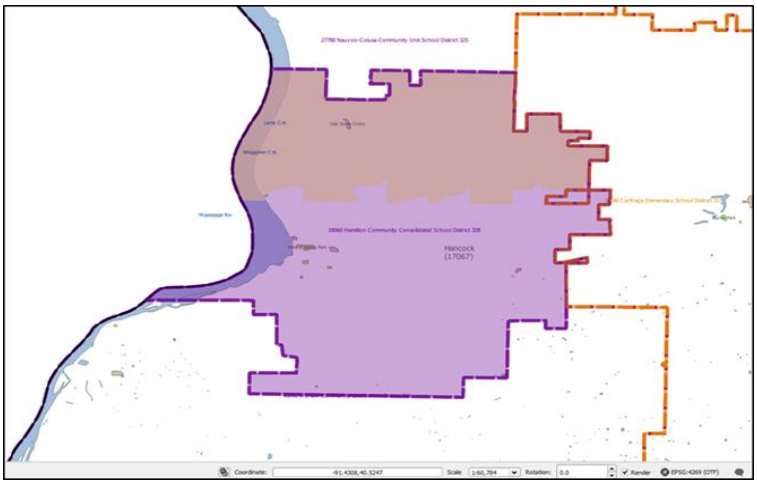
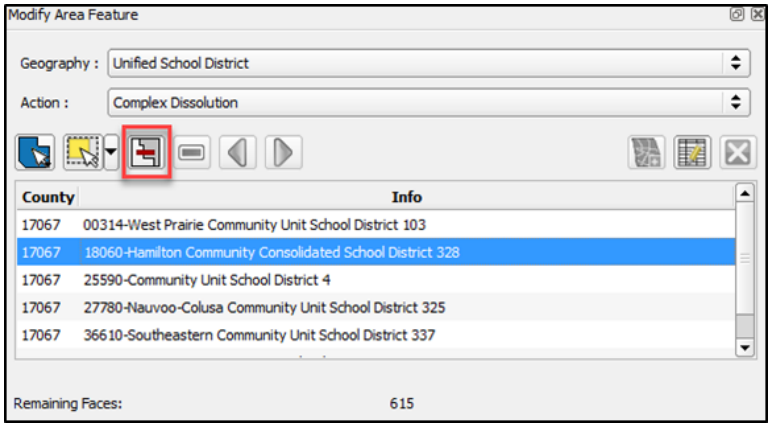
Complex dissolution refers to the situation where a single school district is dissolved and its area split between two or more other existing school districts, with or without additional boundary changes. Follow the steps in **Table 14** to perform a complex dissolution.

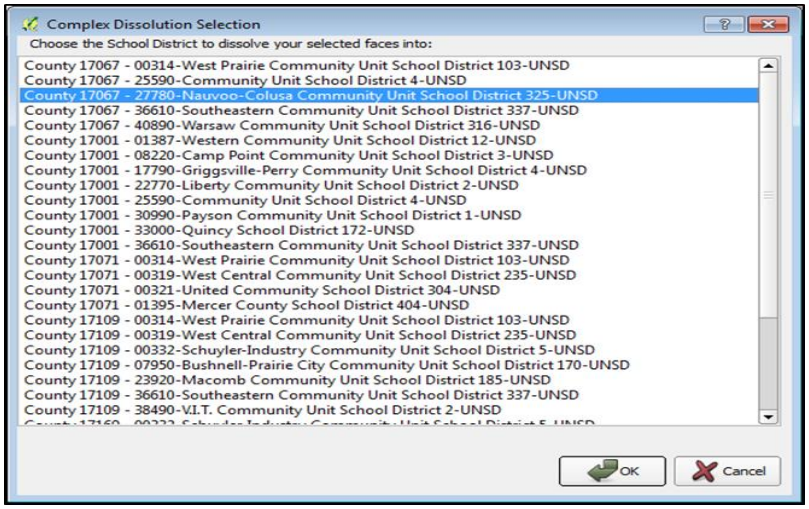
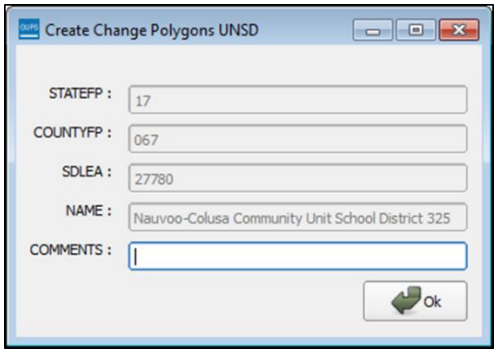
Table 14: Performing a Complex Dissolution

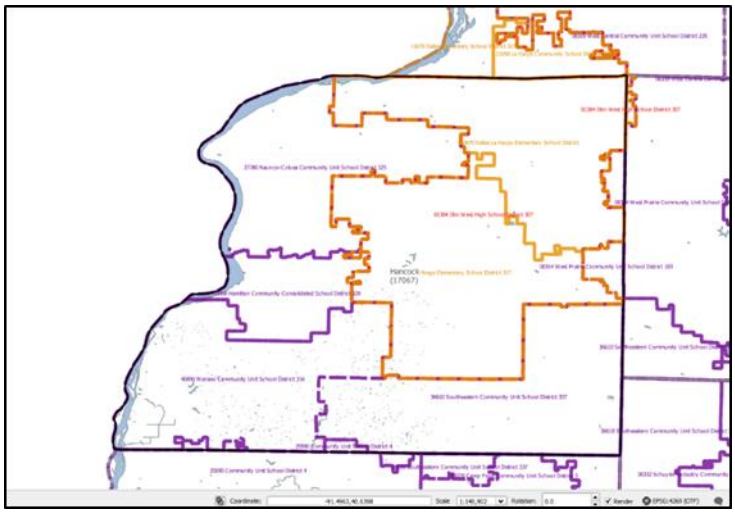
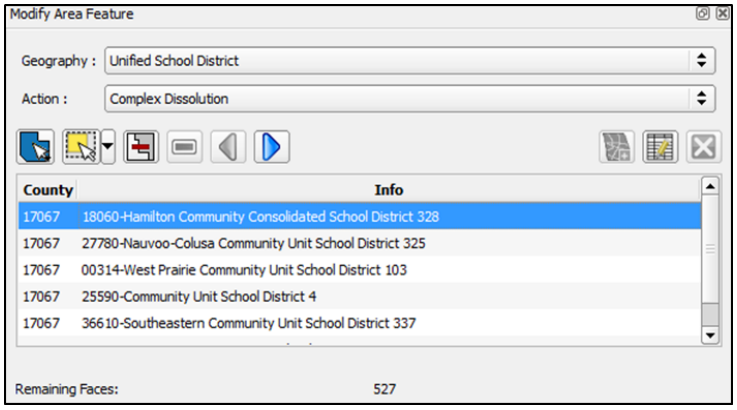
Step	Action and *Result*
Step 1	Begin by opening the **Modify Area Feature** tool from the SDRP toolbar. 

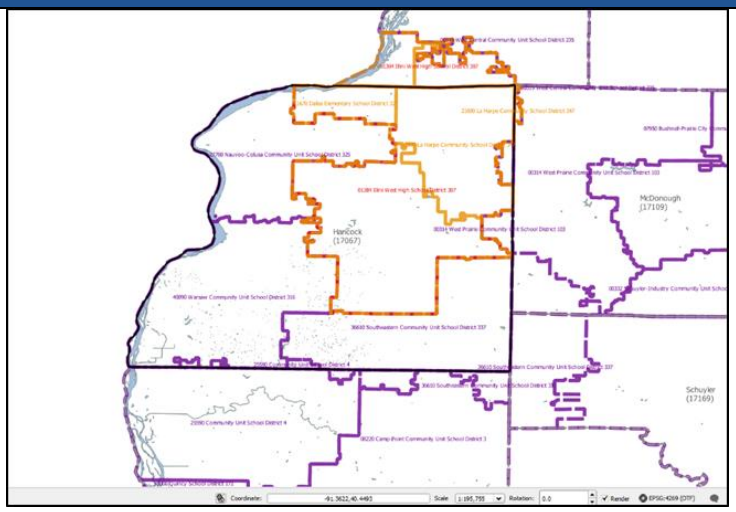
Step	Action and *Result*
Step 2	In this fictitious example, a complex dissolution is completed using a unified school district, **Hamilton Community Consolidated School District 328**. In the **Modify Area Feature** tool select **Unified School District** from the **Geography** drop down menu and then choose **Complex Dissolution** from the **Action** drop down menu. 
Step 3	Select **18060-Hamilton Community Consolidated School District 328** from the target layer list. 
	When selecting a target layer for **Complex Dissolution**, the **Modify Area Feature** indicates how many **Remaining Faces** exist for that selected target school district. Use this count of Remaining Faces as a guide when dissolving a school district.

Step	Action and *Result*
Step 4	*Upon selection, the map view zooms to the extent of Hamilton Community Consolidated School District*. 
Step 5	To begin the dissolution choose the **Select Features** tool from the **Modify Area Feature** tool. 

Step	Action and *Result*
Step 6	Using the **Select Features** tool select faces from the target layer. This may be done by either **1)** selecting individual faces to be included or **2)** selecting a region of faces by left-clicking the mouse and dragging across the target school district. Only faces that exist within the target school district will be selected. 
Step 7	With the faces selected, select the **Complex Dissolution** button from the **Modify Area Feature** tool to begin the dissolution. 

Step	Action and *Result*
Step 8	*The first screen to appear is the **Select School Districts** dialog box*. Each school district listed is sorted by working county ID. From this list, select the school district that will be used to incorporate the dissolved faces. In this example, select **Nauvoo-Colusa Community Unit School District 328**, then select **OK**. 
Step 9	*The final dialog box to appear is the **Create Change Polygons** attribute information*. The **Comments** field is editable to allow any notes that may be relevant to the dissolution.  Select **OK**.
	There could be a lag between selecting the faces (polygons) to be included in the dissolution and when the dissolution completes in GUPS. If there is a noticeable lag, GUPS is still in the process of dissolving the selected faces (polygons) and completes once the **Modify Area Feature** notification appears.

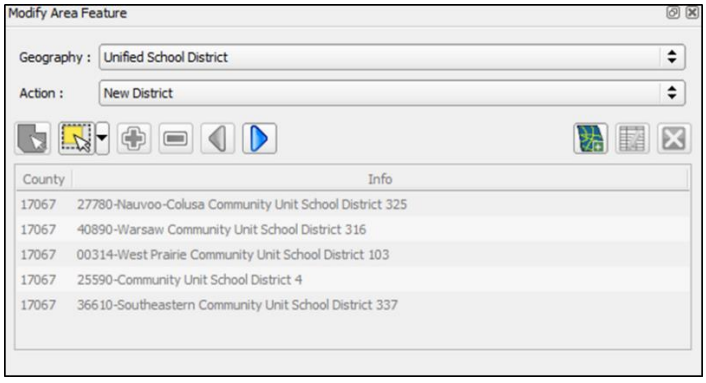
Step	Action and *Result*
Step 10	*The map view refreshes and the updated school district boundaries for both Hamilton Community Consolidated School Districts and Nauvoo-Colusa Community Unit School District displays*. 
Step 11	*GUPS automatically re-selects **18060 – Hamilton Community School District 328** to finish selecting the remaining faces*.  Notice that Hamilton Community Consolidated School District has **527** remaining faces (originally 615 faces). To complete the dissolution, select all of the remaining faces and dissolve them into the **Warsaw Community Unit School District**. Once dissolved, the revised school district boundaries should be similar to the example shown below.

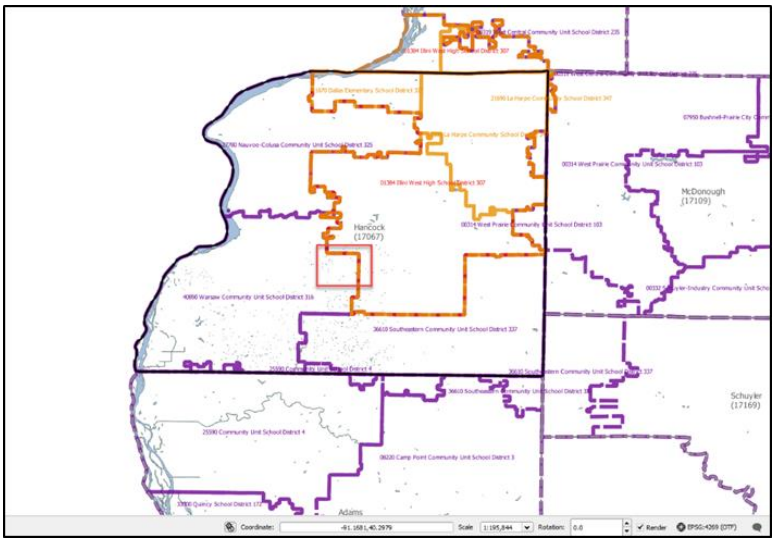
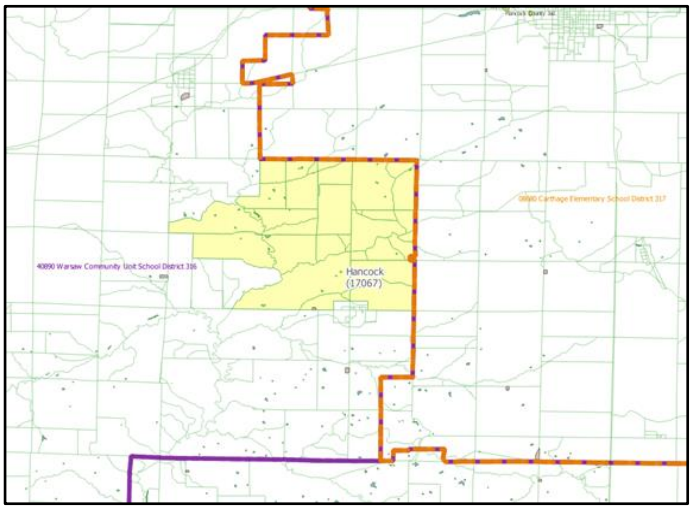
Step	Action and *Result*
	 Save edits by selecting the **Save** icon from the **Standard Toolbar**.

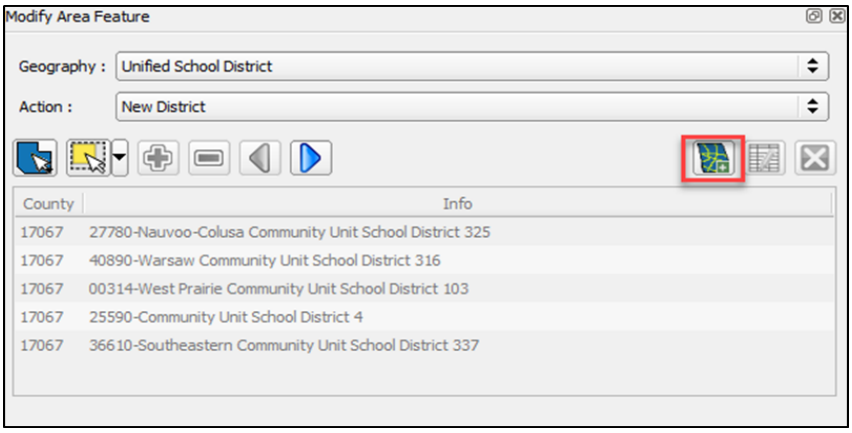
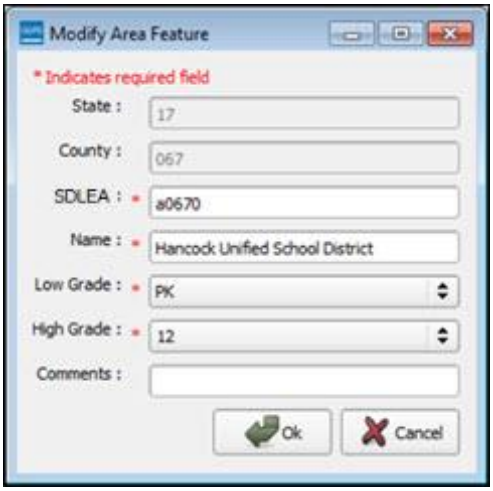
5.3.8 Forming a New District

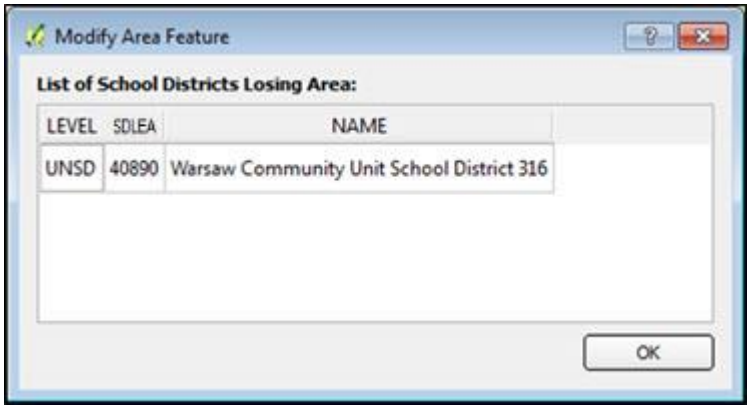
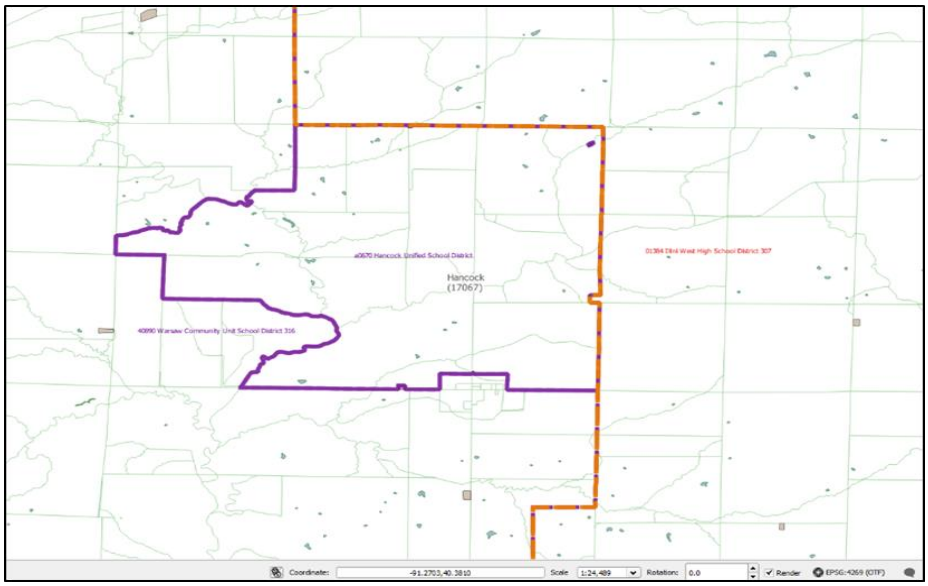
The term **New District** is the process of transferring areas from one or more existing school districts to form a completely new school district. Do not confuse this transaction with a consolidation where the entire area of one or more school districts consolidates to form a new school district. Follow the steps in **Table 15** to perform a New District.

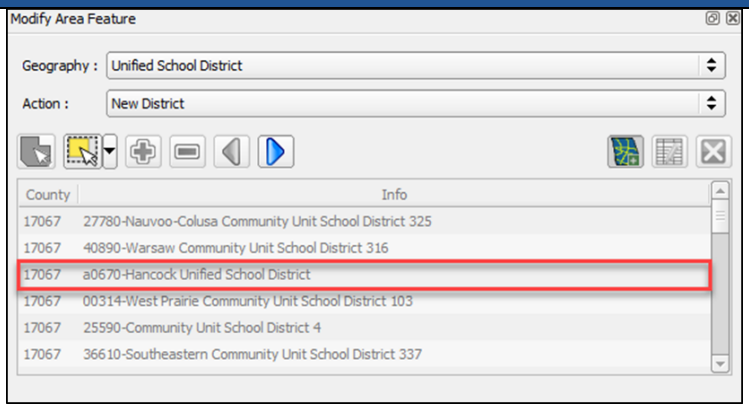
Table 15: Forming a New District Action

Step	Action and *Result*
Step 1	Begin by opening the **Modify Area Feature** tool from the SDRP toolbar. 
Step 2	From the **Geography** drop down menu select **Unified School District** and then choose **New District** from the **Action** drop down menu. This example illustrates creating a unified school district.  *When the action is set to **New District**, the **Modify Area Feature** tool disables the school district layers list and activates only the **Select Features** tool and the **New District** button.*

Step	Action and *Result*
Step 3	From the **Modify Area Feature** tool, select the **Select Features** tool. In the **Map View**, zoom into the following area. This example demonstrates selecting a number of faces from existing **40890 Warsaw Community Unit School District 316** to create the new district.  Using the **Select Features** tool select the following faces (highlighted in yellow) from **Warsaw Community Unit School District.** 

Step	Action and *Result*
Step 4	From the **Modify Area Feature** tool, select the **New District** button.  *The New District attribute window opens*.  The following fields are required in order to complete the New District: **SDLEA**, **Name**, **Low Grade**, and **High Grade** fields. *GUPS automatically generates a temporary **SDLEA***. For this example, fill in these fields with the following information and then select **OK**. 

Step	Action and *Result*
	The **Modify Area Feature** dialog box lists the school district area. Select **OK**. 
	There could be a lag between selecting the faces (polygons) to be included in the new district and when the new district action completes in GUPS. If there is a noticeable lag, GUPS is still in the process of creating the new district with the chosen faces (polygons) and completes once the **Modify Area Feature** notification appears.
Step 5	*The Map View refreshes and the new Hancock Unified School District appears on the map*.  *The new school district is also added to the **Modify Area Feature** tool info list*.

Step	Action and *Result*
	 Save the edits by selecting the **Save** icon from the **Standard Toolbar**.

5.4 How to Use the GUPS Interface

This section describes the GUPS Interface and how to customize GUPS features. **This segment may be used as a reference rather than read in detail**. The Census Bureau recommends maintaining the default settings created for SDRP.

5.4.1 The GUPS Main Page

Figure 35 shows the layout of the main page for GUPS. This page contains all the tools needed for making updates in the SDRP. Shown in the figure are the main page elements. These include the:

- Table of Contents.
- Map View (where the data display).
- Menu.
- Toolbars (Standard toolbar, SDRP toolbar, and Add Layers toolbar).
- Status Bar (at bottom of page).

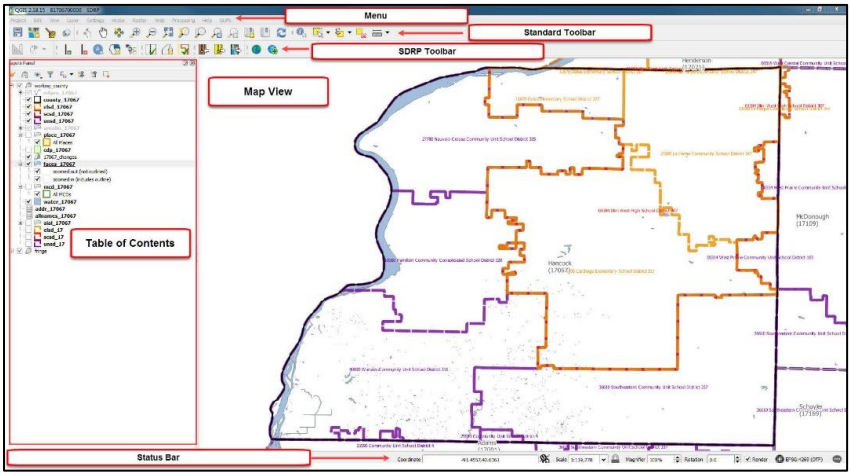
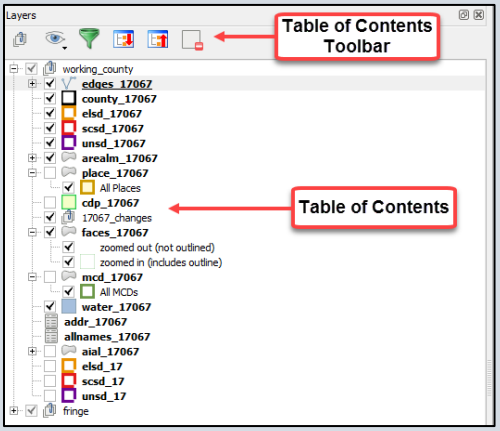
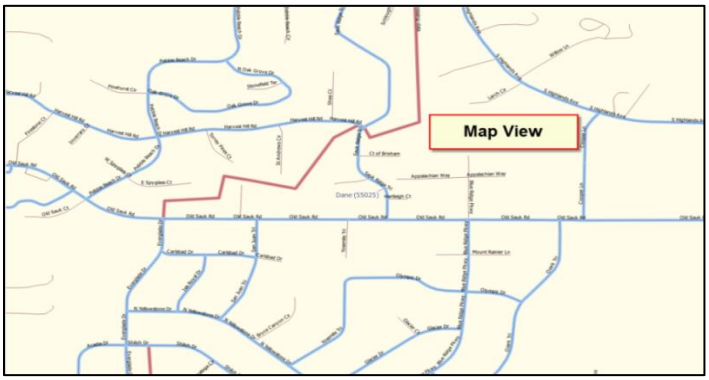
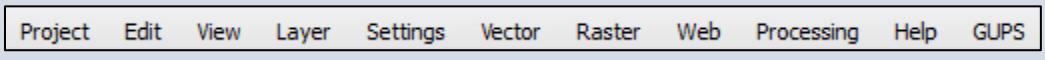


Figure 35. GUPS Main Page Layout

The following sections describe the GUPS main page elements.

Table 16: GUPS Main Page Elements

Page Element	General Function
Table of Contents	*Shows the layers on the map for the selected county. Layers (or groups) can be removed, layer visibility managed, and legend content filtered through the **Table of Contents** toolbar.* 
Map View	*Displays the data for the chosen county in the **Map Management** dialog box.* 
Menu	*Offers basic features such as **Settings** and **Help**, tools to manage the Map View and import user-provided data, important calculation, measurement, and geoprocessing tool. Many of the functions available from the **Menu** are also available in the application's more conveniently located toolbars.* 
Standard Toolbar	*Provides navigation and other tools needed to interact with the Map View and layers attribute tables.* 
SDRP Toolbar	*Gives the specific tools needed to make SDRP updates, view linear feature attributes, review and validate changes, import and export zipped files, and print.* 

Page Element	General Function
Status Bar	*Displays information on the map scale, projection, and coordinates, and it allows you to adjust the display.* 

5.4.2 Table of Contents and Map View

When a program and geography are chosen in the **Map Management** dialog box, GUPS automatically loads a set of default data layers (and default layer groups) defined by the Census Bureau for the chosen program. As the map opens in **Map View**, the list of the preset layers (already grouped) appears in the **Table of Contents**.

Note that the **Table of Contents** and the **Map View** windows are interdependent. Selections that are made in the **Table of Contents** are immediately reflected on the map display.

Note: The **Table of Contents** can be closed (**Figure 36**) at any time to see more of the map (click on the small '**x**' in the upper right-hand corner).

Figure 36. Closing the Table of Contents

To restore the **Table of Contents**, click the **View** tab on the **Menu**, select '**Panels**' in the drop down menu, click the arrow next to '**Panel**' to open the submenu, and then click on '**Layers**'.

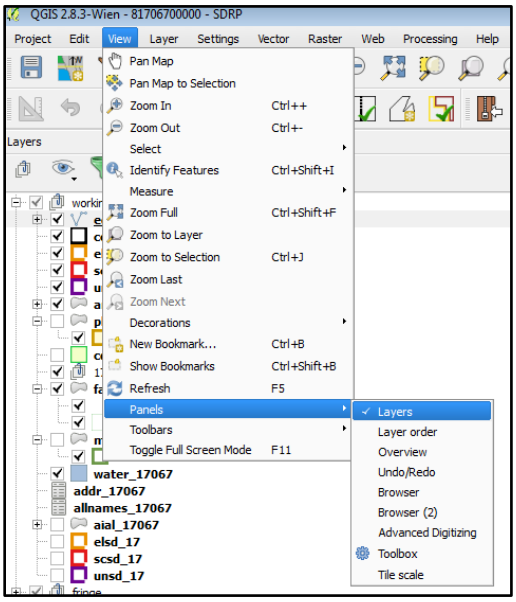


Figure 37. Reopening the Table of Contents

The **Table of Contents** reopens (**Figure 37**) and displays on the page.

5.4.2.1 Managing the Map View from Within the Table of Contents

Within the **Table of Contents** layer, visibility can be managed (i.e., determine what layers display on the map), data layers reordered, and new layer symbology set.

5.4.2.2 Manage Layer Visibility

To show or hide layers from the map view:

- Click the checkbox next to a layer to turn on, or make visible, the layer in the map view (**Figure 38**).

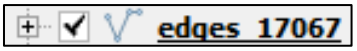


Figure 38. Turn on, or Show, a Layer in the Map View

- Uncheck the checkbox next to a layer to turn off, or hide, the visibility of the layer in the map view (**Figure 39**).

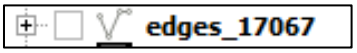


Figure 39. Turn off, or Hide, a Layer from Map View

5.4.2.3 Reorder Data Layers

In the **Table of Contents**, the layer order list determines how the layers display on the map. The top layers at the top display on top of the layers below. To change the display order:

- Left-click on the layer name.
- Hold down the mouse button and drag the layer to the desired position in the list.
- Release the mouse button to place the layer in its new position. The map display reflects the new layer order in the **Table of Contents**.

5.4.2.4 Expand/Contract Table of Contents Menus

- To expand or contract the menu for a layer or layer group, click on the '+' sign 

to expand the group/layer's submenu:

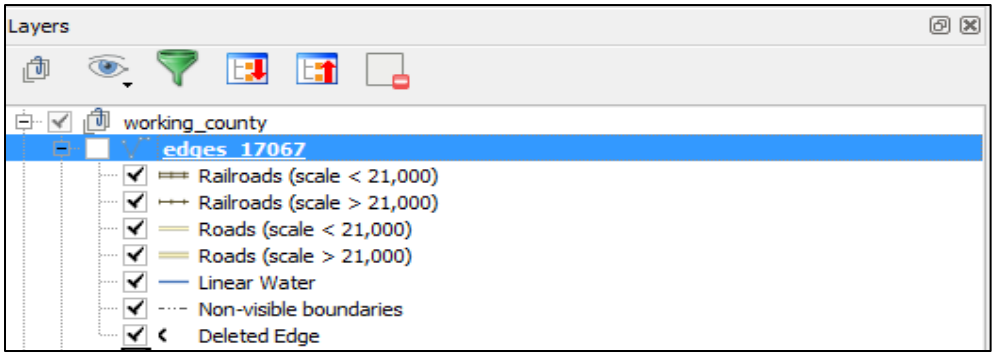


Figure 40. Expanding the Edges/Layer Submenu

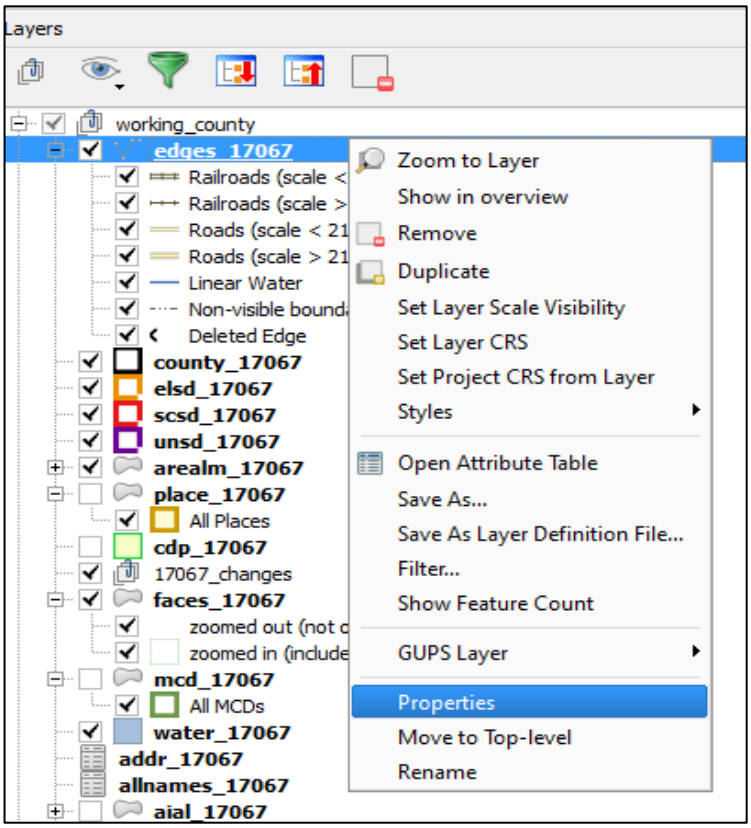
- Click the '-' sign next to the layer name to close the submenu(s):

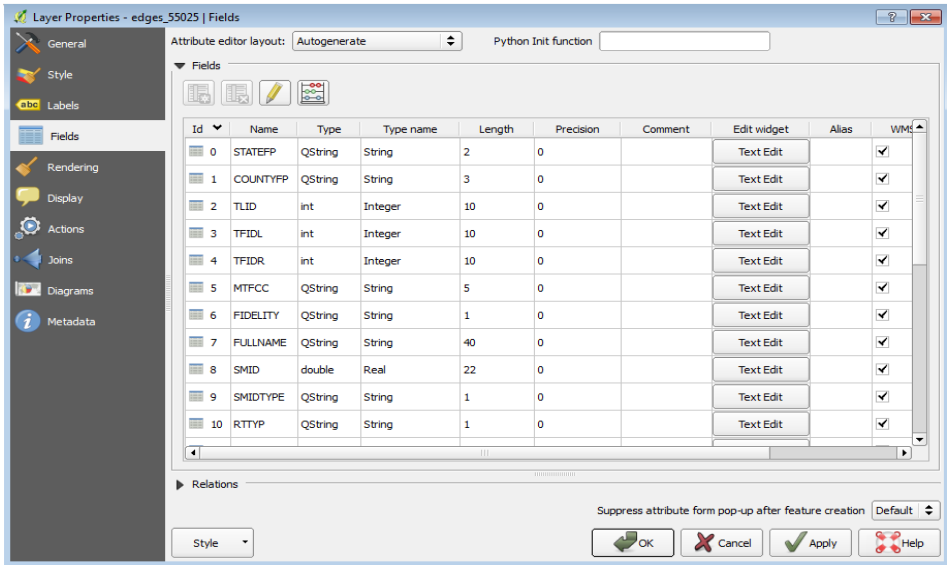
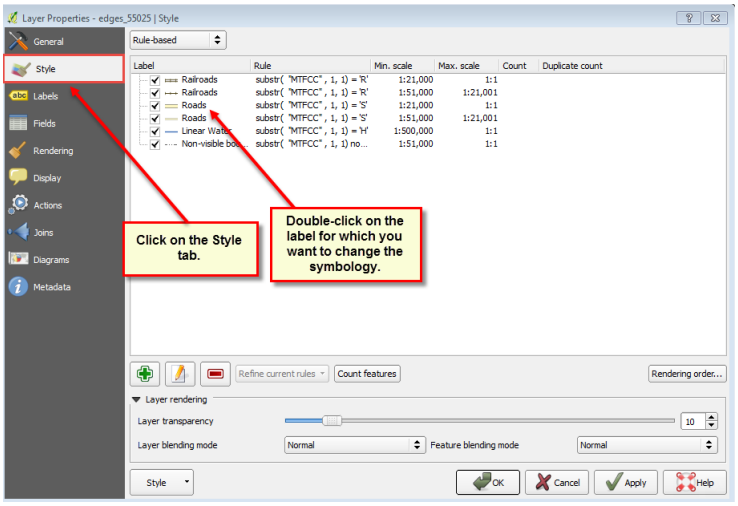
Figure 41. Retracting the Layer Submenu

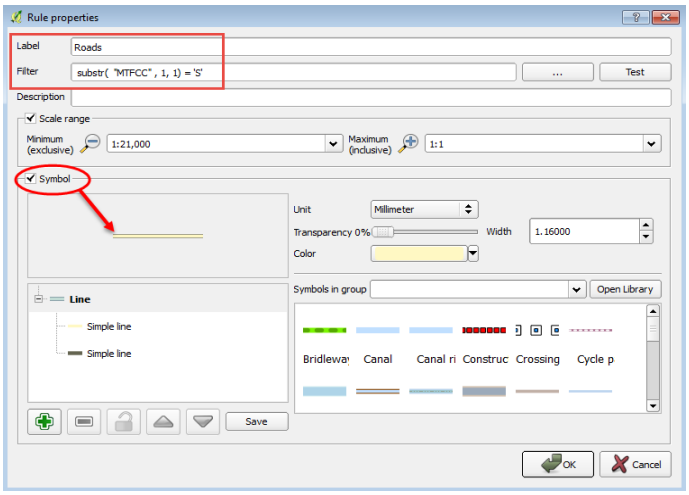
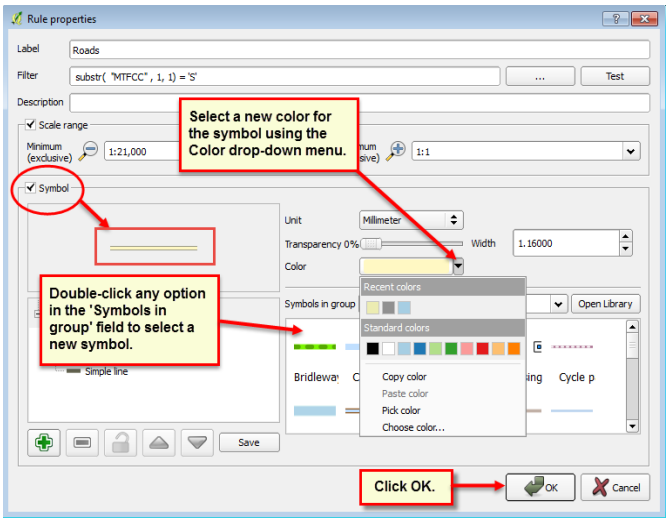
5.4.2.5 Set Layer Symbology

GUPS loads a default layer symbology established for each Census Bureau geographic partnership program. To change the default symbology for a layer in GUPS, follow the instructions in **Table 17**.

Table 17: Reset Layer Symbology

Step	Action and *Result*
Step 1	Right-click on the layer in the **Table of Contents** (this example selects the Edges layer). *The **Layers** drop-down menu opens*.  In the drop-down menu choose **Properties**.

Step	Action and *Result*
Step 2	*The **Layer Properties** screen opens.* 
Step 3	In the left pane, click on **Style** then double-click the symbol to edit in the layer's list. In this example, double-click on '**Roads, substr ("MTFCC, 1,1) = S**' to select it. 

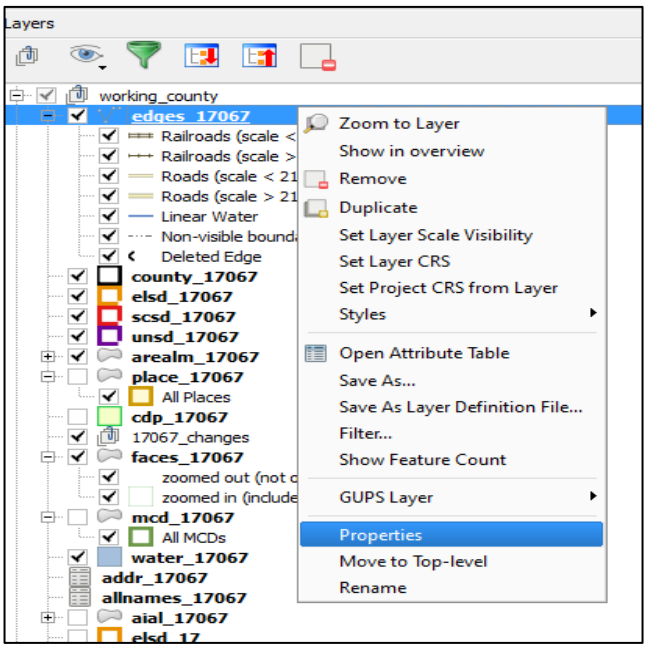
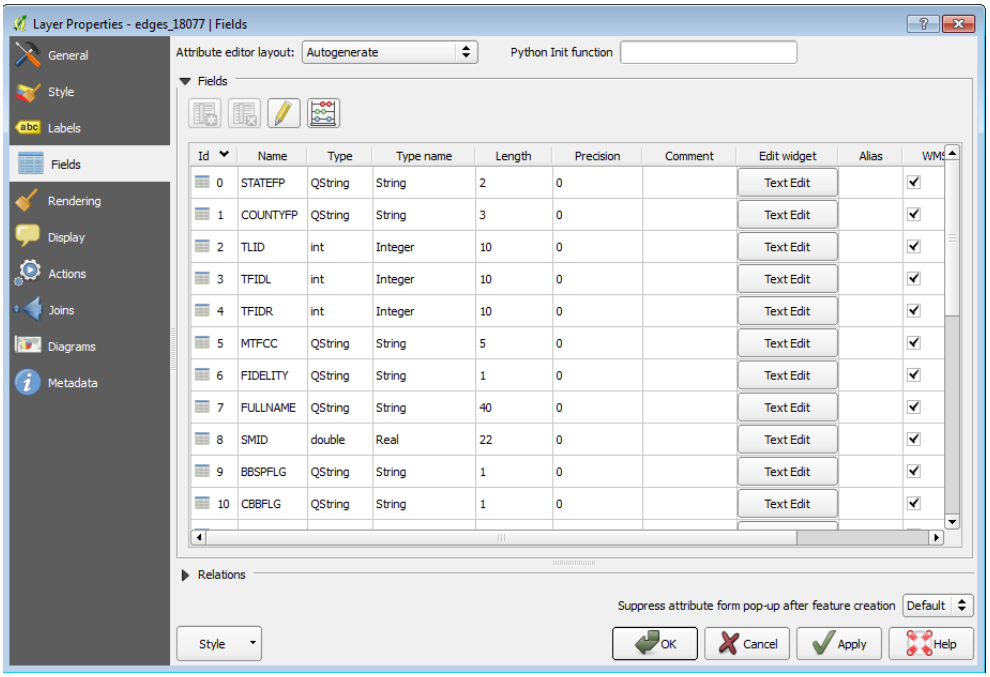
Step	Action and *Result*
	*The **Rule Properties** dialog box opens and the **Label** and **Filter** fields display the item chosen. The **Symbol** pane shows the current symbology (yellow line).* 
Step 4	Choose a new color from the **Color** drop-down menu or select a different symbol for the layer by double-clicking any symbol in the **Symbols in Group** field. Click **OK**. *The new symbology displays in the **Table of Contents** and in the **Map View**.* 

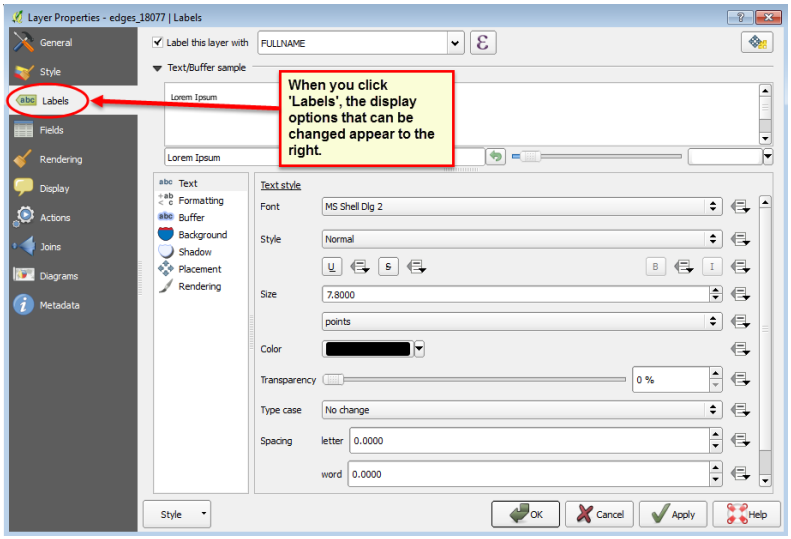
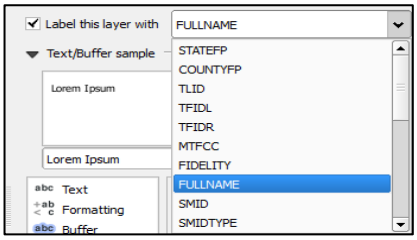
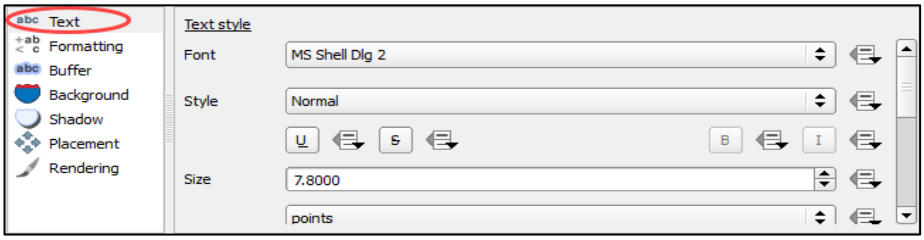
5.4.2.6 Change Default Labeling

To change the default labeling for a layer, follow the steps in

Table 18.

Table 18: Change Default Labeling

Step	Action and *Result*
Step 1	Right-click on the layer (in this example the **Edges** layer is selected) in the **Table of Contents**. *The **Layers** drop-down menu opens*. 
Step 2	In the drop-down menu choose **Properties**. *The **Layer Properties** dialog box opens*. 

Step	Action and *Result*
Step 3	In the far left-hand pane click **Labels**. *The options to change the label display properties open in the main window*. 
Step 4	To change the attribute field, click on the drop-down menu for **Label this layer with** at the top of the screen and select the desired option.  **Text style** changes the font, style, size, color, transparency, type case, and spacing of layer labels. Other style options are shown below. 

5.4.2.7 Using the Table of Contents Toolbar to Manage Layers

Using the buttons on the toolbar located at the top of the **Table of Contents**, layers or groups may be added and removed, layer visibility managed, the legend filtered by map content, and all sections of the **Table of Contents** list and group layers expanded or contracted at once.

The **Table of Contents** (**Figure 42**) toolbar contains the items shown below:

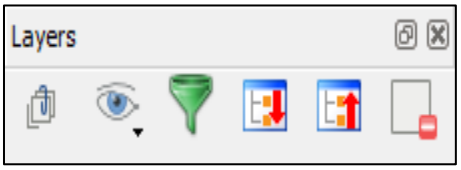


Figure 42. Table of Contents Toolbar

Table 19 describes the function of each of the buttons on the toolbar.

Table 19: Table of Contents Toolbar Buttons

Button	Name	Function/Description
	Add Group	Organize layers in the **Table of Contents** into groups.
	Manage Layer Visibility	Preset views in the **Table of Contents**.
	Filter Legend by Map Content	Removes from the **Table of Contents** display any layers that are not currently in the **Map View** extent. This feature ensures that the **Table of Contents** does not contain entries for items not currently in the **Map View**.
	Expand All	Expands the **Table of Contents** menus (+) to display all layers under each group's menu.
	Collapse All	Collapses the **Table of Contents** menus (-) to show only groups.
	Remove Layer/Group	Remove a layer or group from the **Table of Contents**.

Preset Views in the Table of Contents

Preset views in the **Table of Contents** are added by clicking on the **Manage Layer Visibility** button on the **Table of Contents toolbar**. Layers can be displayed with specific categorization and added as a view option to the **Presets** list.

To add a preset view:

- Click on the **Manage Layer Visibility** button and choose '**Add Preset**…' from the drop-down menu (**Figure 43**).

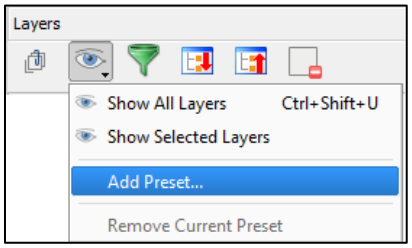


Figure 43. Manage Layer Visibility Dropdown Menu

- When the Visibility Presets pop-up appears (**Figure 44**), enter the name of the new preset and click OK.

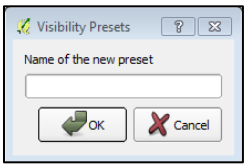


Figure 44. Visibility Presets Pop-up Window

Note: A list of all presets can be viewed by clicking on the **Manage Layer Visibility** button.

5.5 Menu & Toolbar

The **Main Menu**, the **Standard toolbar**, and the **SDRP toolbar** (**Figure 45**) are located at the top of the GUPS page. These toolbars offer general GIS and system tools used to make SDRP updates.

Figure 45. Menu, Standard Toolbar, and SDRP Toolbar

Note: Although the **Menu** is always located at the top of the page and cannot be moved, the Standard and SDRP toolbars can be moved to different positions and resized depending on user preferences.

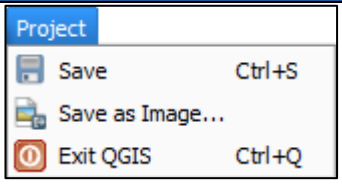
Hovering over a toolbar button will display a tooltip that provides a name for that tool.

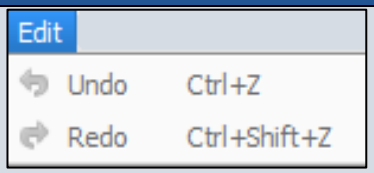
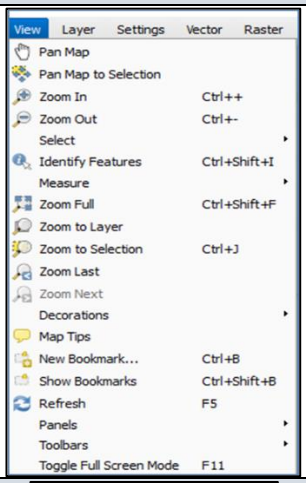
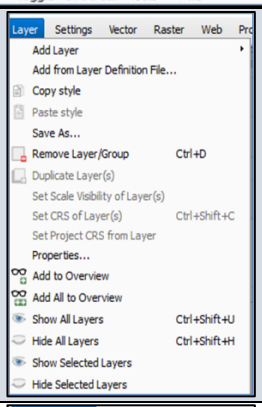
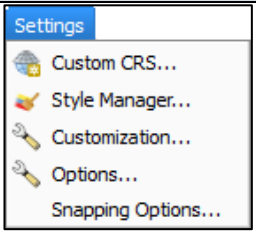
The following section describes the Menu, the Standard toolbar, and the SDRP toolbar.

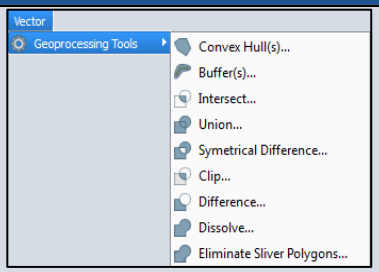
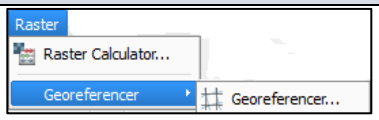
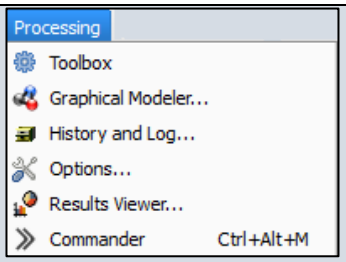
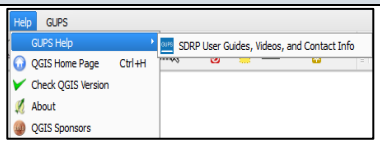
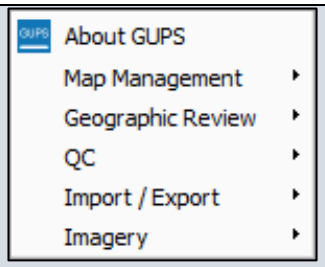
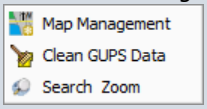
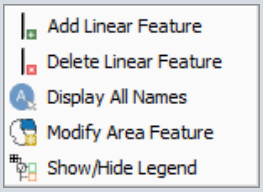
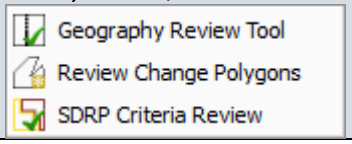
5.5.1 Menu Tabs

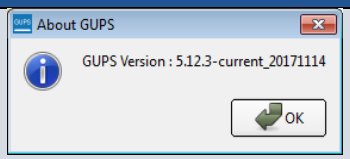
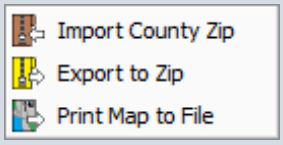
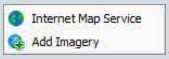
Table 20 defines each of the tabs on the main **Menu**, provides an image of the drop-down options for each, and describes each tab's function.

Table 20: Menu Toolbar Tabs and Their Functions

Tab	Drop-down Menu	Function/Description
Project		*From the **Project** tab, Click **Save** to save a project. Click on **Save as Image** to create an image file of the map in the **Map View** or exit the application.* *When using **Save as Image**, GUPS provides various image files type formats when exporting a map view (.png, .jpg, .tif, etc.).*

Tab	Drop-down Menu	Function/Description
Edit		*From the **Edit** tab, click **Undo** to undo your last action or **Redo** the action.* ***Note:** The correct layer must be selected first from the Table of Contents in order for the edit to work properly. For example, if a linear feature is added to the **Edges** layer, then that layer is deselected by selecting the **faces** layer, **Undo** will not delete the linear feature. The **Edges** layer must be selected to undo the added linear feature.* ***Note:** Multiple actions can be undone on a single layer (e.g., the addition of several linear features) if the project has not been saved. If the project is saved, the **Undo** option is disabled.*
View		*The **View** tab includes options for navigating the map, identifying feature attributes, measuring distance, and creating spatial bookmarks.* *This location also provides a way to:* • Set what toolbars display. • Restore the **Table of Contents** if it has been closed (click 'Panels' in the drop-down menu, click the right arrow, click 'Layers' in the Layers down-menu). • Refresh the map to restore it to the original map extent.
Layer		*The **Layer** tab provides access to adding and removing layers from the map, opening the layer's attribute table, setting the map projection or Coordinate Reference System (CRS), and displaying or hiding layers.* ***Note:** Many of these same functions are more conveniently located on the **Add Layers** toolbar and the small toolbar at the top of the **Table of Contents**.*
Settings		*The **Settings** tab provides access to Custom CRS settings and map display options and setting snapping tolerances (see instructions below this table).* ***Note:** Snapping Tolerances - Snapping tolerances in GUPS are pre-defined by layer (e.g., the default tolerance for edges is set to 15 pixels). When making boundary changes, the snapping can be adjusted per layer depending on user preference. To do this, follow the steps in **Table 21: Adjust Snapping Tolerances**.*

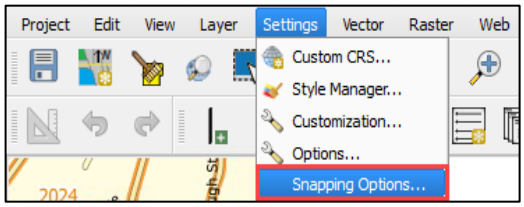
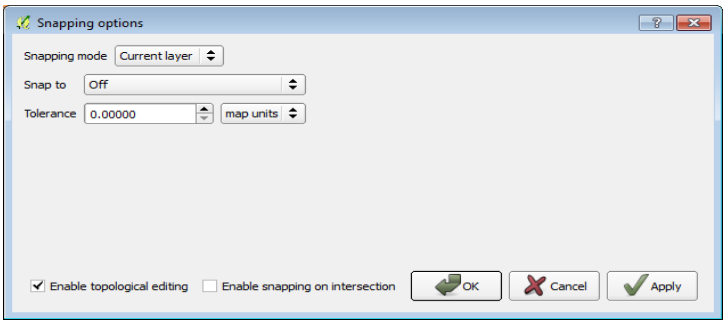
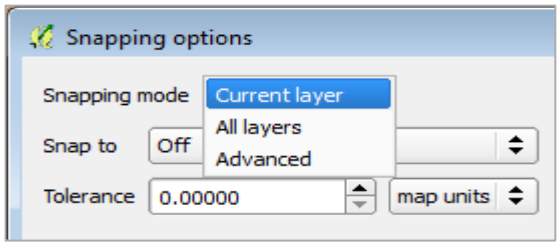
Tab	Drop-down Menu	Function/Description
Vector		*The **Vector** tab provides access to **QGIS Geoprocessing Tools**. These tools include buffers, area overlay operations such as intersection, union, or symmetrical difference, as well as other common geoprocessing actions.*
Raster		*The **Raster** tab provides access to a Raster Calculator, which performs calculations on pixel values of a raster data set. It includes a Georeferencer tool, which can be used to assign coordinates to the raster, and access to the Terrain Analysis, Projection, Conversion, Extraction, Analysis, and Miscellaneous Tools to assist in drawing land details.*
Processing		*The **Processing** tab provides access to other non-GUPS functionality such as model creation, viewing the results of models executed, and history.*
Help		*The **Help** tab provides tools for understanding QGIS (the open-source platform on which GUPS was developed) and the GUPS application itself. Under the **GUPS Help** menu, an external web link is provided that includes additional information such as contact information and access to the online version of this guide.*
GUPS	 *Click the **About GUPS** option in the drop-down menu to find the GUPS version number. This number will be required if technical assistance is needed. Here the version number is 5.12.3-current_20171114. The number you see may be more recent.*	*The **GUPS** tab provides quick access to the key tools also available on the **Standard** and **SDRP** toolbars, including those needed to manage maps,*  *make Geographic updates,*  *Quality Control,* 

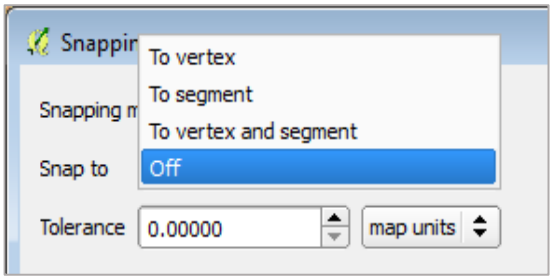
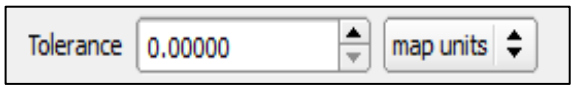
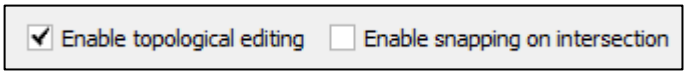
Tab	Drop-down Menu	Function/Description
		*Import County ZIP Files from other users, and Export Maps,*  *and* *Add Imagery and Internet Map Service*  .

5.5.1.1 Adjusting Snapping Tolerances

GUPS loads with a predetermined default snapping tolerance. The snapping tolerance can be adjusted by following the steps in **Table 21**.

Table 21: Adjust Snapping Tolerances

Step	Action and *Result*
Step 1	In the **Settings tab**, drop-down menu click on **Snapping options**.  *The Snapping options dialog box opens.* 
Step 2	From the **Snapping mode** drop-down menu, select whether the tolerance adjustment should apply to the current layer or to all layers. 

Step	Action and *Result*
Step 3	From the **Snap to** drop-down menu, choose the snapping method. 
Step 4	From the **Tolerance** drop-down, menu use the up and down arrows to select the tolerance value. Then choose the map units in the drop down to the right. 
Step 5	To enable topological editing and/or snapping on an intersection use the checkboxes next to each. 
Step 6	Click **OK**. *The new snapping tolerances are set.*

5.5.1.2 Standard Toolbar Buttons

The **Standard** toolbar provides the navigation tools to interact with the map and layers attribute tables.

Figure 46. Standard Toolbar Buttons

The first sub-toolbar contains the **Save** button, **Map Management** button (opens the **Map Management** dialog box), and the **Search** button. The second sub-toolbar provides tools for viewing and navigating the map in **Map View**, and the third sub-toolbar is used to identify, select, and deselect features on the map, make measurements, create spatial bookmarks, and work with the layers' attribute tables.

The location of the sub-toolbars can be moved by simply left-clicking the parallel lines preceding the sub-toolbar and while holding down the left mouse button, dragging the sub-toolbar to the desired location.

To identify tools for viewing and navigating the map in **Map View**, review tools in **Table 22**.

Table 22: Standard Toolbar Buttons

Button	Name	Function/Description
	Save	Saves the current GUPS project, including any changes to layer properties, projection, last viewed extent, and layers added.
	Style Manager	Interface that manages symbols, color ramps, texts formats or label settings.
	Map Management	Provides access to the geographic partnership programs in GUPS. Map management will automatically load default map display layers based on the program chosen.
	Clean GUPS Data	**Warning! This tool deletes files and folders permanently!** Single or multiple county project(s) can be deleted. The color red highlights the active project in the current session. Cleanups that include the current session will cause GUPS to shut down.
	Import Custom Shapefile	Imports user provided shapefiles to existing project and converts the shapefile(s) to match the project spatial reference, if needed.
	Search and Zoom	Choose to search a map by Place, Landmark, or Street Name.
	Touch Zoom and Pan	Designed for touchscreen computers. Fingers gestures are used to zoom and pan the map displayed in the **Map View** as well as increase or decrease the map scale.
	Pan Map	Shifts the map in **Map View** without changing the map scale. Click the button and then click a location on the map to re-center the map to the clicked location.
	Pan Map to Selection	Shifts the map in **Map View** to the rows selected in the attribute table for a selected feature. After selecting a feature(s), click the button to re-center the map based on the selected feature(s).
	Zoom In	Displays the map in **Map View** at a larger scale. Click the button and then click on the map at the location to which you want to zoom.
	Zoom Out	Displays the map in **Map View** at a smaller scale.
	Zoom Full	Displays the map in **Map View** at a smaller scale and zooms the map view to the full extent of the county.
	Zoom to Selection	Zooms the **Map View** to the rows selected by query in the attribute table for a feature(s). After selecting a feature(s) on the map, click the button to view the feature(s) at a greater map scale.

Button	Name	Function/Description
	Zoom to Layer	Zooms the **Map View** to the layer selected in the **Table of Contents**. After selecting the layer, click the button to zoom to the layer's extent.
	Zoom Last	Zooms the **Map View** to the previous map extent.
	Zoom Next	Zooms the **Map View** forward to the next map extent (only if a previous extent is available).
	New Bookmark	Creates and names a spatial bookmark of the current **Map View**.
	Show Bookmarks	Display all user-defined bookmarked.
	Refresh	Displays the **Map View** to initial full display.
	Identify Features	Identifies geographic features. Click the button and then click on a feature on the map to identify the feature at the location.
	Select Features by Area or Single Click	Allows the user to select layer features in the map window with a single click, by dragging the cursor, or by drawing graphics on the screen.
	Select Features by Value	Provides options to select features by value or expression, as well as select all features or invert existing feature selection.
	Deselect Features from All Layers	Deselects selected features from all layers.
	Toolbox	The toolbox opens a list of geoprocessing tools.
	Measure	Provides options to measure linear distance, area, and angles on the map.

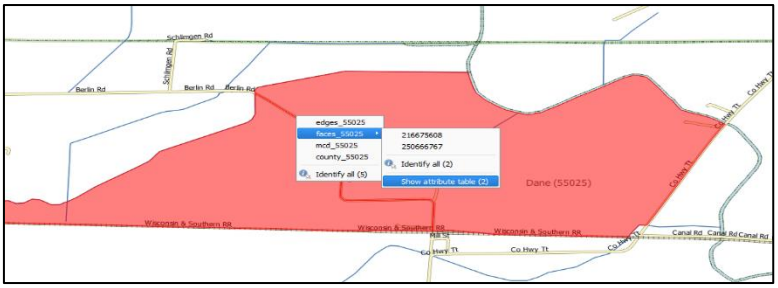
Most of the sub-toolbar buttons defined above are straightforward: however, those related to features require further explanation. These buttons are utilized to identify and select/deselect features on the map and to view feature attributes. They are also be used to make measurements and create spatial bookmarks.

5.5.1.3 Identify a Feature Using the Identify Features Button

To identify a feature on the map follow the steps in

Table 23.

Table 23: Identify a Feature on the Map

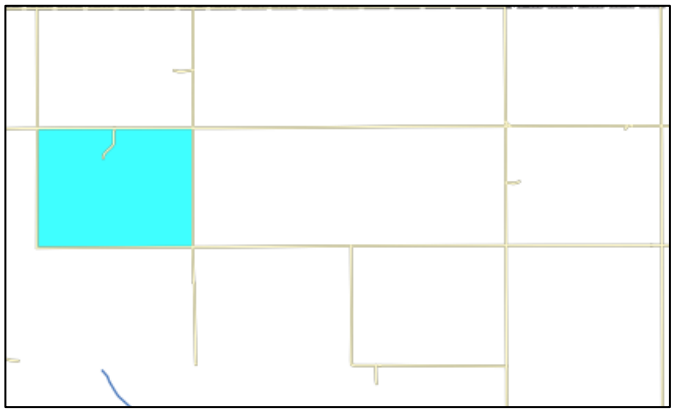
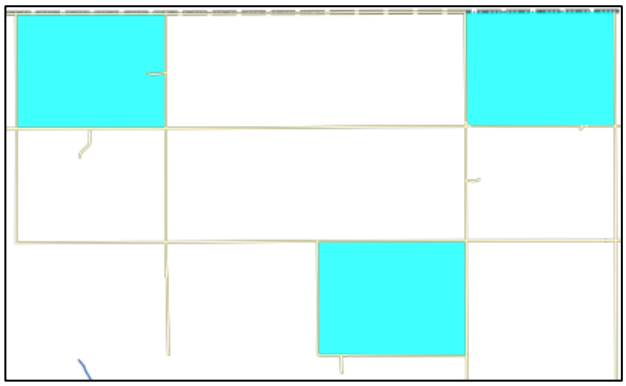
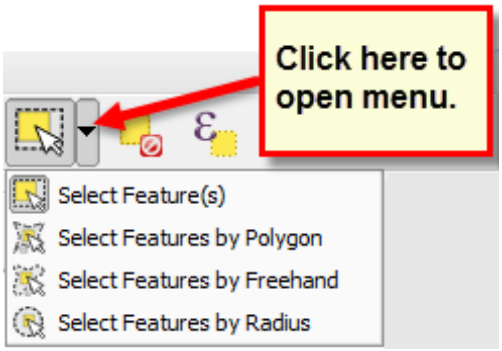
Step	Action and *Result*
Step 1	Click the **Identify** button on the **Standard** toolbar.  The cursor arrow will display with an 'i' beside it.
Step 2	Right-click on the feature. *The results display in a drop-down menu on the map.*  To see all attributes for the feature, select **Show attribute table** in the **faces** drop down menu. Alternatively, click the Identify button, then left-click on the feature. *The feature turns red (color may vary) and the **Identify Results** screen opens under the **Table of Contents**, showing the feature attributes.* (Note that here we have dragged the screen from beneath the **Table of Contents**.)

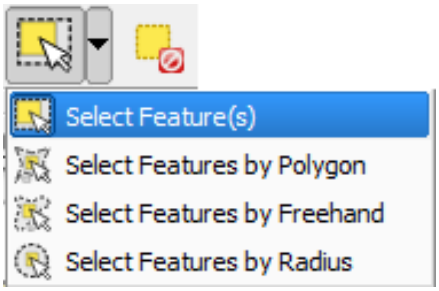
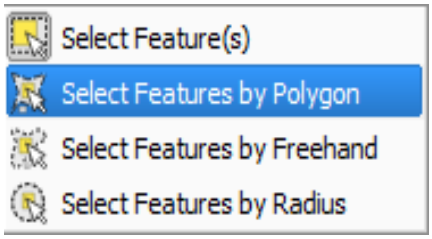
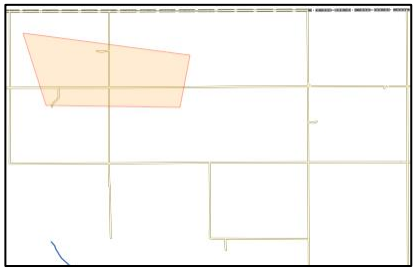
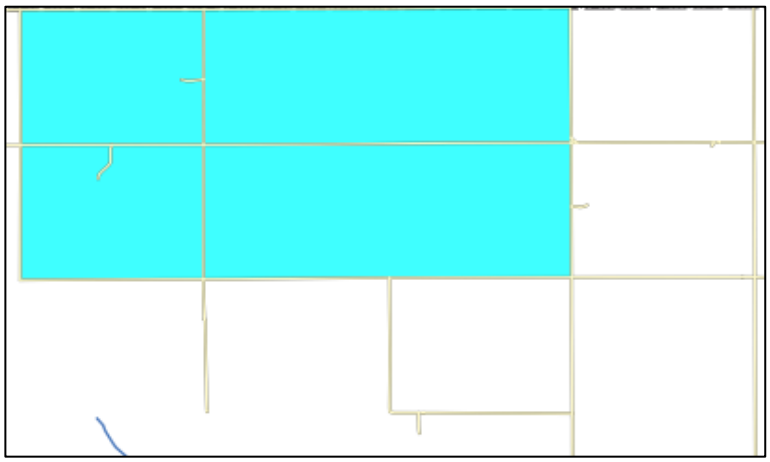
5.5.1.4 Using the Select Features and Deselect Features Buttons

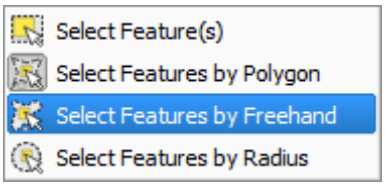
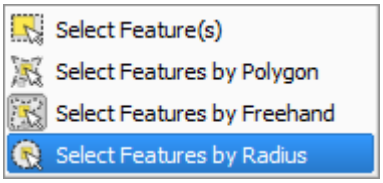
The **Select Features** button provides several ways to select features in the **Map View**. The **Deselect Features from All Layers** button will deselect previously selected features. **Table 24** describes each of the feature selection methods and explains how to deselect features.

Table 24: Select/Deselect Features on the Map

Step	Action and *Result*
Step 1	To begin, click on a layer name in the **Table of Contents**. For example, to select a linear feature, click on the **edges** layer. To select faces, click on the **faces** layer.
Step 2	Then click once on the Select Features button on the Standard Toolbar.  ***Note** that this button will change appearance when clicked* (see the buttons altered appearance in **Step 5**).

Step	Action and *Result*
Step 3	To select an edge or face on the map, click on it. In this example, select the 'faces' layer in the **Table of Contents**. Click on a face in the map view. *The selected face turns cyan blue (color may vary).* 
Step 4	To select more than one face hold down the **CTRL** key while clicking on the additional face. This method is useful when selecting noncontiguous faces, as shown below. 
	To select multiple features, click the **Select Feature** button, then drag the cursor over the features on the map. This method is useful when selecting a large number of contiguous faces or a large number of nearby linear features.
Step 5	To open other **Select Features** options click on the down arrow to the right of the **Select Features** button. *The **Select Features** drop-down menu opens*.  ***Note** that when the menu opens, the button's appearance changes.*

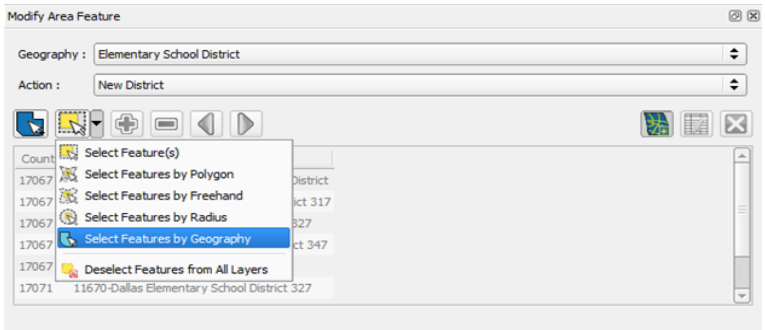
Step	Action and *Result*
Step 6	The first option in the menu, **Select Feature(s)**, duplicates the functions made available in the Select Features button on the main toolbar. 
Step 7	The second option, **Select Features by Polygon**, select features via a polygon drawn around the features on the map. To use this feature, select it in the drop-down menu then follow the steps below. 
Step 8	Left-click on the map to begin the polygon. Drag the cursor to extend the line, left-click, and then extend the line in a new direction. Finish by closing the polygon, as shown below. 
Step 9	To complete the selection, right-click. GUPS *selects the faces (highlighted in cyan).* 

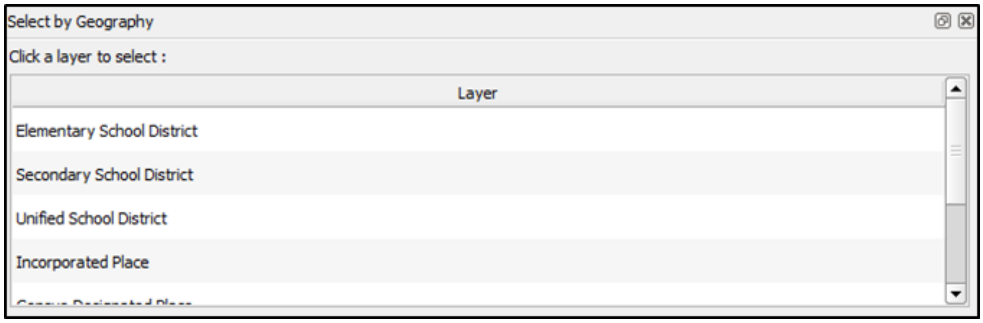
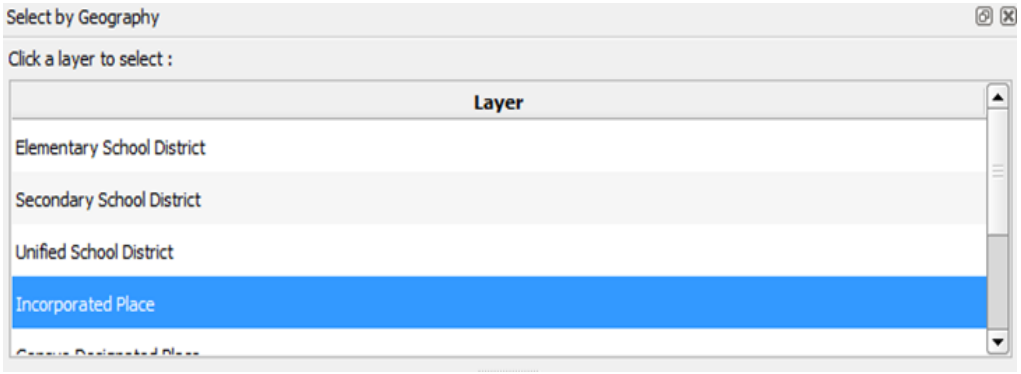
Step	Action and *Result*
Step 10	**Select Features by Freehand** selects features based on user-defined shapes drawn on the map.  To use this option click on the map and use the cursor to draw any shape (polygon, triangle, circle, etc.). Features that either cross or are contained within the selection area will be highlighted cyan.
Step 11	The final option, **Select Features by Radius**, selects features by defining a circle around the features to select.  To use this tool, left-click on the map, then hold down the mouse and drag the cursor outward to expand the circle. Release the mouse when done. *The feature(s) selected is (are) highlighted in cyan*.
Step 12	To deselect a feature or features automatically click the **Deselect Features from All Layers** button (next to the **Select Features** button) once.  *The selected features in all layers are deselected.*

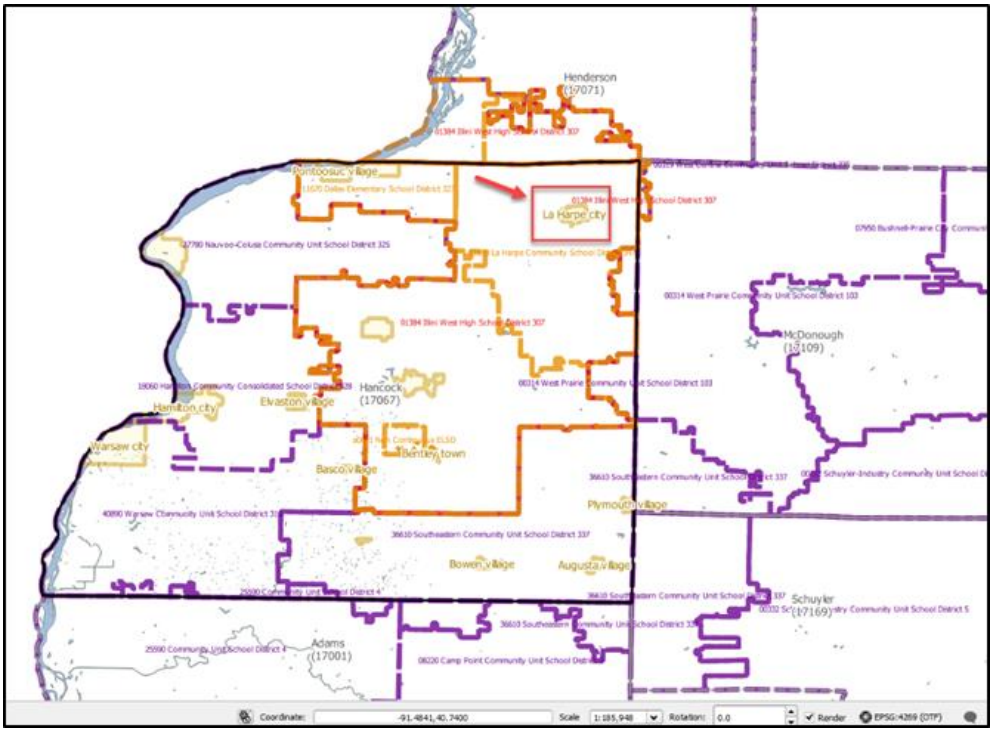
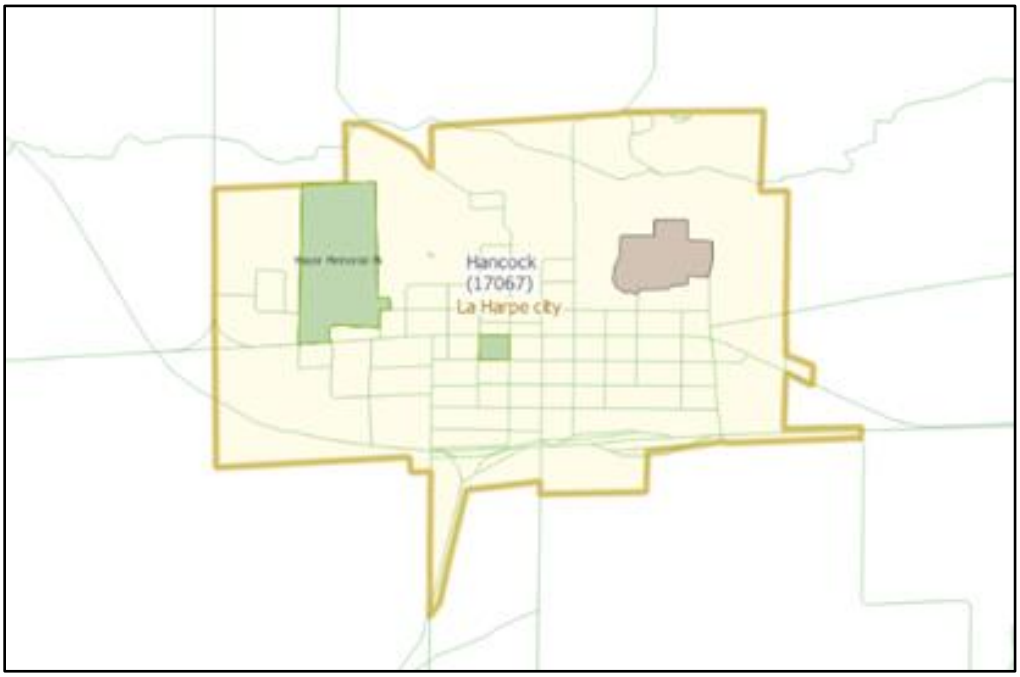
5.5.1.5 Select by Geography

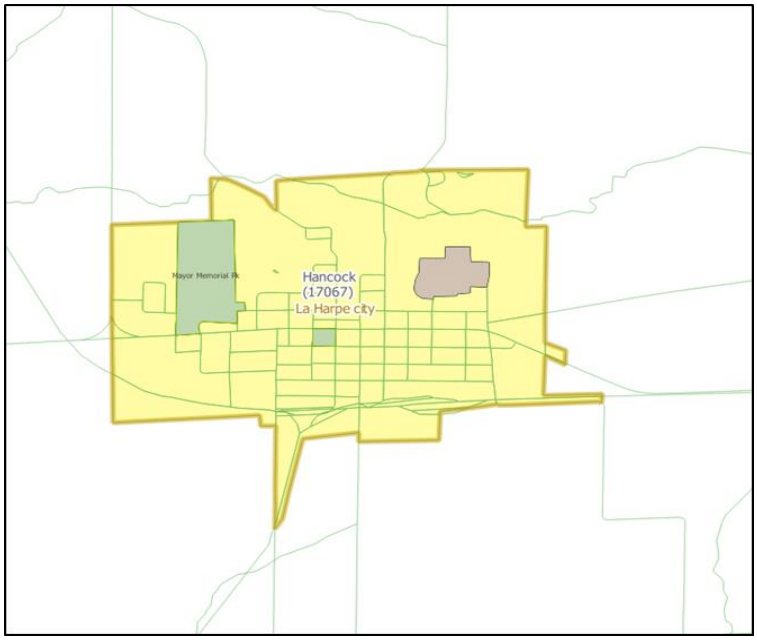
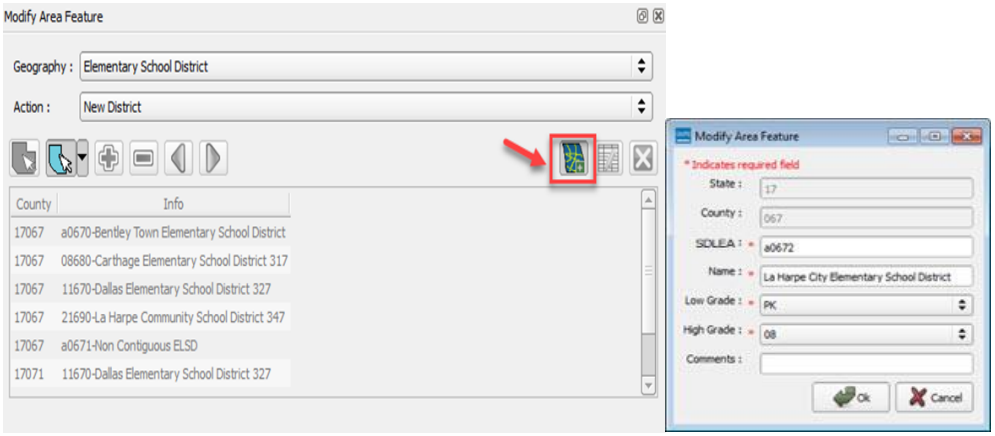
It is possible during the SDRP that changes to school districts will be made based on existing census geography (**Table 25**). For example, creating a new school district based on incorporated places. Instead of selecting each face (polygon), the **Select by Geography** tool will select all of the faces (polygons) of the chosen geography at once.

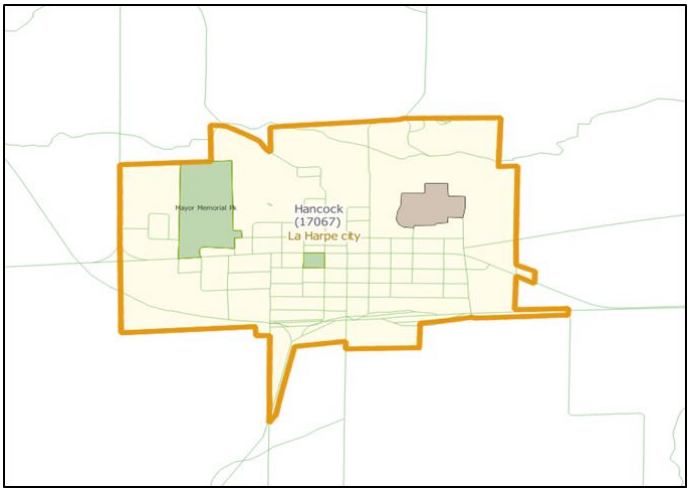
Table 25: Making Changes to School Districts Based on Existing Census Geography

Step	Action and *Result*
Step 1	From the **Modify Area Feature** tool select the down arrow on the **Select Features** tool. 

Step	Action and *Result*
	*The **Select by Geography** layer window opens (this is a dockable window).*  Selecting a layer from the **Select by Geography** window activates the geography for that layer and limits the selection of features to that geography. In this example, all faces of an incorporated place are selected for inclusion in a new elementary school district.
Step 2	Select **Incorporated Place** from the **Select by Geography** layer window. Make sure that the visibility for the **Incorporated Place** layer is turned on in the table of contents.  

Step	Action and *Result*
Step 3	Zoom to La Harpe City.  
Step 4	With the **Select by Geography** tool active, left mouse click on any of the faces inside La Harpe City. *The **Select by Geography** tool selects (highlights yellow) all faces (polygons).*

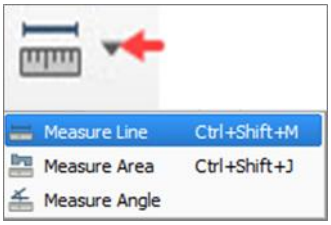
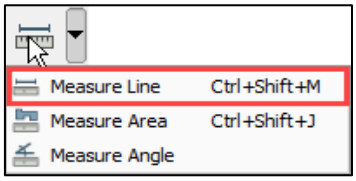
Step	Action and *Result*
	Note: There may in a lag between when the geography/faces are chosen and when GUPS completes the selection. This is common when selecting large geography/school district areas that contain many faces. If there is a noticeable lag, this generally indicates that GUPS is still processing the selecting faces. 
Step 5	From the **Modify Area Feature** tool, select the **Add New District** button, fill in attributes for the new school district, and select OK. 

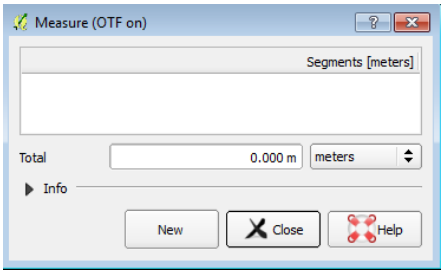
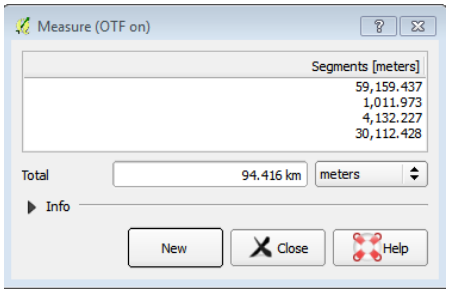
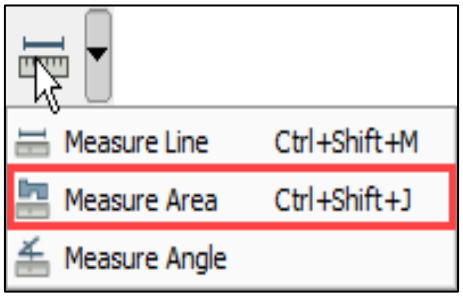
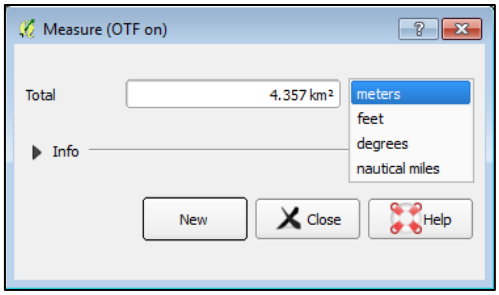
Step	Action and *Result*
Step 6	*All faces of the incorporated place of La Harpe City are now included in the La Harpe City Elementary School District.* 

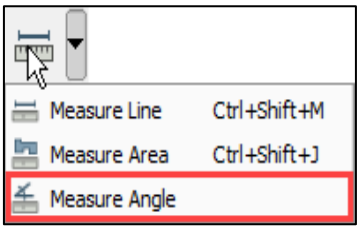
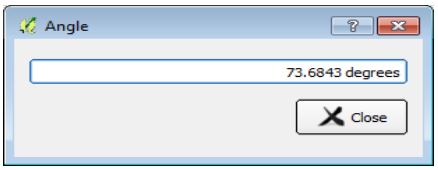
5.5.1.6 Determine Distance, Area, and Angles on the Map

To measure the distance between two or more points, area, or an angle on a map, follow the steps **Table 26**.

Table 26: Measure Distances, Area, and Angles on a Map

Step	Action and *Result*
Step 1	Click the **Measure** button on the **Standard** toolbar.  *The **Measure** button drop-down menu opens.* 
Step 2	To measure the distance between two points on the map select **Measure Line** in the drop-down menu. 

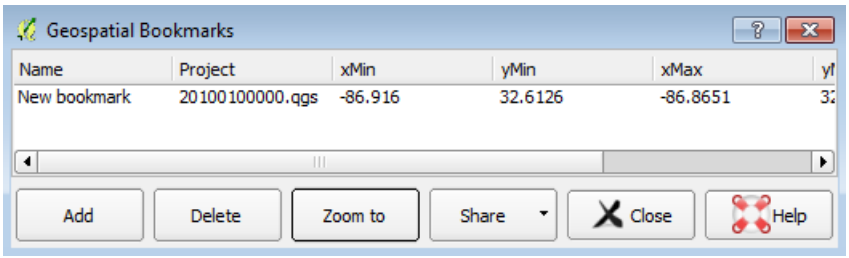
Step	Action and *Result*
	The **Measure (OTF on)** box opens. 
Step 3	Zoom to a location on the map. Click on the beginning point on the map and right-click to finish. The length of each line segment, as well as the total length of the line between the beginning point and the ending point, appear in the **Measure (OTF on)** box. 
Step 4	*To measure area on the map, select **Measure Area** in the drop-down menu.*  The **Measure** box opens.  When the box opens, left-click on the map to begin drawing a polygon and then left-click to create the vertex of the polygon. Right-click to finish. *The area the polygon encompasses appears in the **Total** field*. Use the drop-down list to the right to see the area in other units of measure. To begin a new measurement, click the **New** button.

Step	Action and *Result*
Step 5	To measure an angle on the map, first select the **Measure Angle** option in the drop-down menu.  Left-click on the map to begin drawing the angle. Then left-click on the map to begin drawing another angle. Drag the mouse (but do not hold down the mouse button) to create the first side of the angle. Then left-click. Drag the mouse again (again without holding down the mouse button) to draw the second leg. *The **Angle** box opens showing the angle measurement.* 

5.5.1.7 Save Locations on a Map Using the Bookmark Button

To save geographic locations on a map and view them later, follow the steps in **Table 27**.

Table 27: Bookmark Locations on a Map

Step	Action and *Result*
Step 1	Zoom to a location on the map in the **Map View** and click on the **New Bookmark** button on the **Standard** toolbar.  The **Geospatial Bookmarks** box opens. 
Step 2	Click on the row named '**New bookmark**.' Backspace over '**New bookmark**' and type in a descriptive name for the bookmark (255-character limit). Click the **Close** button to create the bookmark.
Step 3	To view and manage spatial bookmarks click on the **Show Bookmarks** button on the **Standard** toolbar. The **Geospatial Bookmarks** dialog box again opens. To zoom to a bookmark, click on a bookmark name in the dialog box and then click the **Zoom** to button. To delete a bookmark click on the bookmark name then press the **Delete** button.

Step	Action and *Result*
	Bookmark names and coordinates are edited from the **Geospatial Bookmarks** dialog box.

5.5.2 SDRP Toolbar Buttons

The SDRP toolbar (**Figure 47**) provides the program-specific functions needed to complete the SDRP review and update activities, as well as to import and export zipped shapefiles.

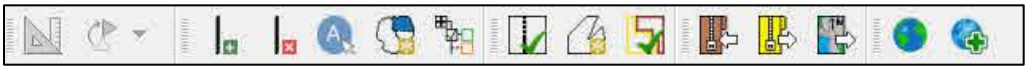


Figure 47. SDRP Toolbar Buttons

Each toolbar button function is described in **Table 28**.

Table 28: SDRP Toolbar Buttons

Button	Name	Function/Description
	Add Linear Feature	Add a new linear feature.
	Delete/Restore Linear feature	Delete or restore an existing linear feature.
	Display All Names	Display the primary name of a feature, as well as its alternate name(s). Display all names for a street with multiple names assigned in the MAF/TIGER System
	Modify Area Feature	Make updates to school districts (Boundary Change, Complex Consolidations, Complex Dissolutions and New District etc.).
	Show/Hide Legend	Shows or hides the legend.
	Geography Review Tool	Review the attribute table for layers that exist in the Table of Contents.
	Review Change Polygons	Review change polygons in a layer and make corrections.
	SDRP Criteria Review Tool	Review potential criteria data errors and informational warnings.
	Import County Zip	Import zipped Census Bureau shapefiles shared by another GUPS user.

Button	Name	Function/Description
	Export to ZIP	Create the zip file containing all required data and shapefiles to submit to the Census Bureau.
	Export Map to Print	Export a printable map in .pdf, .png, .tif, or jpeg format.

5.5.3 Status Bar

The Status bar (**Figure 48**) at the bottom of the GUPS main page displays information about the map from the current map scale to mouse cursor coordinates.

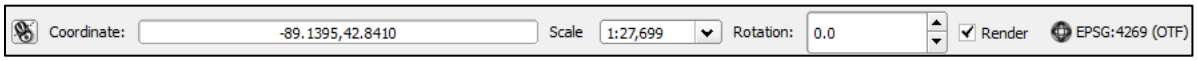
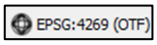


Figure 48. Status Bar

Table 29 describes each element of the Status bar.

Table 29: Status Bar Elements

Item	Description
	Toggles between the coordinate position of the mouse cursor or the map view extents as the map is panned and zoomed.
Coordinate	Shows the current position in map coordinates (default is decimal degrees for GUPS) as the map cursor moved across the map.
Scale	Shows the ratio between the distance on the map and distance on the ground based on current map units.
Rotation	Shows the map rotation.
Render	Temporarily prevent layers from drawing. Enable by clicking the checkbox immediately to the left of “Render.”
	Clicking on the icon opens the projection properties for the current map.

5.6 How to Import User-Provided Data into GUPS

GUPS is a full GIS software. It provides all the standard GIS software capabilities including importing user data. The sections below explain the different types of data that may be imported into GUPS and how to do it.

5.6.1 The Add Data Toolbar

To import an image, geodatabase, web-mapping service, or other data layers into GUPS, use the Layer drop-down menu from the standard toolbar (**Figure 49**).

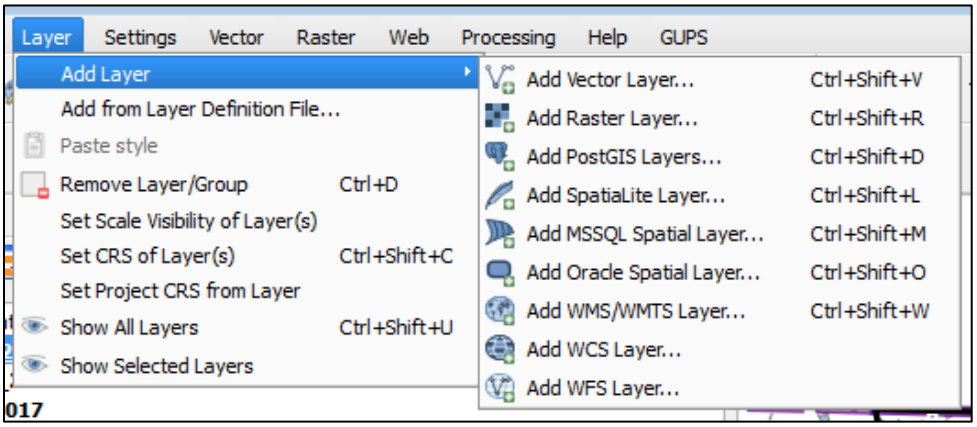


Figure 49. Layer Dropdown Menu from the Standard Toolbar

Table 30: Add Data Toolbar Buttons

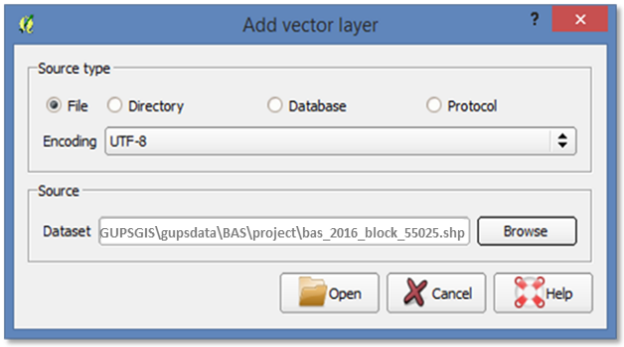
Button	Name	Function / Description
	Add Vector Layer	Add shapefile and geodatabase files.
	Add Raster Layer	Add raster datasets such as imagery.
	Add PostGIS Layer	Add PostGIS layer.
	Add SpatiaLite Layer	Add data from a SpatiaLite database.
	Add MS SQL Layer	Add MS SQL 2008 Spatial data.
	Add Oracle Spatial Layer	Add a spatial layer from an Oracle database.
	Add Oracle GeoRaster Layer	Add raster imagery from an Oracle database.
	Add WMS/WM(T)S Layer	Add Web Mapping Services and Web Mapping Tile Services. Publicly accessible and secured WMS services are supported.
	Add WCS Layer	Add Web Coverage Services, which provide access to raster data useful for client-side map rendering.
	Add WFS Layer	Add Web Feature Services.

5.6.2 How to Upload User-Provided Data Layers

GUPS supports vector data in a number of formats, including those supported by the OGR library data provider plugin, such as Esri shapefiles, MapInfo MIF (interchange format), and MapInfo TAB (native format). It also supports PostGIS layers in a PostgreSQL database and SpatiaLite layers.

To add vector layers, follow the steps in **Table 31**.

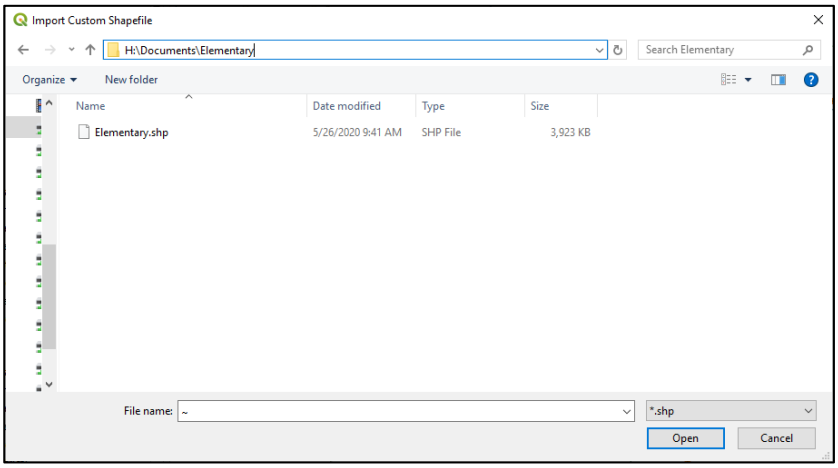
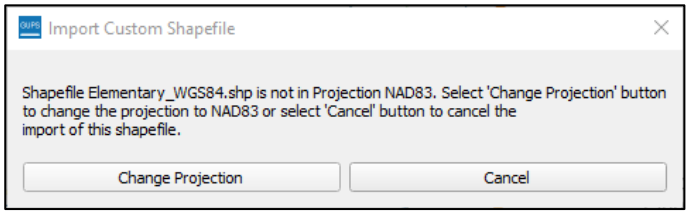
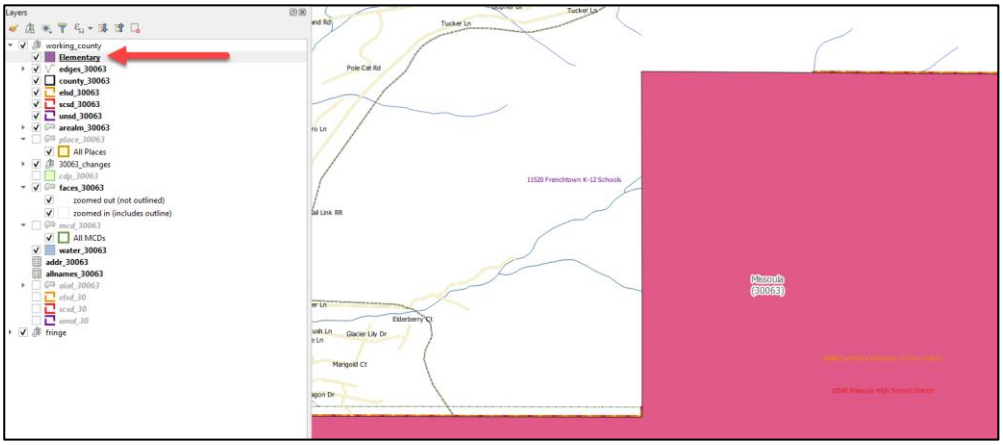
Table 31: Load Vector Layers

Step	Action and *Result*
Step 1	Begin the upload. Click **Add Vector Layer**  from the **Layer** drop down menu. *The **Add Vector Layer** dialog box opens.* 
Step 2	In the **Encoding** drop-down menu, the default value is 'System.' If an error message is received when opening the file, use the drop-down to select UTF-8. *UTF-8 populates the **Encoding** field.*
Step 3	Click the **Browse** button and navigate to the folder where the shapefile or geodatabase is saved on the computer.
Step 4	Left-click the file to upload then click the **Open** button. If there are multiple shapefiles to load, press the CTRL button on the keyboard while left-clicking each shapefile to load into the project. *The shapefile/geodatabase is added to the **Table of Contents** and to the **Map View** window.*

Shapefiles can also be added using the Import Custom Shapefile tool. Follow the steps in **Table 32** to add a custom shapefile.

Table 32: Import Custom Shapefiles

Step	Action and *Result*
Step 1	From the GUPS toolbar, select the **Import Custom Shapefile** button. 

Step	Action and *Result*
Step 2	A file browser window opens. Browse to the location of the shapefile to import. Select the shapefile and then select **Open**. 
Step 3	If the selected shapefile has a projection that differs from the default projection set for the project (NAD83), the tool will display a notification indicating that a difference in projection has been found. Select **Change Projection.** The tool converts the imported shapefile to match the NAD83 projection set for the project and the layer is added to the project and displayed in the map view. Selecting **Cancel** will cancel the import and close the tool.  
	Imported shapefiles are added to the working county folder located in the GUPSGIS home directory. The GUPSGIS home directory is typically located in the **My Documents** folder. These imported shapefiles will be included as part of the zip file created using the **Share With Another Participant** export (see **5.9.1 How to Export a File to Share with Another Participant**). However, imported shapefiles will **not** be included when exporting a file for submission to the Census Bureau (**see 5.9.2 How to Export a File for Submission to the Census Bureau**).

To load data from a web mapping service, follow the steps in **Table 33**.

Table 33: Load Data from a Web Mapping Service

Step	Action and *Result*
Step 1	Begin the upload. Click the **Add WMS/WM(T)S Layer** button  on the **Add Data toolbar**. *The **Add Layers from a WM(T)S Server** dialog box opens.*
Step 2	Select the web mapping service. Click the **Layers** tab, and then click the **New** button under the tab. ***The Create a new WMS Connection** dialog box opens.*
Step 3	In the **Name** field type a name for the web mapping imagery service. In the **URL** field type the URL for the service. If the service requires a user name and password, type them in the fields provided. Click **OK**. *The service will be added to the drop-down menu for web mapping services appearing just below the **Labels** tab.* **Note:** If working inside a firewall there may be a prompt to enter a user name and password to obtain resources from outside the firewall.
Step 4	Select the imagery service added in the drop-down menu*. The available layers appear in the **ID/Name/Title/Abstract** box.*
Step 5	Click on the layer to display and then click the **Add** button. *The Web Map Service (WMS) is added to the map showing in **Map View** and to the **Table of Contents**.*
	When the WMS is added, it displays over the top of other layers selected for the **Map View**. To make it display below these layers, click on the WMS layer and, while holding down the mouse button, drag it to the bottom of the **Table of Contents**.

For situations where there is no access to a web mapping service, a poor Internet connection, or a restrictive firewall, other types of imagery files may be added to GUPS (e.g., a county or state imagery dataset). To add imagery files, follow the steps below.

Table 34: Add Imagery Files

Step	Action and Result
Step 1	Click the **Add Raster Layer**  button on the **Add Data toolbar**. *The **Open a GDAL Supported Raster Data Source** dialog box opens.*
Step 2	Navigate to the folder on the computer where the imagery file is stored.
Step 3	Select the file, and then click **Open**. *The file loads into GUPS*.

5.6.4 Changing Working Directory and Cleaning GUPS Data

The **GUPS Data Settings Tool** allows the user to start over with a brand new project or change the working directory for GUPS.

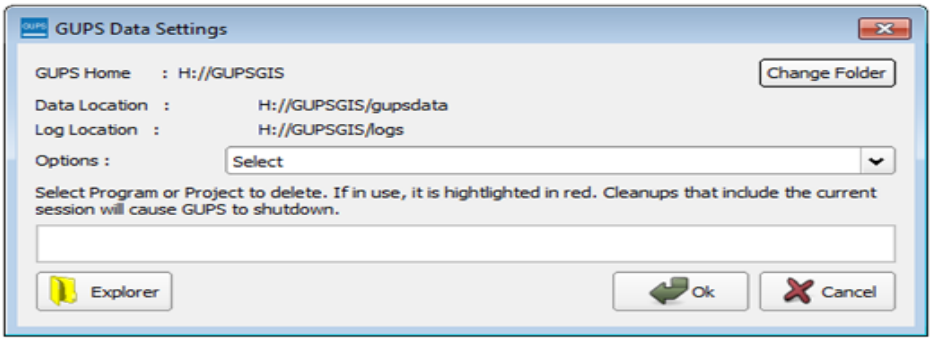
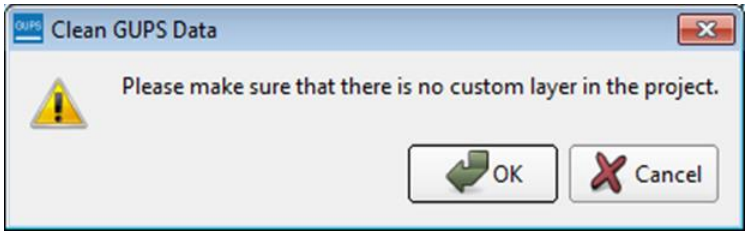
Note: If using this tool to start over on an existing project, be aware that this tool **permanently deletes all files** in the GUPSGIS data folder. Once these files have been deleted, they cannot be recovered.

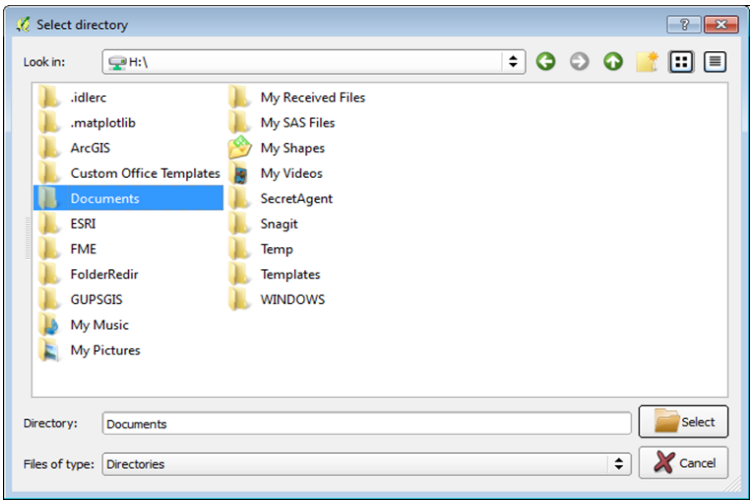
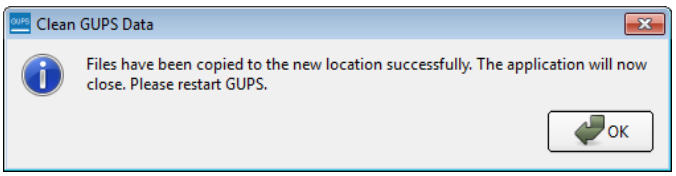
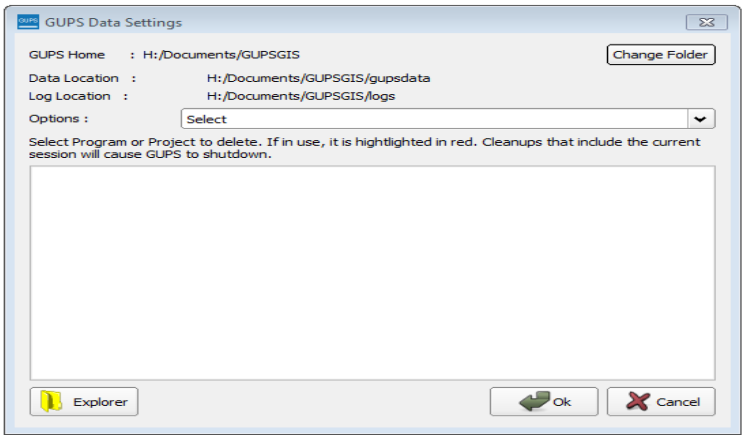
5.6.5 Changing the Working Directory

When installing GUPS, the working directory, or GUPSGIS folder, is saved by default in the home directory (typically this is the **My Documents** folder) unless the user specifies a different path. To change the location of the working directory after GUPS has been installed, use the **Change Folder** button in the **GUPS Data Settings** tool (Table 35).

Note: All projects must be closed to change the working directory. If a project is open in GUPS, the **Change Folder** button is not active.

Table 35: Cleaning GUPS Data

Step	Action and *Result*
Step 1	Click the **Change Folder** button in the **GUPS Data Settings** tool.  *A notification dialog box pops up asking the user to check that there are no custom layers in the project*. Custom layers are any data in the project that is stored outside the GUPSGIS data folder, for example, a reference shapefile. Only layers stored in the GUPSGIS folder are copied through this action. Click **OK**. 

Step	Action and *Result*
Step 2	The next screen to appear is the **Select Directory** dialog box. From this screen choose the location for the new working directory. In this example, the **Documents** folder is chosen as the new location for the GUPSGIS data folder. Click the **Select** button. 
Step 3	*GUPS displays a progress bar to indicate that it is moving the folders and contents of those folders to the new directory.*  *Once all files have been copied, GUPS displays a final notification that the move was successful and that GUPS must be restarted.* 
Step 4	To confirm that the working directory has been changed, open the **GUPS Data Settings** tool and check the folder location for **GUPS Home, Data Location**, and **Log Location**. 

5.6.6 Cleaning GUPS Data

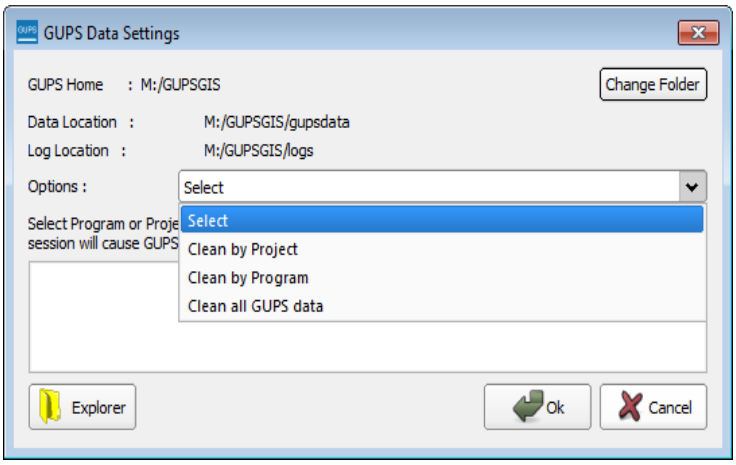


Figure 50. GUPS Data Settings Window

The GUPS Data Settings tool (**Figure 50**) offers three clean data options: **Clean by Project, Clean by Program,** and **Clean All GUPS Data**.

5.6.6.1 Cleaning by Project

Clean by Project (**Figure 51**) allows the user to delete data/files per project. This can be useful if there is a single project that is no longer needed or the user would like to restart the project with the original Census Bureau data. The red dotted highlighted item indicates a project that is currently in use in GUPS. To delete a project, select the checkbox next to the project then select **OK**. To ensure that all data and files have been deleted, restart QGIS/GUPS by closing the program and reopening it again.

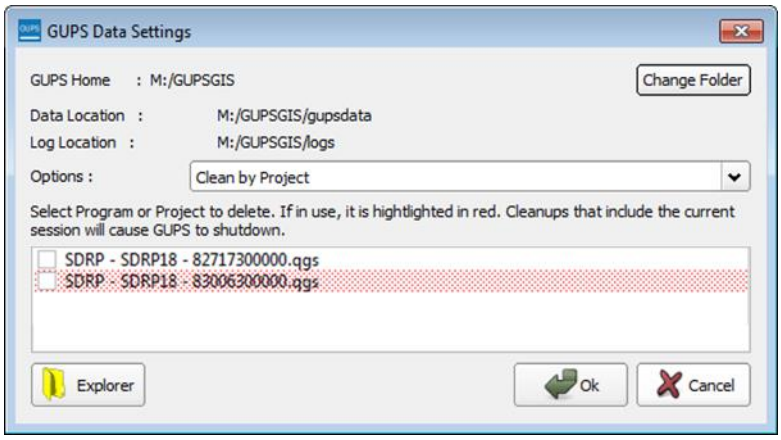


Figure 51. Clean by Project Window

5.6.6.2 Cleaning by Program

In order to delete all projects associated with a certain program, use **Clean by Program** (**Figure 52**)**.** To ensure that all data and files associated with a program are removed, restart QGIS/GUPS by closing the program and reopening it again.

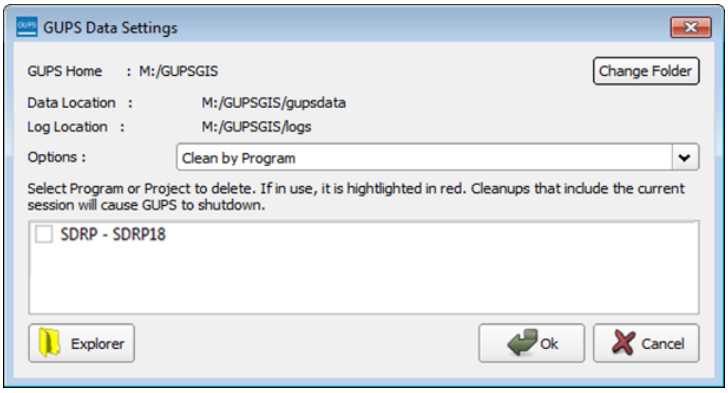


Figure 52. Clean by Program Window

5.6.6.3 Cleaning All GUPS Data

The final option is to **Clean All GUPS Data** (Figure 53). As the name implies, this deletes all GUPS data located in the GUPSGIS data folder in the home directory. This permanently ***deletes*** all files and folders, so once the tool has finished, files and folders cannot be recovered. Select **OK** and GUPS should automatically restart. In the event that GUPS does not automatically restart, manually restart QGIS/GUPS to ensure that all data has been deleted.

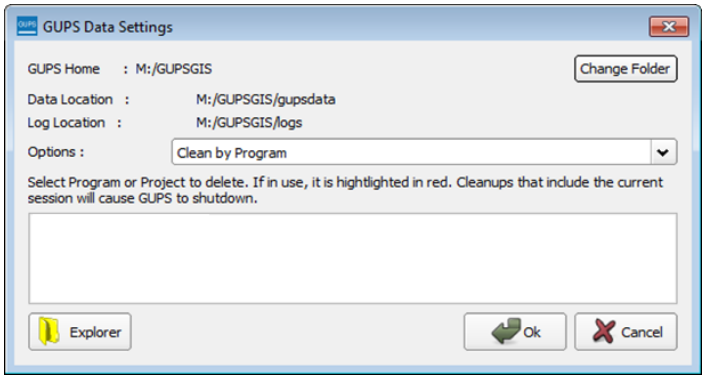


Figure 53. Clean All GUPS Data Window

5.6.7 Modify Area Feature Tool

The **Modify Area Feature** tool (Figure 54) contains the functionality (Table 36) used to make most geographic and attribute updates during the SDRP. Once open, the **Modify Area Feature** tool becomes active upon selecting a **Geography** (a school district level including Elementary, Secondary, or Unified) and an **Action** (Boundary Change, Complex Consolidation, Complex Dissolution, or New District).

The **Modify Area Feature** tool displays all school districts for the selected school district geography in the working county and any project loaded adjacent counties. School districts can be identified in the Map View from the info list in one of two ways:

- A single left mouse click on a school district highlights the district on the map but does not zoom to that school district.
- A double left mouse click both highlights and zooms to the full geographic extent of the selected school district in the map view.

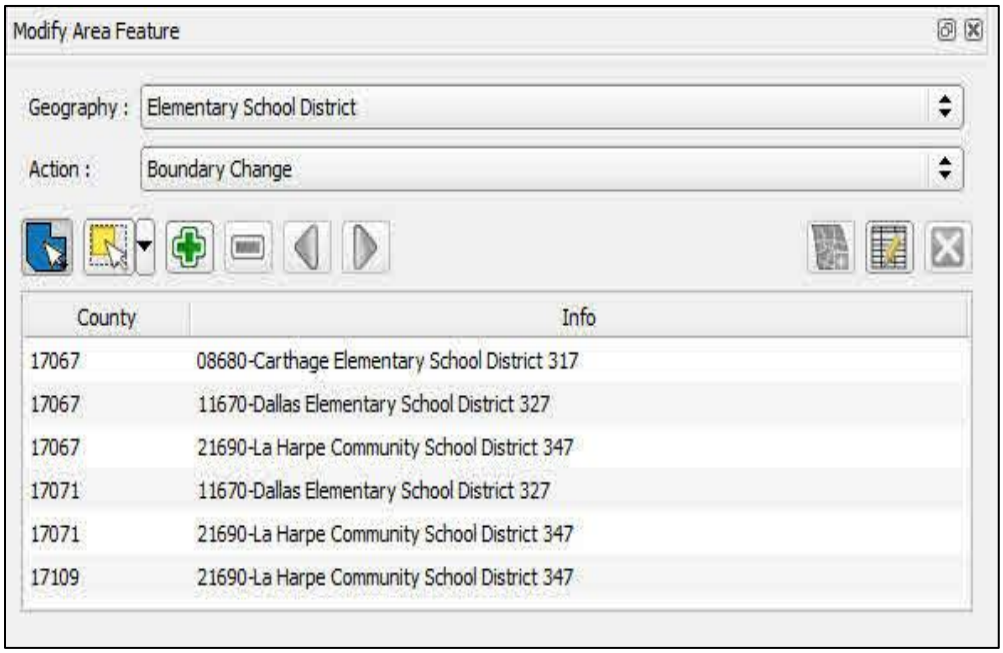


Figure 54. Modify Area Feature Tool

Table 36: Options and Icons for the Modify Area Feature Tool

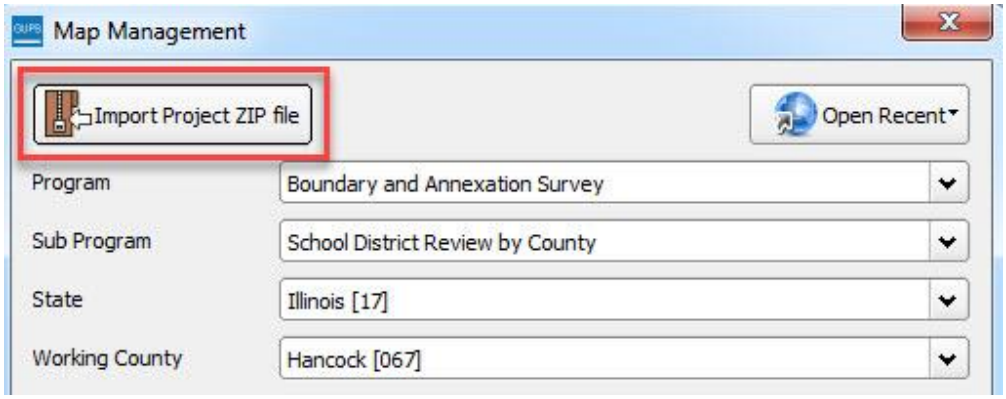
Icon	Option	Results
	Select Target Layer	Selects a target area (school district) by clicking on the map rather than selecting from the Modify Area Feature tool info list.
	Select Features	Selects individual faces (polygons).
	Add Area	Adds selected area to the chosen geography based on the desired action.
	Remove Area	Removes selected area from the chosen geography. **Note:** This action is only available if completing a boundary change for secondary school district geography.
	Previous/Next Non-Contiguous Area	Cycles through non-contiguous areas.

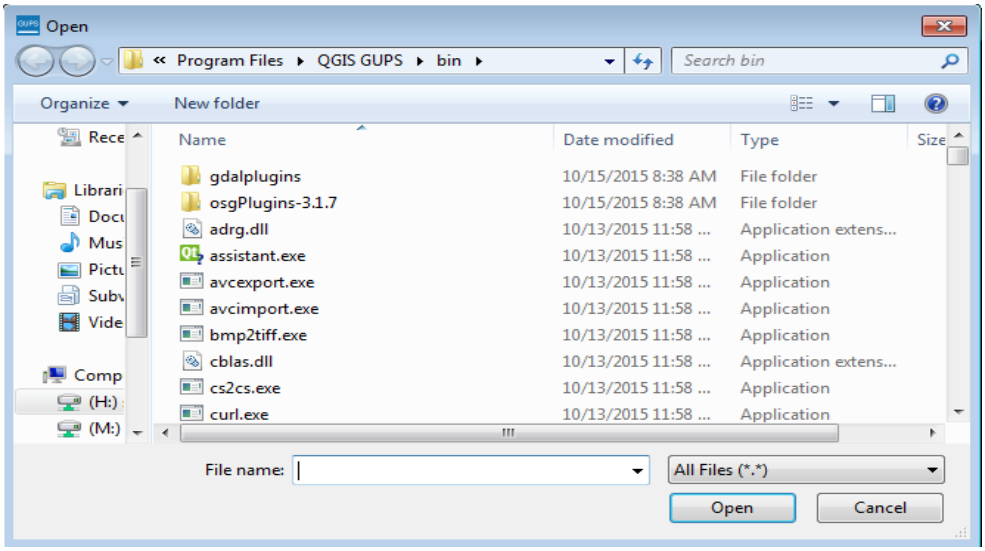
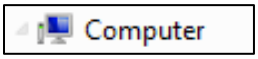
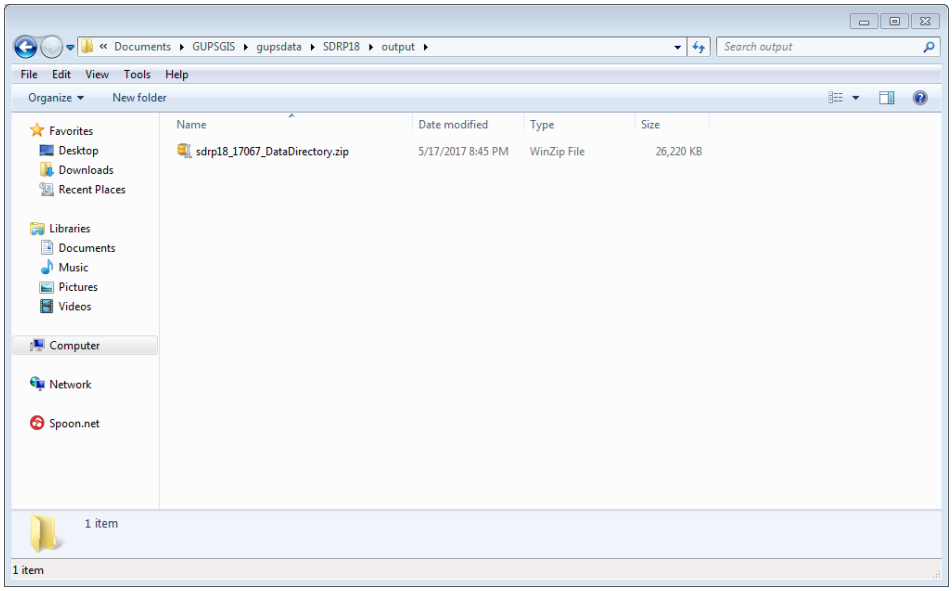
Icon	Option	Results
	New District	Creates a new school district based on chosen geography.
	Modify Attributes	Opens editable attributes dialog window for selected target layer.
	Remove Area Feature	This tool is disabled and not used during the SDRP.

5.7 How to Import a Shared ZIP Shapefile

To import Census Bureau shapefiles already updated by another user, use the **Import Project ZIP File** button (available both on the **SDRP toolbar** and in the **Map Management** dialog box), then follow the steps in the table below.

Table 37: Import a ZIP File Shared by another User

Step	Action and *Result*
Step 1	Click the **Import Project ZIP File** button in the upper left-hand corner of the **Map Management** dialog box:  **OR** on the **SDRP toolbar:** 

Step	Action and *Result*
Step 2	*The **Open** window appears.* 
Step 3	From this window, click on the **Computer** icon (called **My Computer** in some versions of Windows) located in the far-left-hand pane.  When the list of directories opens navigate to the location where the shared zip file is located.
Step 4	Click once on the file, then click the **Open** button.  *The file loads into **Map View**.*

5.8 How to Use the GUPS Review and Validation Tools

GUPS provides three tools—the **SDRP Criteria Review** tool, the **Geography Review** tool, and the **Review Change Polygons** tool to help review and validate the updates made during the SDRP.

5.8.1 Using the SDRP Criteria Review Tool

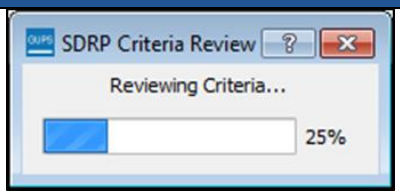
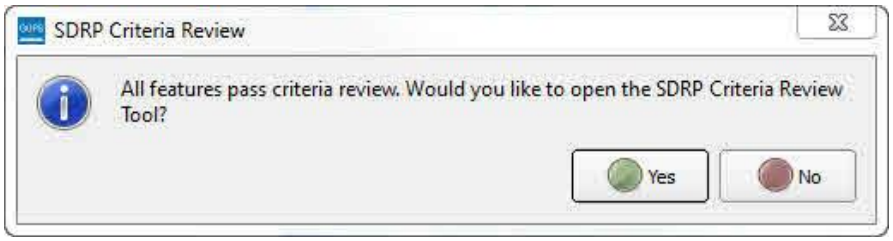
The **SDRP Criteria Review** tool (**Table 38**) is a validation tool that reviews spatial and attribute changes made during the SDRP. This tool ensures that all changes correctly follow Census Bureau data submission guidelines, and it enables allows corrections on any item that is flagged for review by the SDRP Criteria Review tool. The review tool has two problem types: errors and warnings. Errors are critical data issues that must be fixed before exporting data to the Census Bureau. Warnings are issues that the Census Bureau would like the mapping coordinator to review. This tool reviews six primary criteria as seen in **Table 38**.

Table 38: SDRP Criteria Review Tool Error and Warning Messages

Criteria	Error/Warning	Fix/Ignore
Grade Range Overlap	Error	Must fix
Grade Range Coverage Gap	Error	Must fix
Partially Dissolved School District	Error	Must fix
School District has Less than 10 Faces	Warning	Fix or Ignore
Non-contiguous entities	Warning	Fix or Ignore
Multiple Secondary School Districts (SCSDs) to a single Elementary School District (ELSD)	Warning	Fix or Ignore

Table 39: SDRP Criteria Review Tool

Step	Action and *Result*
	The SDRP criteria review tool is a mandatory tool that must be run before the export of the file to the Census Bureau. The mapping coordinator must resolve all errors before GUPS allows the export of the file.
Step 1	Open the **SDRP Criteria Review** tool from the SDRP toolbar.  Once clicked, the tool may ask to save the project before the tool can run, as the **SDRP Criteria Review** tool requires all edits to be saved prior to review. If this message appears select **Yes**. The following dialog box appears indicating the tool's progress in reviewing all criteria checks.

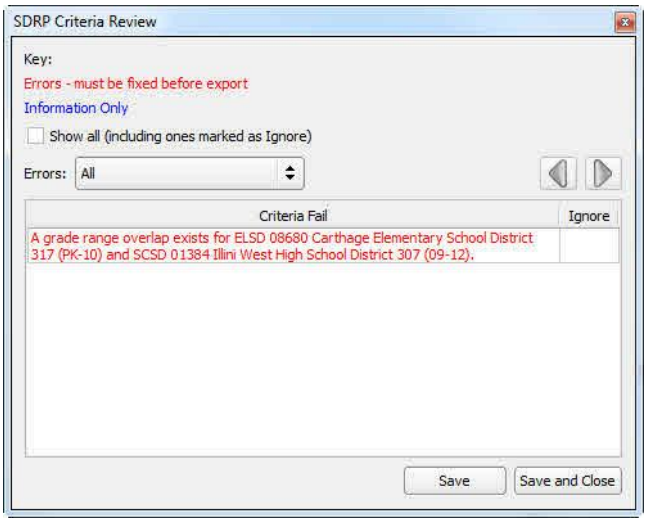
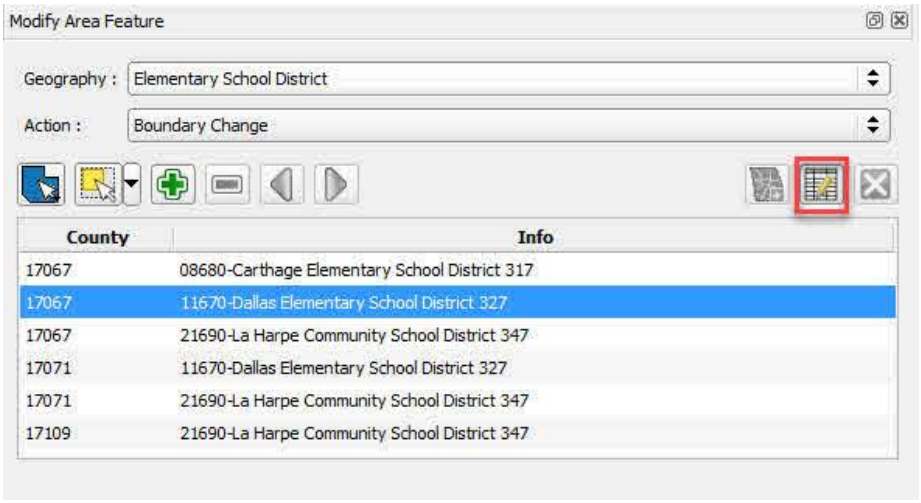
Step	Action and *Result*
	 If the tool determines that spatial and attributes changes have passed review, the following dialog box appears. The option to open the **SDRP Criteria Review** tool is presented in the event that the user would like to review any warnings that were previously fixed. In this scenario, all features have passed the criteria review. If errors are found, proceed to the following sub-sections for detailed instructions on fixing the various error types that can occur during the SDRP Criteria Review. 

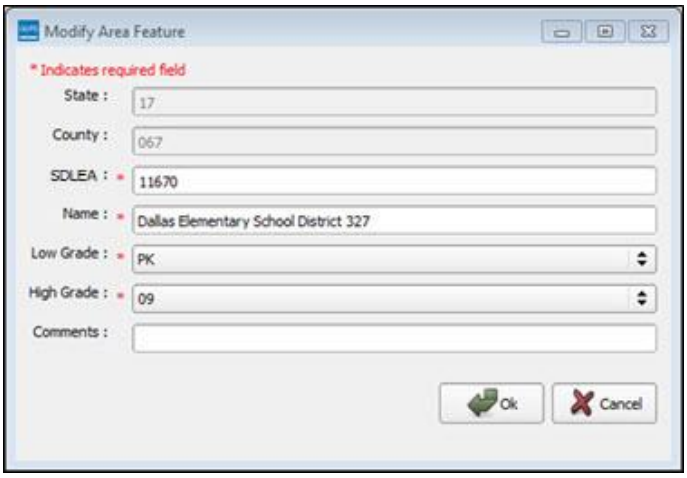
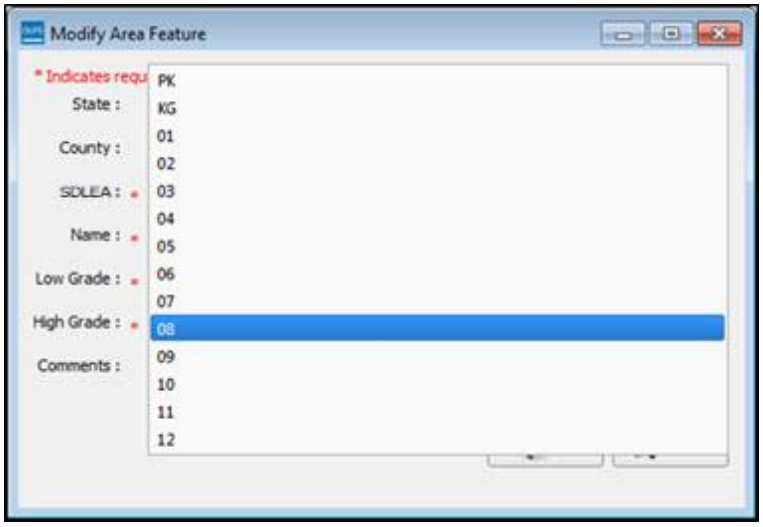
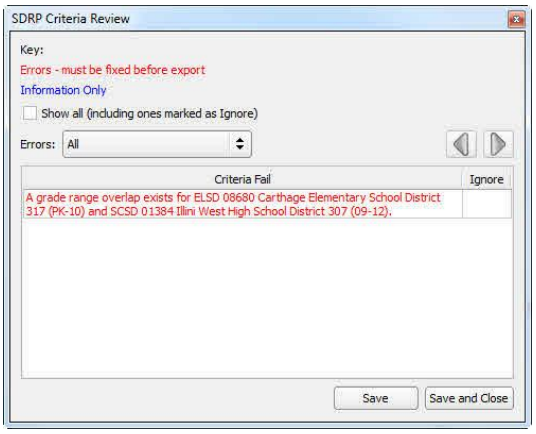
5.8.1.1 Grade Range Overlap Error

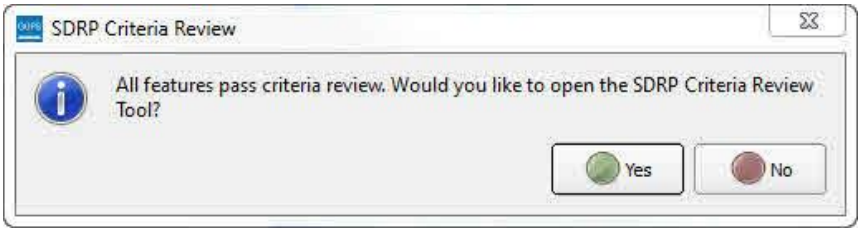
Grade Range Overlaps (**Table 40**) occur when one school district contains grade ranges that also exist in another school district occupying the same area. For example, an elementary school district has a grade range of PK-9 while the underlying secondary school district has a grade range of 9-12. This is considered a grade range overlap since both the elementary school district and the secondary school district have '9th grade' in their respective grade ranges. Grade range adjustments need to occur for either the elementary school district or secondary school district to correct this error.

Note: The scenarios provided in the following sub-sections are intended to be an introduction on how to resolve criteria errors in GUPS and not a comprehensive list of all possible scenarios and solutions that can occur. The steps taken to resolve real-world criteria errors largely depend on the type of edits completed and the local, specialized school district knowledge the mapping coordinator has when making updates during the SDRP.

Table 40: Grade Range Overlap Error

Step	Action and *Result*
Step 1	In this fictitious example, the **SDRP Criteria Review** tool flagged a grade range overlap that exists between Dallas Elementary School District and Illini West High School District.  Reviewing the error indicates that both the elementary school district and the secondary school district (Illini West High School District 307) have '9' in their grade range coverage. Dallas Elementary School District 327 grade range should only include PK-08. Therefore, an attribute change must occur for Dallas Elementary School District to resolve this issue.
Step 2	To fix the grade range overlap, select **Dallas Elementary School District 327** from **the Modify Area Feature** tool info list as the target layer, then select the **Change Attributes** button from **the Modify Area Feature** tool. 

Step	Action and *Result*
	The **Change Attributes** dialog box opens with the editable attributes fields for Dallas Elementary School District. 
Step 3	Change the High Grade attribute from **09** to **08**. Then select OK. 
Step 4	In the **SDRP Criteria Review** tool select the **Save** button. 

Step	Action and *Result*
	Once the tool has refreshed, a message displays saying all features pass criteria review. 

5.8.1.2 Grade Range Coverage Gap Error - Incorrect Attributes

Grade Range Gaps can occur when one, or more, school district geographies have missing grade ranges.

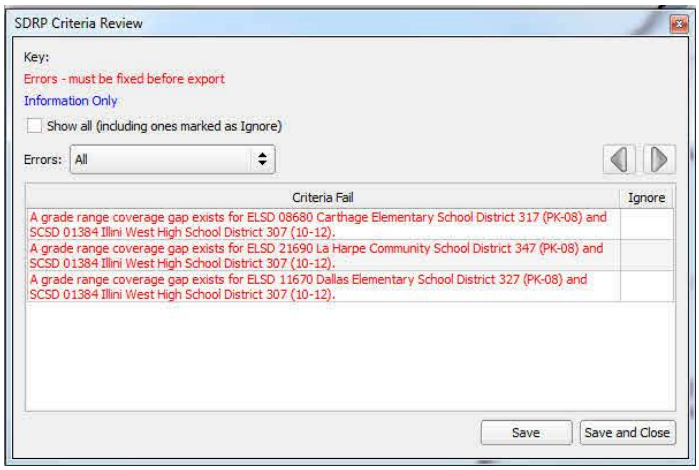


Figure 55. Three Grade Range Gap Error Attributes

In this fictitious example three grade range gaps (**Figure 55**) have been found that exist between multiple school districts. A closer look reveals that three different elementary school districts (Carthage Elementary School District 317, La Harpe Community School District 347, and Dallas Elementary School District 327) share the same secondary school district coverage with Illini West High School District 307. A review of the grade ranges included in the description highlights where this gap exists. In all three cases, '9' is missing from the grade range coverage. A grade range attribute change could be made to either the elementary school district or the secondary school district to include '9' in the grade range coverage. It requires the use of local knowledge and expertise to determine which of these school districts should include coverage up to the 9th grade. In this example, apply a grade range change to the secondary school district coverage for Illini West High School District. Once fixed, refreshing the SDRP Criteria Review tool removes the first two errors and includes only one remaining error (**Figure 56**).

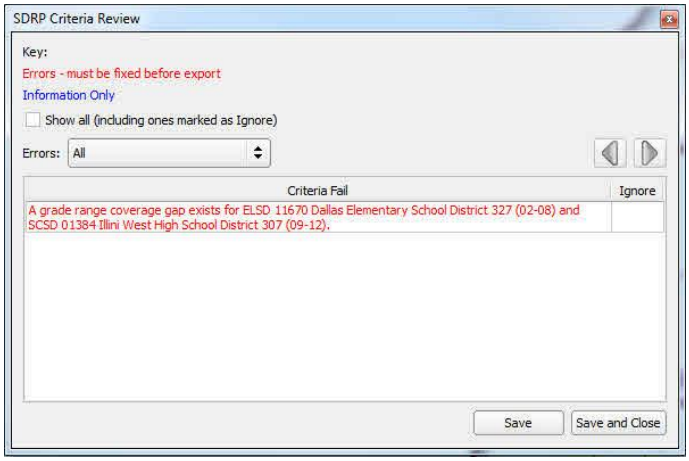


Figure 56. Last Remaining Grade Range Error

The last remaining error indicates that a grade range gap still exists. Reviewing the error description indicates that the gap exists on Dallas Elementary School District since this school district is missing the initial required coverage for elementary school districts (PK, K, or 01). Dallas Elementary School District should include 'PK' grade coverage. Changing the attributes to include this grade level resolves this error (refer to Grade Range Overlap on how to change school district attributes).

5.8.1.3 Grade Range Coverage Gap Error - Missing School District Geography Coverage

It is possible that a grade range coverage gap exists because school district geography coverage is missing entirely. For example, during a Complex Consolidation or Boundary Change, faces (polygons) from a unified school district are added to an elementary school district. The unified school district faces that now belong to the elementary school district are missing secondary school district coverage because GUPS does not automatically apply secondary coverage. Instead of an attribute change, the grade range gap is resolved by adding the secondary school district coverage to those new elementary school district faces via boundary changes.

5.8.1.4 Partially Dissolved School District Error

If during a Complex Dissolution a school district has not been completely dissolved into the target school district(s), the **SDRP Criteria Review** tool flags this partially dissolved school district as an error (**Figure 57**). In the example below, Hamilton Community School District 328 has been flagged as being partially dissolved.

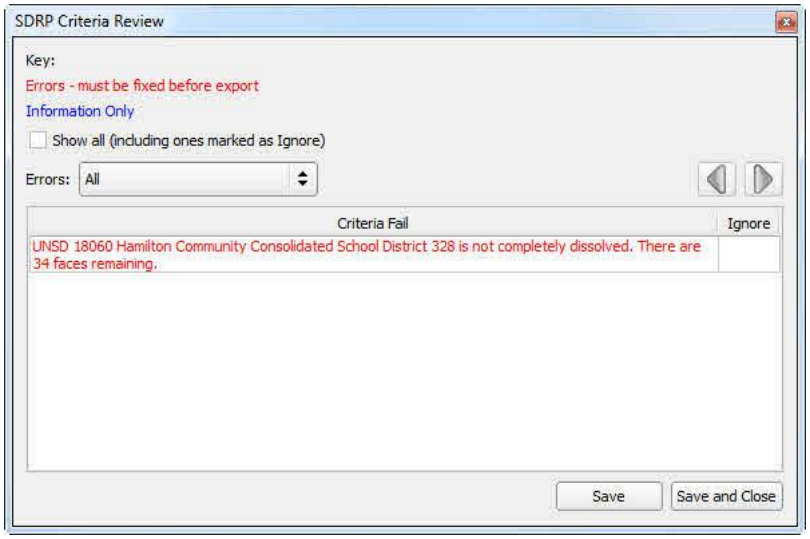


Figure 57. SDRP Criteria Review Dialog Box Showing a Partially Dissolved School District Error

The description states how many faces remain to dissolve. In this example, Hamilton Community Consolidated School District 328 has 34 faces that need to be dissolved in order to complete the dissolution. Open the Modify Area Feature tool and complete the Complex Dissolution for Hamilton Community Consolidated School District 328. When all faces have been dissolved, select **Save** in the **SDRP Criteria Review** tool to rerun the tool to confirm that the error has been resolved. If all faces have been dissolved and no other informational warnings or errors exist, the **SDRP Criteria Review** tool indicates that all criteria have passed review.

5.8.1.5 Informational Warning - School District Has Less Than 10 Faces

A school district with fewer than 10 faces is considered an informational warning. Unlike errors, which must be fixed, informational warnings do not require fixing before exporting the file to the Census Bureau. They can either be ignored or fixed. The purpose of these informational warnings are to alert users of any potential data issues created during the SDRP editing phase. For example, if during the criteria review a school district is flagged as having less than 10 faces, review to determine if this is an error that needs to be addressed or one that can be ignored. Consider the following fictitious example. A new elementary school district has been created to be coextensive with the incorporated place of Bentley Town. After running the SDRP Criteria Review tool check, an informational warning occurs notifying that Bentley Town Elementary School District is made up of only 10 faces (**Figure 58**).

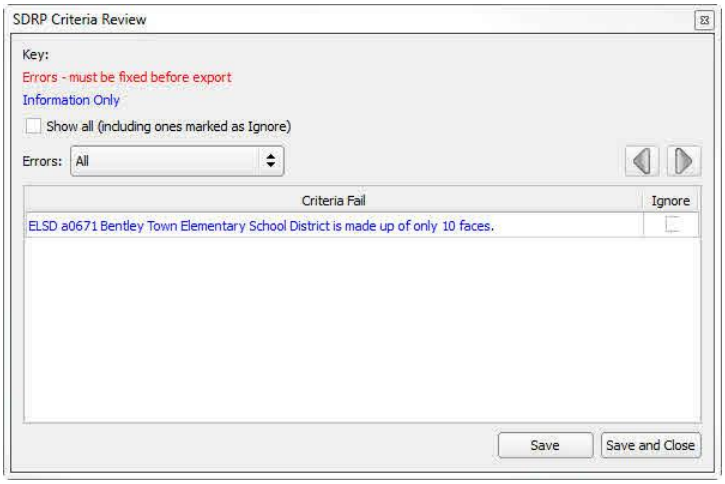


Figure 58. Informational Warning Notification

Reviewing the geography for Bentley Town Elementary School District indicates that not all faces (highlighted in yellow) for the incorporated place of Bentley Town were selected. To resolve this warning a Boundary Change (**Figure 59**) needs to occur to add these remaining faces (polygons) in Bentley Town to Bentley Town Elementary School District.

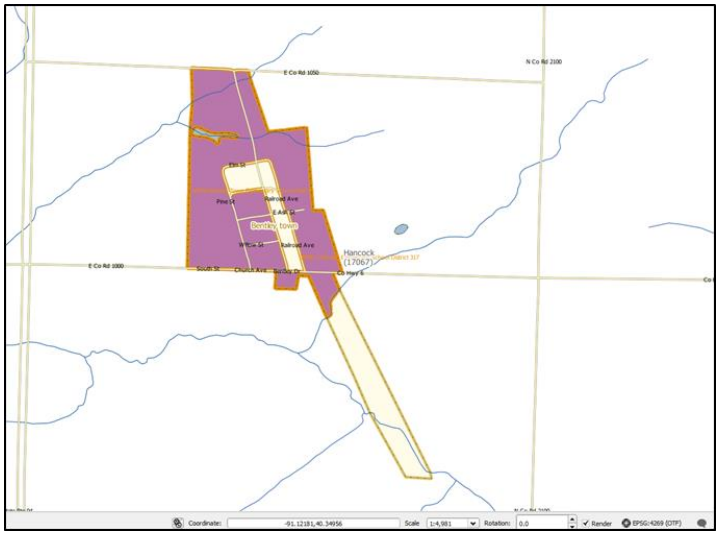


Figure 59. Boundary Change to Add Remaining Faces (Polygons)

Note: GUPS reviews informational warning on both edits made during the SDRP and also data that is provided by the Census Bureau.

5.8.1.6 Non-contiguous Entities

A noncontiguous entity is another type of informational warning that GUPS provides as a means of data review. Just like the previous informational warning, noncontiguous entities can either be ignored or fixed. The noncontiguous entity warning can be useful if, for example, during the creation of a new school district, some faces (polygons) were missed.

It is possible to ignore a noncontiguous warning. If modifying or creating a school district has resulted in a noncontiguous school district with legitimate data changes, the criteria review gives the option to ignore the warning.

Note: This informational warning is reviewed only on the edits made during the SDRP.

5.8.1.7 Multiple Secondary School District (SCSD) to Single Elementary School District (ELSD)

The final type of informational warning (**Figure 60**) is multiple secondary school districts to a single elementary school district.

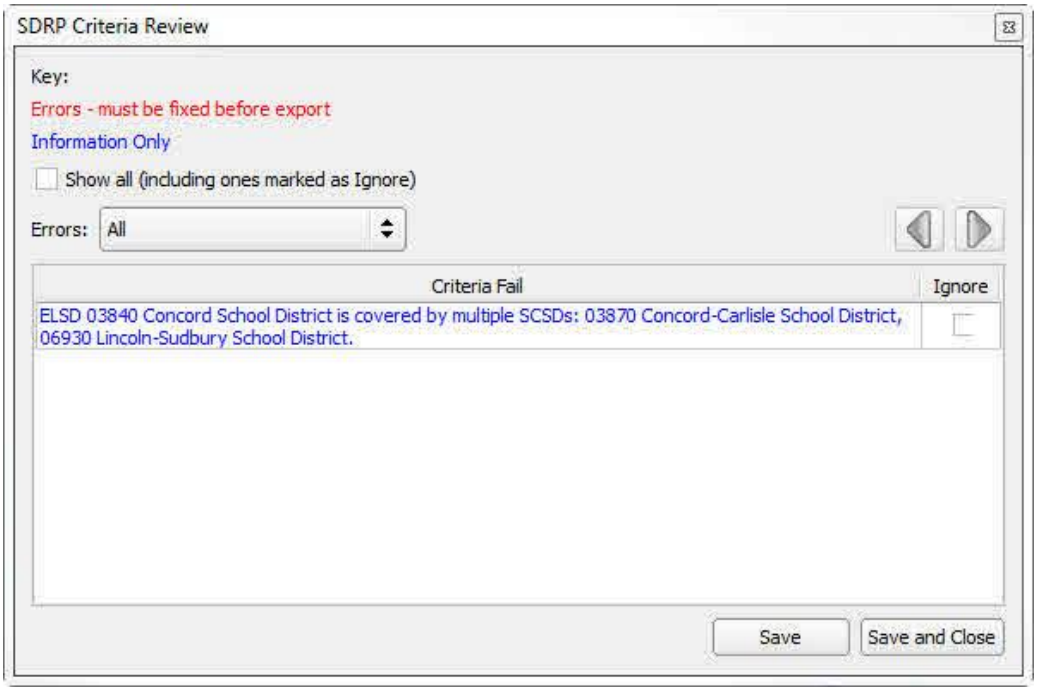


Figure 60. Informational Warning Resulting from Multiple Secondary School Districts Assigned to a Single School District

The SDRP Criteria Review tool has found that ELSD 03840 Concord School District is covered by multiple SCSDs. Upon review, a boundary correction to ELSD Concord resulted in a single face being covered by SCSD Lincoln-Sudbury while the balance of Concord is covered by SCSD Concord-Carlisle. Resolving these types of warnings will largely depend on the local, specialized knowledge regarding the behavior of school district geography. For this example, the following three solutions could be used to resolve this warning (**Figure 61**).

- Ignore – The change in geography is correct and should be left as is.
- Boundary Change – The face (polygon) should belong to ELSD Lincoln-Sudbury School District and not ELSD Concord School District.
- New SCSD – Include this face (polygon) in a new secondary school district.

Figure 61. Three Options to Resolve Potential Geographical Errors

5.8.1.8 Show All Ignored Informational Warnings

When informational warnings have been ignored by checking the box next to the warning and saving, the SDRP Criteria Review Tool removes these items from the Criteria Fail list. To review any previously ignored informational warnings, select the show all check box. Unchecking the show all check box hides these items from the Criteria Fail list (**Figure 62**).

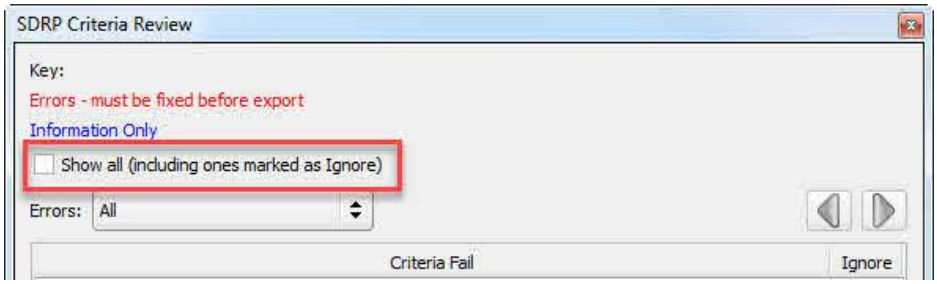


Figure 62. SDRP Criteria Review Information Only Check Box

Note: When the Show All checkbox is selected, the **Ignore** checkbox for previously ignored informational warnings is disabled. Informational warnings marked as ignore cannot be undone once changes are saved in the SDRP Criteria Review Tool.

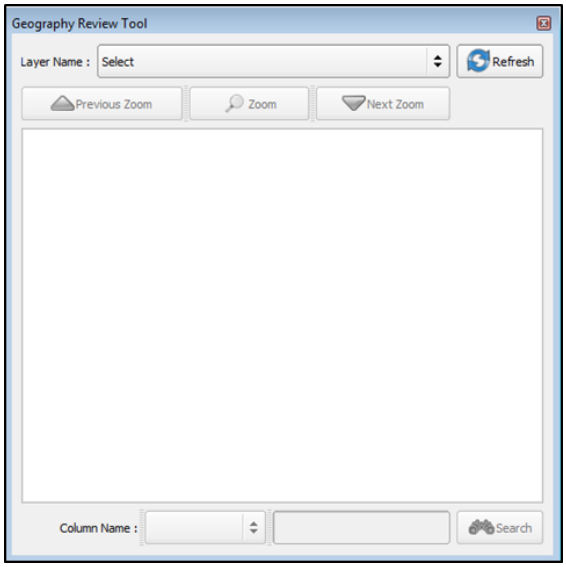
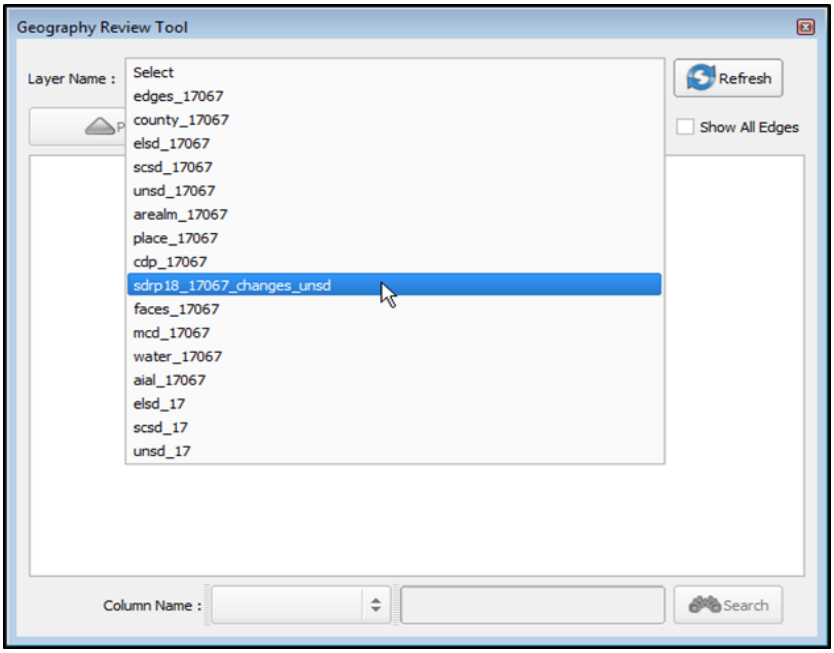
5.8.2 Geography Review Tool

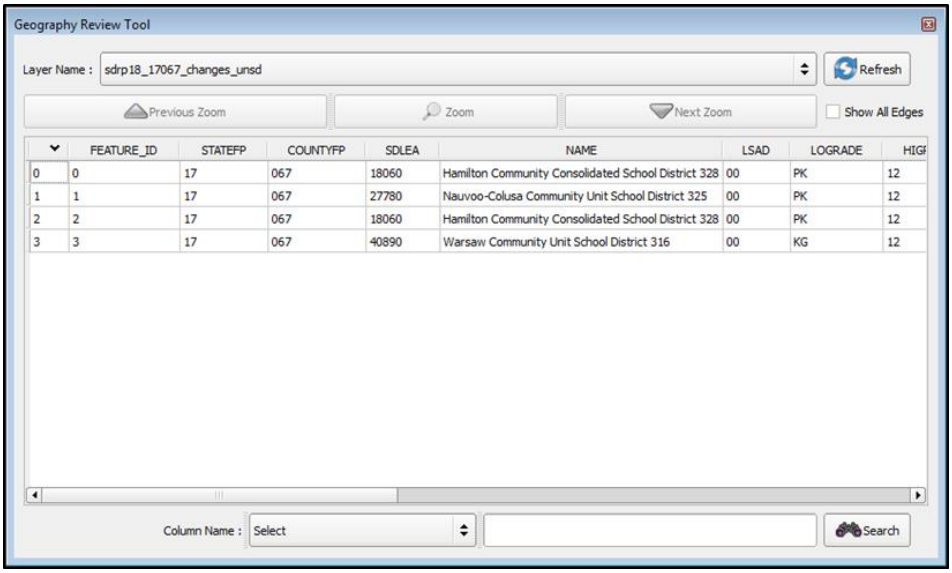
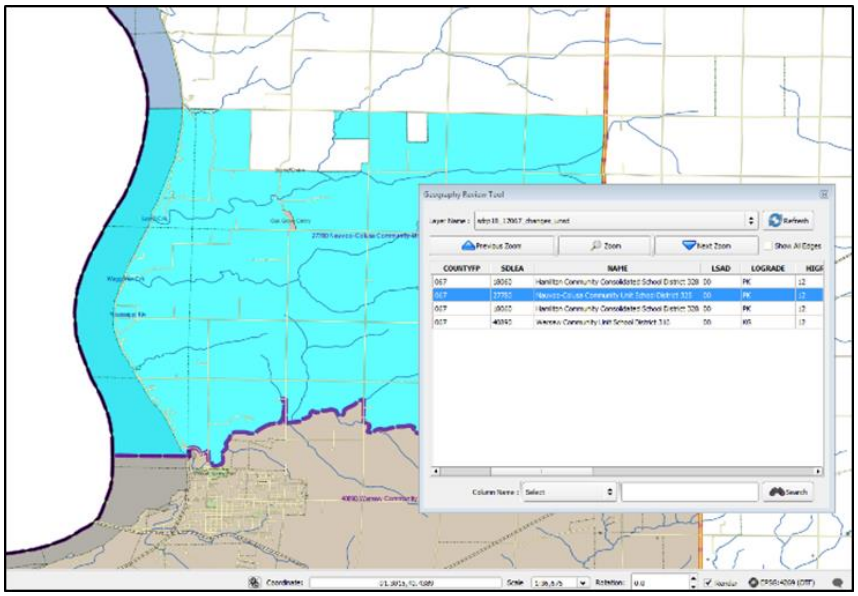
The Geography Review tool filters the map layers based on various fields in the attribute table. Use this tool to check the changes made to linear features and school districts anywhere within a county (Also use this tool to view the attributes of entities, features, and boundaries that were not changed).

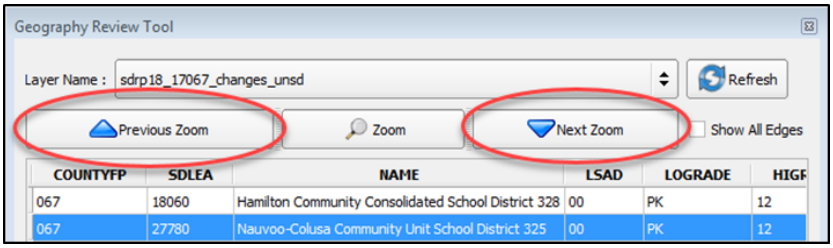
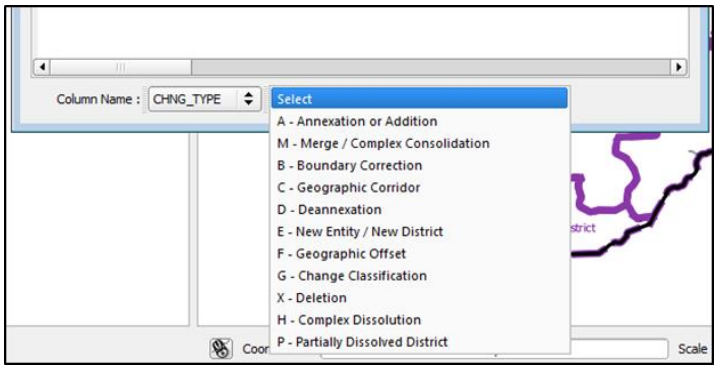
Note: The Geography Review Tool is a read-only review tool and may not be used to edit.

Instructions for how to use the Geography Review tool information appear in **Table 41** below.

Table 41: Using the Geography Review Tool

Step	Action and *Result*
Step 1	Begin by opening the **Geography Review** tool from the **SDRP toolbar**. 
Step 2	*The **Geography Review Tool** dialog box opens.* 
Step 3	In the **Layer Name** field drop-down menu select the data layer to view:  For this example, select "**sdrp18_17067_changes_unsd**." This is a change polygon created from making updates to a unified school district layer.

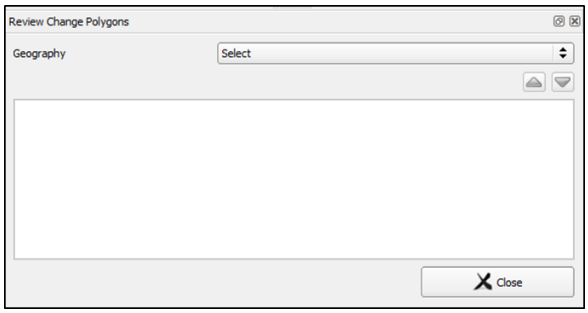
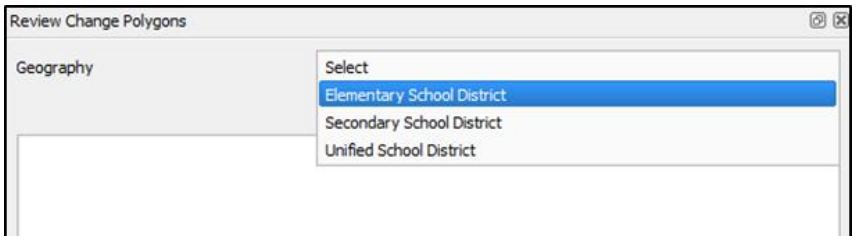
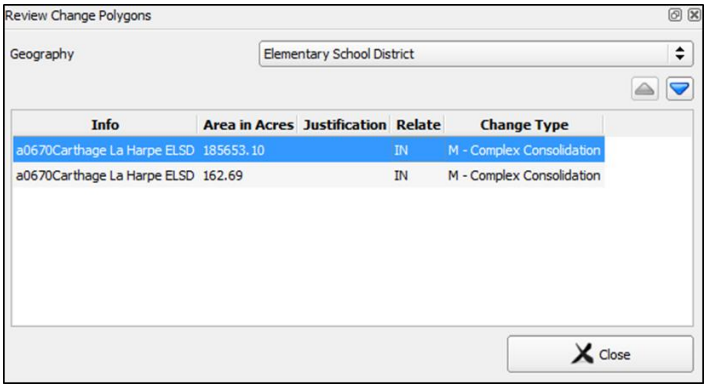
Step	Action and *Result*
Step 4	*Once the layer is selected, the attribute table opens. The attributes for each unified school district that changed are displayed*. 
Step 5	If not all of the columns in the attribute data table are visible, drag the edge of the dialog box outward to widen the view. Alternatively, move the dialog box to another location by clicking inside the box and dragging it.
Step 6	To view the unified school district on the map, click its row in the attribute table, then click the **Zoom** button. *The row is highlighted and the map automatically zooms to the unified school district. The feature will be highlighted cyan – color may vary*. 

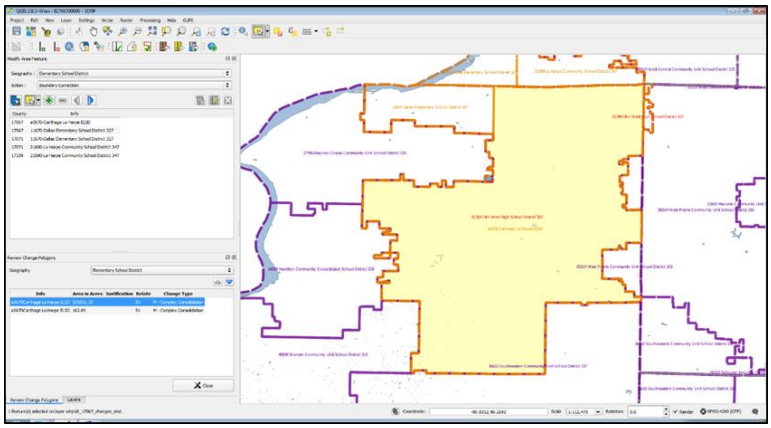
Step	Action and *Result*
Step 7	To view other unified school districts in the table rows, use the **Previous Zoom** and **Next Zoom** buttons. *Clicking each button automatically zooms and highlights the feature for that row*. 
Step 8	Use the **Search** feature at the bottom of the dialog box to filter the table layers by specific attributes (e.g., full name, MTFCC, change type, etc.)  For this example, select change type (**CHNG_TYPE**) and choose **M – Merge/Complex Consolidation**. After clicking **Search**, the attribute table is filtered to show the rows for only those records with a CHNG_TYPE 'M'. 
	This drop-down list of CHNG_TYPES is a global list for all Census Bureau programs, therefore there are more CHNG_TYPES available than are used in the SDRP. The following CHNG_TYPES are those specific to the SDRP: A – Annexation or Addition; M – Merge/Complex Consolidation; B – Boundary Correction; E – New Entity/New District; G – Change Classification; H – Complex Dissolution, P- Partially Dissolved District; X – Deletion; N – New in County School District.
Step 9	To view an individual record click on its row and click the **Zoom** button.
Step 10	To return to the attribute table to see a full, unfiltered, unified school district layer click the **Refresh** button in the upper right-hand corner of the dialog box. 

5.8.3 Review Change Polygons Tool

The **Review Change Polygons** tool (Table 42) allows the user to view the transactions created from school district boundary edits.

Table 42: Review Change Polygon Tool

Step	Action and *Result*
Step 1	Begin by opening the **Review Change Polygons** tool from the **SDRP toolbar**.  *The **Review Change Polygons** dialog box opens just below the **Table of Contents**.* 
Step 2	Use the **Geography** drop-down menu to select the school district to review. In this example, select **Elementary School District**. 
Step 3	After selecting the Geography type, *the **Info List** populates with all change polygon transactions for that school district level*. This elementary school district has two transactions for Complex Consolidation. 

Step	Action and *Result*
Step 4	To view the polygon related to the transaction, click the row for the polygon in the **Info** list. *The map zooms to the location of the polygon and highlights that polygon on the map (highlight is yellow, but color may vary).* 
Step 5	Once the review is complete, close the **Review Change Polygons** tool by selecting the **Close** button in the lower right-hand corner. 

5.9 How to Export Zip Files to Share and Submit

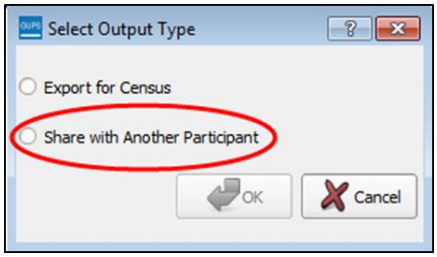
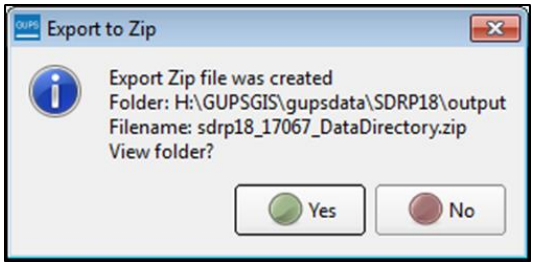
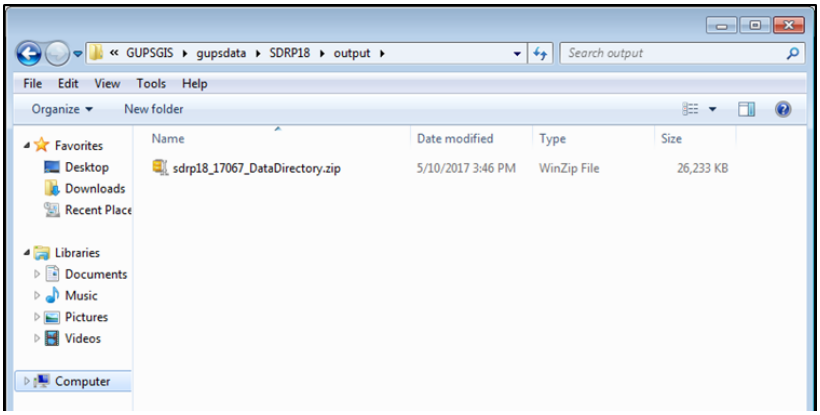
There are two options for creating export zip files: export the file to share with another participant and export the file for submission to the Census Bureau. Export file for submission to the Census Bureau requires that all SDRP criteria review errors be resolved and only change files are exported. The Census Bureau will only accept this file export for submission. Exporting a file to share with another participant does not require all the resolution of errors, and exports the whole project, including all of the reference files and the files with changes. It may be useful to use this option if a school district or county completes their updates, and they want to send the results to the mapping coordinator for review before sending to the Census Bureau. In either case, GUPS automatically names the output zip file. It packages all of the files required by the Census Bureau into the zip file and saves it in a preset location created on the computer during the installation process.

5.9.1 How to Export a File to Share with Another Participant

To export a file to share with another participant, follow the steps in **Table 43**.

Table 43: Exporting a File to Share with another Participant

Step	Action and *Result*
Step 1	Click on the **Export to Zip** button on the **SDRP toolbar**. 

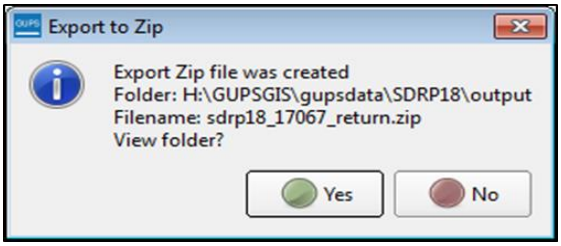
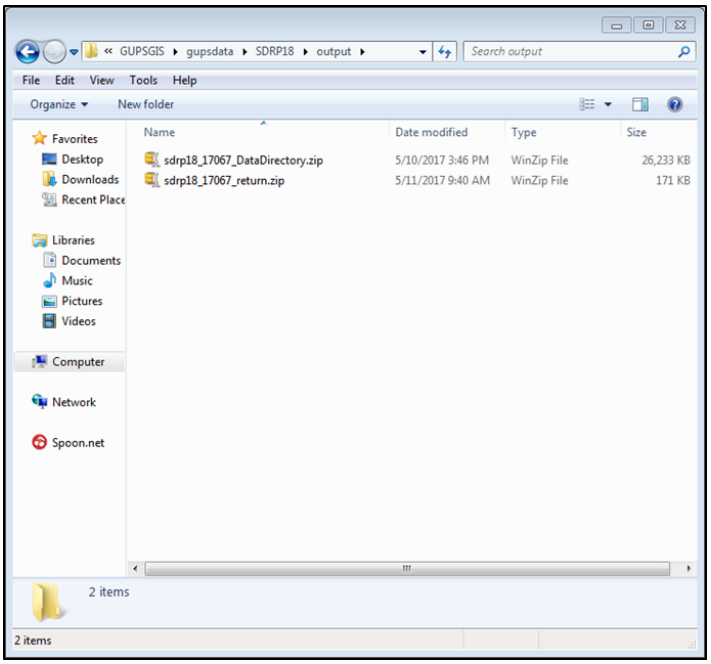
Step	Action and *Result*
Step 2	The **Select Output Type** dialog box opens. Click the **Share with Another Participant** radio button. Then click **OK**. 
Step 3	The **Export to Zip** dialog box opens and displays the location of the export file. Click yes to view the folder with the export file or no to close the window. 
Step 4	*Clicking Yes causes the directory to open and displays the folder location where GUPS placed the file*. **Note:** GUPS automatically saves the file to an output folder that the GUPS installer placed on the computer during the installation process. 

5.9.2 How to Export a File for Submission to the Census Bureau

To export a file for submission to the Census Bureau follow the steps in **Table 44**.

Table 44: Exporting a File for Submission to the Census Bureau

Step	Action and *Result*
Step 1	Click on the **Export to Zip** button on the **SDRP toolbar**. 
Step 2	The **Select Output Type** dialog box opens. Click the **Export for Census** radio button. Then click **OK**. 
Step 3	If the SDRP Criteria Review tool was not run previously, the **Export to Zip** pop-up box displays the SDRP Criteria Review check as **NEEDED**.  If this message appears, click the **Cancel** button, run the **SDRP Criteria Review** tool, and resolve any errors. Check the "ignore" box for all informational messages that are valid. Then repeat the initial export steps again.
Step 4	If the SDRP Criteria Review tool was run previously, the **Export to Zip** pop-up box displays the status of the check and the date and time the checks were made, as shown below.  Look carefully at the run times listed. If any additional changes were made after these times, click **Cancel** and run the **SDRP Criteria Review** tool again. Then repeat the export steps. To continue with the export, click OK.

Step	Action and *Result*
Step 5	The **Export to Zip** dialog box opens. It informs you that the zip file was created and asks if you want to the view the folder. 
Step 6	*Clicking yes causes the directory to open and display the folder location where GUPS placed the file*. **Note:** GUPS automatically saves the file to an output folder that the GUPS installer placed on the computer during the installation process. 

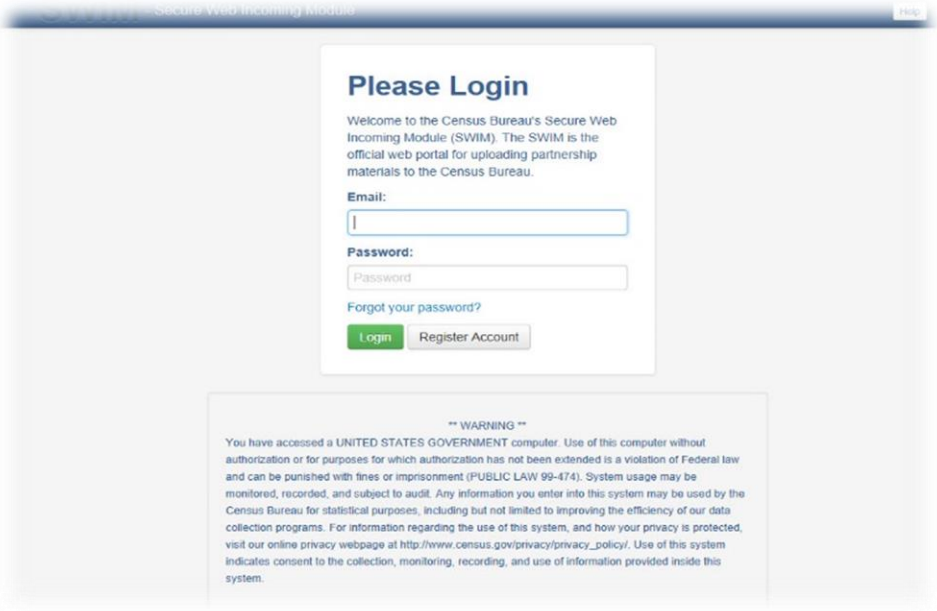
PART 5 SUBMITTING FILES TO THE CENSUS BUREAU THROUGH THE SECURE WEB INCOMING MODULE (SWIM)

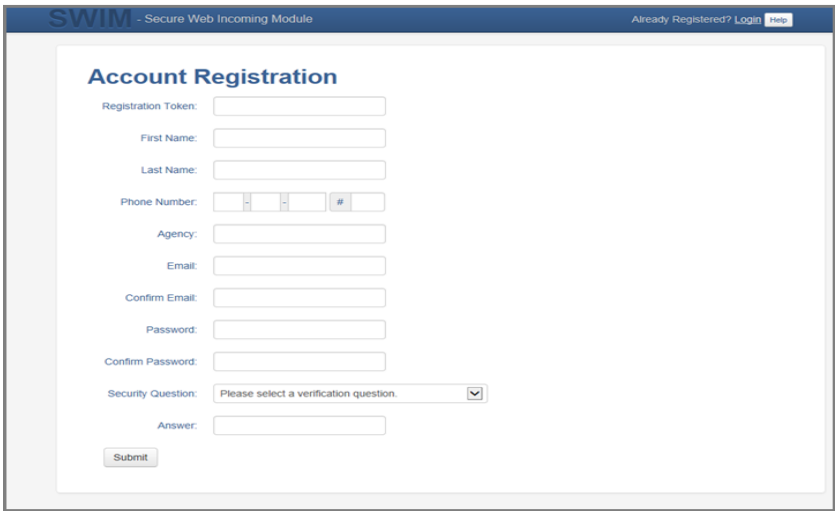
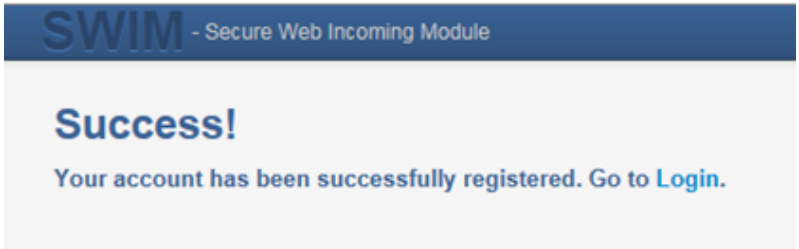
CHAPTER 6 HOW TO TRANSMIT FILES USING SWIM

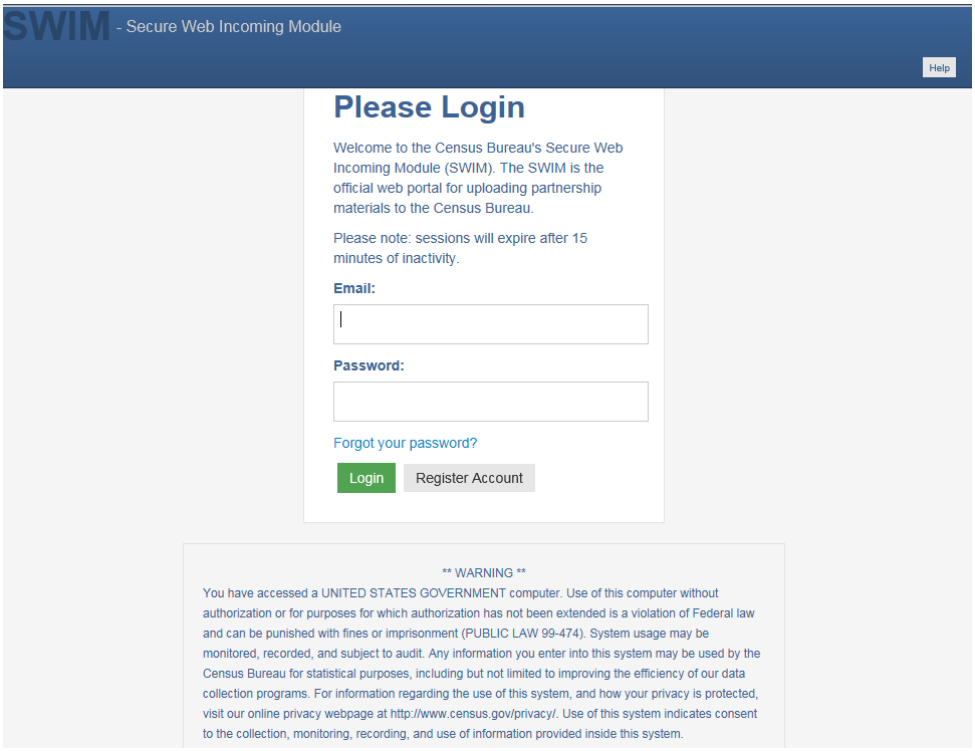
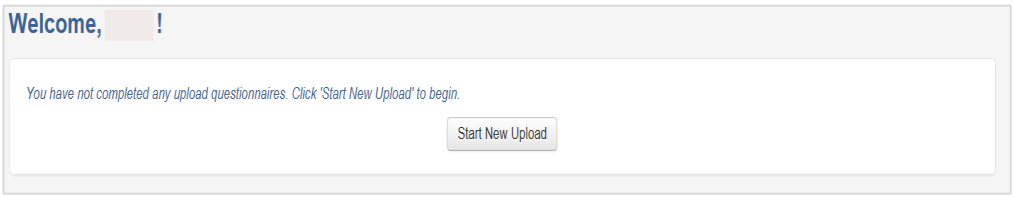
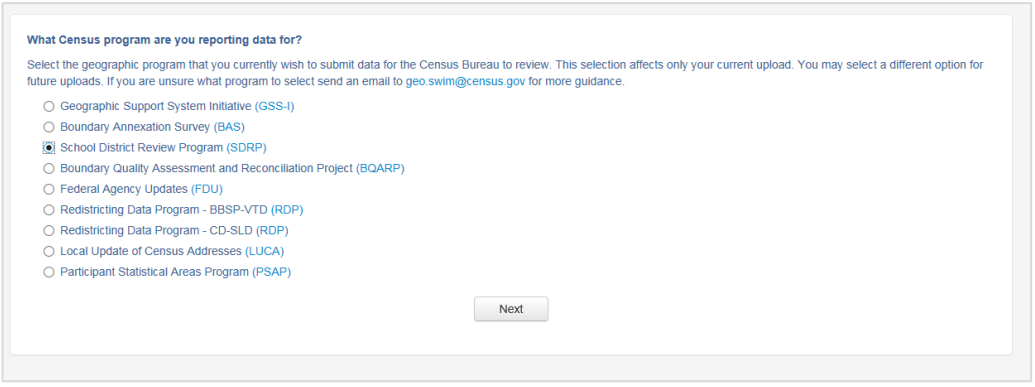
To submit your Annotation Phase changes to the Census Bureau, access the account in the SWIM, as shown in **Table 45** below.

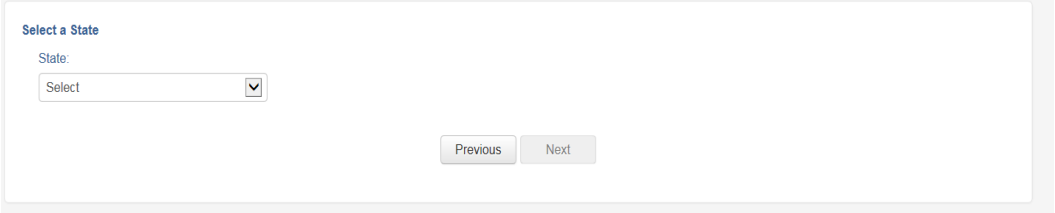
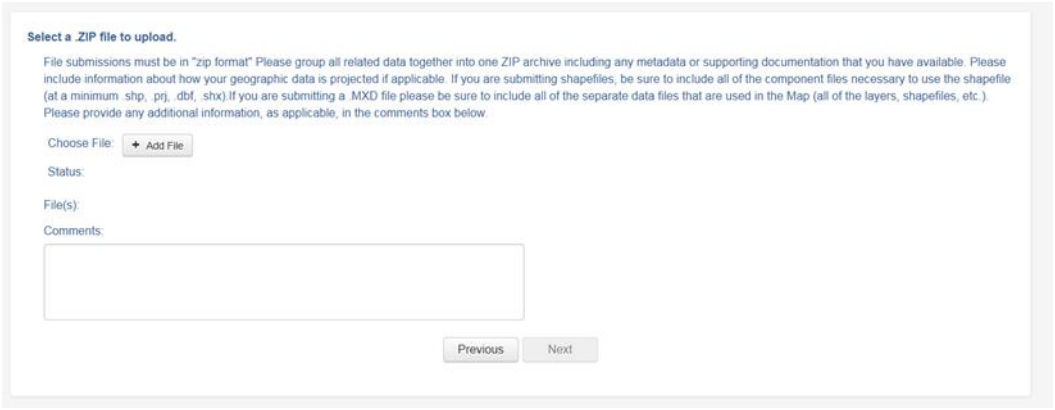
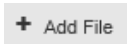
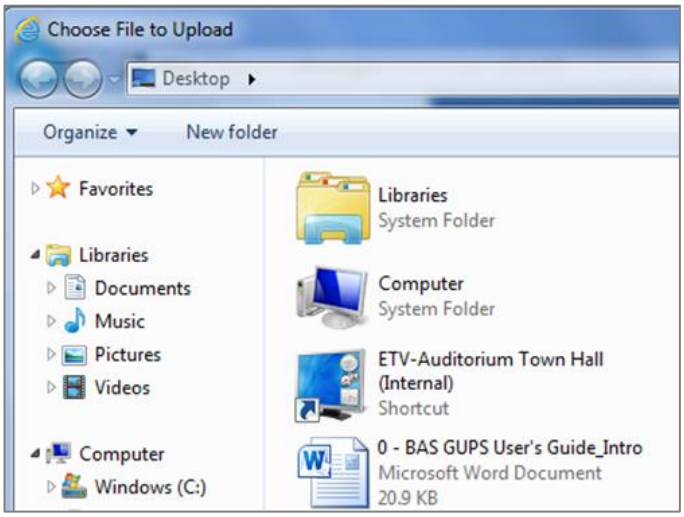
Note: For users that **already have a SWIM account**, have the user name (email address) and password ready. **For new users without a SWIM account**, contact the Census Bureau via email at <geo.school@census.gov> to request a SWIM token for the SDRP. Once a SWIM token has been assigned, create a SWIM account.

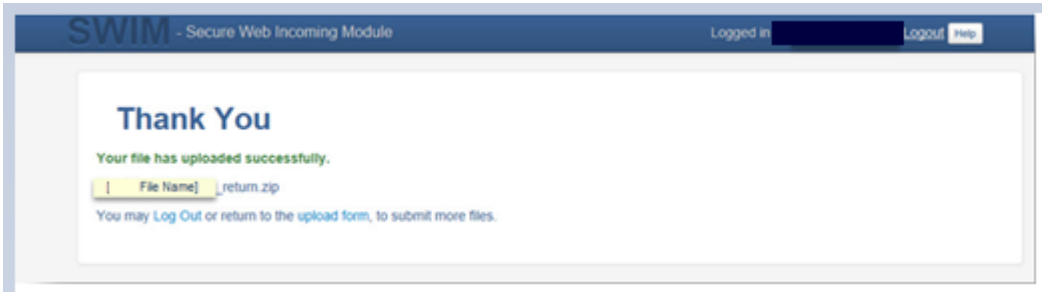
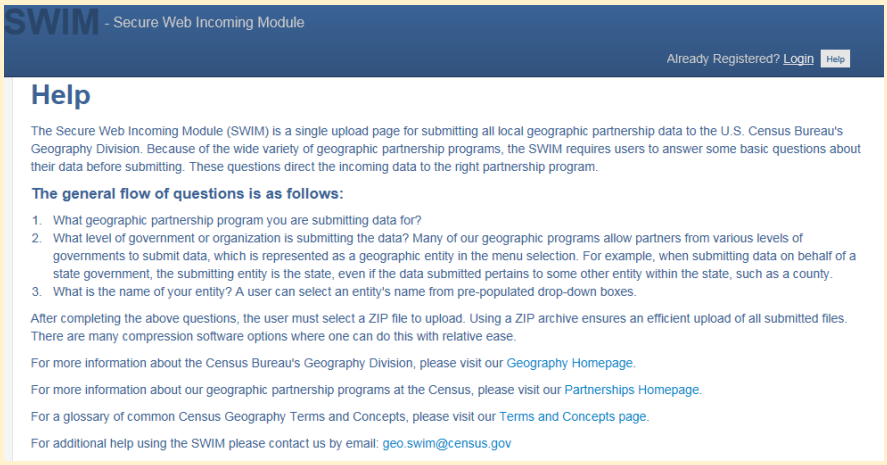
Table 45: Export Files for Submission to the Census Bureau

Step	Action and *Result*
Step 1	Open a new browser window and enter the URL: <https://respond.census.gov/swim/>. The SWIM login screen opens. 
Step 2	For users that already have a SWIM Account enter the email address and password. The email and password are case sensitive. Click the **Login** button. The **Welcome** screen opens.

Step	Action and *Result*
Step 3	Users without a SWIM Account must register. Click the **Register Account** button. The **Account Registration** screen opens. 
	All fields on the **Account Registration** screen are required.
Step 4	On the **Account Registration** screen, first, enter the 12-digit token provided by the Census Bureau. Then enter contact name, agency, and email in the appropriate fields.
Step 5	Create a password. The passwords must meet the five criteria below: 1. It must be 8 characters in length. 2. It must have at least one upper case character. 3. It must have at least one lower case character. 4. It must have at least one number. 5. It must have at least one special character (valid special characters are: #, !, $, *, &, ?, ~). **Note:** The commas shown immediately above are to separate the special characters listed. A comma is not a valid character for the password.
Step 6	Set up a security question (click the arrow on the right of the **Security Question** box and select a question in the drop-down list, then enter an answer in the **Answer** box). When finished, click the **Submit** button. A screen opens to confirm that the account has been successfully registered.  On the confirmation screen click **Login** in the phrase, **Go to Login**.

Step	Action and *Result*
Step 7	Login Screen. 
Step 8	On the login screen, enter the email and password, and then click the green **Login** button. The **Welcome** screen opens. 
Step 9	To begin an upload click the **Start New Upload** button. Select the **School District Review Program** radio button, and then click **Next** at the bottom of the screen. 

Step	Action and *Result*
Step 10	A screen opens asking which state is being reported. Click the radio button next to the appropriate state and then click the **Next** button. 
Step 11	The Select a .ZIP file to upload screen opens. 
Step 12	To upload a file, click the **+ Add File** button  on the screen. The **Choose File to Upload** window opens and allows navigation to the zip file's location. 
Step 13	Locate the zip file to upload and then double-click it. *The **Progress** field on the **Select a .ZIP file to upload** screen shows the progress of the upload. Once the upload is complete, the **Status** field shows **Success**, and the name of the file appears in the **File(s)** field.*

Step	Action and *Result*
Step 14	After uploading the file, type any comments (including pertinent information about data projection or supporting documentation) in the **Comments** field. Click the **Next** button. The "Thank You" page confirms the receipt of the submission. 
Step 15	To add additional files, click on the **upload form** link in the phrase "You may Log Out or return to the upload form, to submit more files." This choice returns to the **Welcome** screen. Otherwise, to log out, click on **Log Out**. 
	Be aware that after 15 minutes of inactivity SWIM sessions are deactivated.
NOTE	While working in SWIM obtain help by clicking on the **Help** button on any screen. After clicking the button, a screen opens with links to help resources. 

APPENDICES

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APPENDIX A DATA DICTIONARY AND RECORD LAYOUT FOR LISTINGS

A1 Listings Data Dictionary/Record Layout

Text and Excel files are produced for both the Annotation Phase and the Verification Phase of the SDRP.

For the Annotation Phase, the file names will be followed by "_A"; e.g., <ST>_SD_Inventory_A.txt, <ST>_SD_Inventory_A.xls where <ST> = two-digit State FIPS code.

For the Verification Phase, the file names will be followed by "_V"; e.g.,

<ST>_County_Coverage_V.txt. <ST>_SD_Inventory_V.xls where <ST> = two-digit State FIPS code.

A2 Data Dictionary for the School District Inventory and Grade Range File

These files follow the naming convention of <ST>_SD_Inventory_*.txt and <ST>_SD_Inventory_*.xls

The Data Dictionary (**Table 46**) describes the fields in the inventory, their length, data type, a brief description of the field, and the valid value ranges.

Table 46: Data Dictionary for the School District Inventory and Grade Range File

Attribute Field	Length	Type	Description	Value/Range
STATE CODE	2	VARCHAR	State FIPS (Federal Information Processing Standards) Code	01,02,04-06,08-13,15-42,44-51,53-56
SDLEA	5	VARCHAR	Federal School District Local Education Agency ID Number	00001-99998
LOGRADE	2	VARCHAR	School District Low Grade	PK,KG,01-11
HIGRADE	2	VARCHAR	School District High Grade	PK, KG, 01-12
SDLEVEL	1	VARCHAR	School District Level	E=Elementary; S=Secondary; U=Unified
SDTYPE	1	VARCHAR	School District Type	A=Pseudo; B=Dept. of Defense; C=Interstate; D=Bureau of Indian Affairs; E=Same Name
NAME	100	VARCHAR	School District Name	Not Blank

A3 Record Layout for the School District Inventory and Grade Range File

The Record Layout (**Table 47**) defines how each record's information is displayed giving the number of spaces in each column and the column name.

Table 47: Record Layout for the School District Inventory and Grade Range File

Space	Column Name
1-2	STATE CODE
4-8	SDLEA
10-11	LOGRADE
13-14	HIGRADE
16	SDLEVEL
18	SDTYPE
20-119	NAME

A4 Data Dictionary for the County Coverage File

These files follow the naming convention <ST>_County_Coverage_*.txt and <ST>_County_Coverage_*.xls.

The Data Dictionary Table (**Table 48**) describes the fields in the file, their length, data type, a brief description of the field, and the valid value ranges.

Table 48: Data Dictionary for the County Coverage File

Attribute Field	Length	Type	Description	Value/Range
STATE CODE	2	VARCHAR	State FIPS (Federal Information Processing Standards) Code	01,02,04-06,08-13,15-42,44-51,53-56
COUNTY CODE	3	VARCHAR	County FIPS (Federal Information Processing Standards) Code	001-840
COUNTY NAME	100	VARCHAR	County Name	Not Blank
SDLEA	5	VARCHAR	Federal School District Local Education Agency ID Number	00001-99998
NAME	100	VARCHAR	School District Name	Not Blank

A5 Record Layout for the County Coverage File

The Record Layout (**Table 49**) defines how each record's information is displayed giving the number of spaces in each column and the column name.

Table 49: Record Layout for the County Coverage File

Space	Column Name
1-2	STATE CODE
3-5	COUNTY CODE
7-106	COUNTY NAME
108-112	SDLEA
114-231	NAME

A6 Data Dictionary for the Coextensive Coverage File

These files follow the naming convention <ST>_Coextensive_Coverage_*.txt and <ST>_Coextensive_Coverage_*.xls.

The Data Dictionary (**Table 50**) describes the fields in the file, their length, data type, a brief description of the field, and the valid value ranges.

Table 50: Data Dictionary for the Coextensive File

Attribute Field	Length	Type	Description	Value/Range
STATE CODE	2	VARCHAR	State FIPS (Federal Information Processing Standards) Code	01,02,13,21,22,28, 37,45,47,49,51
COUNTY CODE	3	VARCHAR	County FIPS (Federal Information Processing Standards) Code	001-840
COUNTY NAME	100	VARCHAR	County Name	Not Blank
SDLEA	5	VARCHAR	Federal School District Local Education Agency ID Number	00001-99998
SDLEVEL	1	VARCHAR	School District Level	E=Elementary; S=Secondary: U=Unified
SDNAME	100	VARCHAR	School District Name	Not Blank
COEXTWITH	100	VARCHAR	Name of Entity School District Coextensive With	Not Blank
FIPS55 CODE	5	VARCHAR	FIPS(Federal Information Processing Standards) Code of Entity	001-840, 00000-98999, 99001-99840

A7 Record Layout for the Coextensive Coverage File

The Record Layout (**Table 51**) defines how each record's information is displayed giving the number of spaces in each column and the column name.

Table 51: Record Layout for the Coextensive Coverage File

Space	Column Name
1-2	STATE CODE
3-5	COUNTY CODE
7-106	COUNTY NAME
108-112	SDLEA
114	SDLEVEL
116-215	SDNAME
217-316	COEXTWITH
318-322	FIPS55 CODE

A8 Data Dictionary for the School District to Geography Relationship File

These files follow the naming convention <ST>_SD_GEO_Relationship_*.txt and <ST>_SD_GE) _Relationship_*.xls.

The Data Dictionary Table (**Table 52**) describes the fields in the file, their length, data type, a brief description of the field, and the valid value ranges.

Table 52: Data Dictionary for the School District to Geography Relationship File

Attribute Field	Length	Type	Description	Value/Range
SDLEA	5	VARCHAR	Federal School District Local Education Agency ID Number	00001-99998
SDLEVEL	1	VARCHAR	School District Level	E=Elementary; S=Secondary; U=Unified
SDNAME	100	VARCHAR	School District Name	Not Blank
COUNTY SUBDIVISION 'PART' FLAG	1	VARCHAR	School District Partially Covers County Subdivision Part Flag	P
STATE CODE	2	VARCHAR	State FIPS (Federal Information Processing Standards) Code	01, 02, 04-06, 08-13, 15-42, 44-51, 53-56
COUNTY CODE	3	VARCHAR	County FIPS (Federal Information Processing Standards) Code	001-840
COUNTY SUBDIVISION CODE	5	VARCHAR	County Subdivision FIPS (Federal Information Processing Standards) Code	00000-98999
COUNTY SUBDIVISION NAME	100	VARCHAR	County Subdivision Name	Not Blank
COUNTY SUBDIVISION NAME SUFFIX	50	VARCHAR	County Subdivision Name Suffix	barrio, borough, CCD, census subarea, census subdistrict, city, county, district, precinct, gore, grant, location, municipality,

Attribute Field	Length	Type	Description	Value/Range
				plantation, barrio-pueblo, purchase, town, township, UT, village, charter township, reservation, no suffix exists
PLACE 'PART' FLAG	1	VARCHAR	School District Partially covers Incorporated Place Part Flag	P
PLACE CODE	5	VARCHAR	Place FIPS (Federal Information Processing Standards) Code	00001-89999
PLACE NAME	100	VARCHAR	Place Name	Not Blank
PLACE NAME SUFFIX	50	VARCHAR	Incorporated Place Name Suffix	borough, city, metro township, municipality, town, village, city and borough, consolidated government, corporation, metropolitan government, urban county, unified government, no suffix exists

A9 Record Layout for the School District to Geography Relationship File

The Record Layout (**Table 53**) defines how each record's information is displayed giving the number of spaces in each column and the column name.

Table 53: Record Layout for the School District to Geography Relationship File

Space	Column Name
1-5	SDLEA
7	SDLEVEL
9-108	SDNAME
110	COUNTY SUBDIVISION 'PART' FLAG
112-113	STATE CODE
115-117	COUNTY CODE
119-123	COUNTY SUBDIVISION CODE
125-224	COUNTY SUBDIVISION NAME
226-275	COUNTY SUBDIVISION SUFFIX
3	PLACE 'PART' FLAG
279-283	PLACE CODE
285-384	PLACE NAME
386-435	PLACE NAME SUFFIX

APPENDIX B PSEUDO SCHOOL DISTRICTS

This section applies to states that have pseudo school districts.

In order to create accurate tabulations to support Title I funding allocations, the Census Bureau creates a pseudo school district for each school district that is financially responsible for providing education for one set of grades in one geographic area and financially responsible for a different set of grades in a different geographic area. For example, a school district that is financially responsible for grades K-12 in one area is also financially responsible for grades 9-12 in a different area where it shares financial responsibility with an elementary school district. The pseudo district is always associated with a regular district so that the regular district is given "credit" for the additional financial responsibility.

In this example, the Science Hill Independent School District has very few children in grades 9-12, so those children attend school in the Pulaski County School District (**Figure 63**). Pulaski County School District is financially responsible for educating children in grades 9-12 who live in the Science Hill Independent School District and Pulaski County School District is financially responsible for educating children in grade ranges K-12 within Pulaski County, outside of the Science Hill Independent School District. Therefore, the Census Bureau created the pseudo district "Pulaski County School District for Science Hill" using the same boundaries as the Science Hill Independent School District and assigned grades 9-12 to "Pulaski County School District for Science Hill." The Science Hill Independent School District is assigned grades K-8 while the Pulaski County School District maintains its grades K-12.

Pulaski County, Kentucky

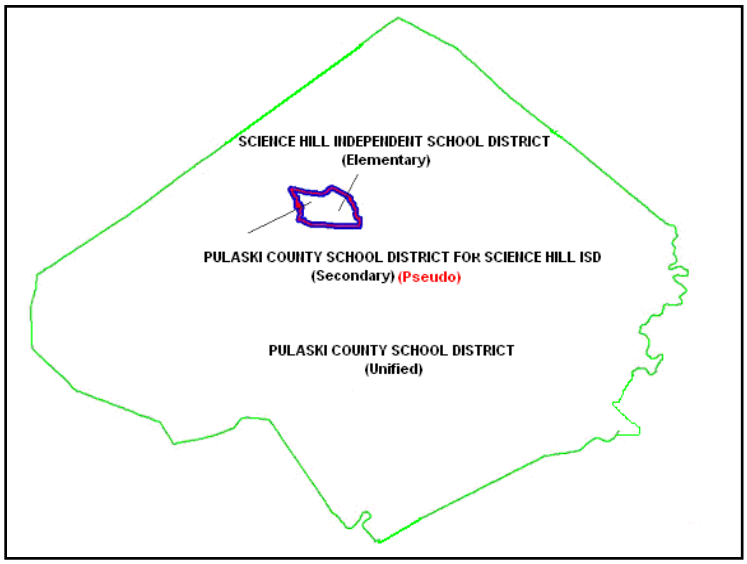

Figure 63. Map of Pulaski County, Kentucky School District

These pseudo districts are identified in the Inventory and Grade Range file by a flag with a value of "A." In the School District Boundary Shapefiles, pseudo districts are identified by an SDTYPE of "A."

In addition, the Census Bureau assigns them a pseudo Federal School District LEA ID number and a school district name that is slightly different from the official name of the school district.

They appear in the School District Inventory and Grade Range Listing1 as shown in **Table 54**.

Table 54: Pseudo School Districts

State	LEA	Grade Range	Flag	Name of School District
21	04950	PK-12	--	Pulaski County School District
21	21002	09-12	A	Pulaski County School District for Science Hill ISD
21	05220	PK-08	--	Science Hill Independent School District

When submitting a pseudo school district, provide the following information:

- Official School District Name and Federal School District LEA ID number.
- Alternate Grade Range.
- Service area of Alternate Grade Range.

Currently, the Census Bureau has defined pseudo school districts in California, Georgia, Illinois, Kentucky, Massachusetts, Minnesota, New Jersey, Oklahoma, South Carolina, Tennessee, Texas, and Vermont. **To discuss school districts that fit the above description, contact the School District Team at <geo.school@census.gov>.**

1 Refer to **Appendix A** for text file, data dictionary and record layout information.

APPENDIX C MAF/TIGER FEATURE CLASSIFICATION CODE (MTFCC) DESCRIPTIONS

Table 55: MAF/TIGER Feature Classification Code

MTFCC	Feature Class	Feature Class Description
C3022	Mountain Peak or Summit	A prominent elevation rising above the surrounding level of the Earth's surface.
C3023	Island	An area of dry or relatively dry land surrounded by water or low wetland (including archipelago, atoll, cay, hammock, hummock, isla, isle, key, moku and rock).
C3024	Levee	An embankment flanking a stream or other flowing water feature to prevent overflow.
C3026	Quarry (not water-filled), Open Pit Mine or Mine	An area from which commercial minerals are or were removed from the Earth; not including an oilfield or gas field.
C3027	Dam	A barrier built across the course of a stream to impound water and/or control water flow.
C3061	Cul-de-sac	An expanded paved area at the end of a street used by vehicles for turning around. For mapping purposes, the Census Bureau maps it only as a point feature.
C3062	Traffic Circle	A circular intersection allowing for continuous movement of traffic at the meeting of roadways.
C3066	Gate	A movable barrier across a road.
C3067	Toll Booth	A structure or barrier where a fee is collected for using a road.
C3071	Lookout Tower	A manmade structure, higher than its diameter, used for observation.
C3074	Lighthouse Beacon	A manmade structure, higher than its diameter, used for transmission of light and possibly sound generally to aid in navigation.
C3075	Tank/Tank Farm	One or more manmade structures, each higher than its diameter, used for liquid (other than water) or gas storage or for distribution activities.
C3076	Windmill Farm	One or more manmade structures used to generate power from the wind.
C3077	Solar Farm	One or more manmade structures used to generate power from the sun.

MTFCC	Feature Class	Feature Class Description
C3078	Monument or Memorial	A manmade structure to educate, commemorate, or memorialize an event, person, or feature.
C3079	Boundary Monument Point	A material object placed on or near a boundary line to preserve and identify the location of the boundary line on the ground.
C3080	Survey Control Point	A point on the ground whose position (horizontal or vertical) is known and can be used as a base for additional survey work.
C3081	Locality Point	A point that identifies the location and name of an unbounded locality (e.g., crossroad, community, populated place or locale).
C3085	Alaska Native Village Official Point	A point that serves as the core of an Alaska Native village and is used in defining Alaska Native village statistical areas.
G2100	American Indian Area	A legally defined state- or federally recognized reservation and/or off-reservation trust land (excludes statistical American Indian areas).
G2120	Hawaiian Home Land	A legal area held in trust for the benefit of Native Hawaiians.
G2130	Alaska Native Village Statistical Area	A statistical geographic entity that represents the residences, permanent and/or seasonal, for Alaska Natives who are members of or receiving governmental services from the defining legal Alaska Native Village corporation.
G2140	Oklahoma Tribal Statistical Area	A statistical entity identified and delineated by the Census Bureau in consultation with federally recognized American Indian tribes that have no current reservation, but had a former reservation in Oklahoma.
G2150	State-designated Tribal Statistical Area	A statistical geographic entity identified and delineated for the Census Bureau by a state-appointed liaison for a state-recognized American Indian tribe that does not currently have a reservation and/or lands in trust.
G2160	Tribal Designated Statistical Area	A statistical geographic entity identified and delineated for the Census Bureau by a federally recognized American Indian tribe that does not currently have a reservation and/or off-reservation trust land.
G2170	American Indian Joint Use Area	An area administered jointly and/or claimed by two or more American Indian tribes.
G2200	Alaska Native Regional Corporation	Corporate entities established to conduct both business and nonprofit affairs of Alaska Natives pursuant to the Alaska Native Claims Settlement Act of 1972 (Public Law 92-203). There are twelve geographically defined ANRCs and they are all within and cover most of the State of Alaska (the Annette Island Reserve-an American Indian reservation-is excluded from any ANRC). The boundaries of ANRCs have been legally established.

MTFCC	Feature Class	Feature Class Description
G2300	Tribal Subdivision	Administrative subdivisions of federally recognized American Indian reservations, off-reservation trust lands, or Oklahoma tribal statistical areas (OTSAs). These entities are internal units of self-government or administration that serve social, cultural, and/or economic purposes for the American Indians on the reservations, off-reservation trust lands, or OTSAs.
G2400	Tribal Census Tract	A relatively small and permanent statistical subdivision of a federally recognized American Indian reservation and/or off-reservation trust land, delineated by American Indian tribal participants or the Census Bureau for the purpose of presenting demographic data.
G2410	Tribal Block Group	A cluster of census blocks within a single tribal census tract delineated by American Indian tribal participants or the Census Bureau for the purpose of presenting demographic data.
G3100	Combined Statistical Area	A grouping of adjacent metropolitan and/or micropolitan statistical areas that have a degree of economic and social integration, as measured by commuting.
G3110	Metropolitan and Micropolitan Statistical Area	An area containing a substantial population nucleus together with adjacent communities having a high degree of economic and social integration with that core, as measured by commuting. Defined using whole counties and equivalents.
G3120	Metropolitan Division	A county or grouping of counties that is a subdivision of a Metropolitan Statistical Area containing an urbanized area with a population of 2.5 million or more.
G3200	Combined New England City and Town Area	A grouping of adjacent New England city and town areas that have a degree of economic and social integration, as measured by commuting.
G3210	New England City and Town Metropolitan and Micropolitan Statistical Area	An area containing a substantial population nucleus together with adjacent communities having a high degree of economic and social integration with that core, as measured by commuting. Defined using Minor Civil Divisions (MCDs) in New England.
G3220	New England City and Town Division	A grouping of cities and towns in New England that is a subdivision of a New England City and Town Area containing an urbanized area with a population of 2.5 million or more.
G3500	Urban Area	Densely settled territory that contains at least 2,500 people. The subtypes of this feature are Urbanized Area (UA), which consists of 50,000 + people and Urban Cluster, which ranges between 2,500 and 49,999 people.
G4000	State or Equivalent Feature	The primary governmental divisions of the United States. The District of Columbia is treated as a statistical equivalent of a state for census purposes, as is Puerto Rico.

MTFCC	Feature Class	Feature Class Description
G4020	County or Equivalent Feature	The primary division of a state or state equivalent area. The primary divisions of 48 states are termed County, but other terms are used such as Borough in Alaska, Parish in Louisiana, and Municipio in Puerto Rico. This feature includes independent cities, which are incorporated places that are not part of any county.
G4040	County Subdivision	The primary divisions of counties and equivalent features for the reporting of Census Bureau data. The subtypes of this feature are Minor Civil Division, Census County Division/Census Subarea, and Unorganized Territory. This feature includes independent places, which are incorporated places that are not part of any county subdivision.
G4050	Estate	Estates are subdivisions of the three major islands in the United States Virgin Islands (USVI).
G4060	Subbarrio (Subminor Civil Division)	Legally defined divisions (subbarrios) of minor civil divisions (barrios-pueblo and barrios) in Puerto Rico.
G4110	Incorporated Place	A legal entity incorporated under state law to provide general-purpose governmental services to a concentration of population. Incorporated places are generally designated as a city, borough, municipality, town, village, or, in a few instances, have no legal description.
G4120	Consolidated City	An incorporated place that has merged governmentally with a county or minor civil division, but one or more of the incorporated places continues to function within the consolidation. It is a place that contains additional separately incorporated places.
G4210	Census Designated Place	A statistical area defined for a named concentration of population and the statistical counterpart of an incorporated place.
G4300	Economic Census Place	The lowest level of geographic area for presentation of some types of Economic Census data. It includes incorporated places, consolidated cities, census designated places (CDPs), minor civil divisions (MCDs) in selected states, and balances of MCDs or counties. An incorporated place, CDP, MCD, or balance of MCD qualifies as an economic census place if it contains 5,000 or more residents, or 5,000 or more jobs, according to the most current data available.
G5020	Census Tract	Relatively permanent statistical subdivisions of a County or equivalent feature delineated by local participants as part of the Census Bureau's Participant Statistical Areas Program.
G5030	Block Group	A cluster of census blocks having the same first digit of their four-digit identifying numbers within a Census Tract. For example, block group 3 (BG 3) within a Census Tract includes all blocks numbered from 3000 to 3999.

MTFCC	Feature Class	Feature Class Description
G5035	Block Area Grouping	A user-defined group of islands forming a single census tabulation block. A BAG must: (1) consist of two or more islands, (2) have a perimeter entirely over water, (3) not overlap, and (4) not cross the boundary of other tabulation geographies, such as county or incorporated place boundaries.
G5040	Tabulation Block	The lowest-order census defined statistical area. It is an area, such as a city block, bounded primarily by physical features but sometimes by invisible city or property boundaries. A tabulation block boundary does not cross the boundary of any other geographic area for which the Census Bureau tabulates data. The subtypes of this feature are Count Question Resolution (CQR), current, and census.
G5200	Congressional District	The 435 areas from which people are elected to the U.S. House of Representatives. Additional equivalent features exist for state equivalents with nonvoting delegates or no representative. The subtypes of this feature are 106th, 107th, 108th, 109th, and 111th Congressional Districts, plus subsequent Congresses.
G5210	State Legislative District (Upper Chamber	Areas established by a state or equivalent government from which members are elected to the upper or unicameral chamber of a state governing body. The upper chamber is the senate in a bicameral legislature, and the unicameral case is a single house legislature (Nebraska).
G5220	State Legislative District (Lower Chamber)	Areas established by a state or equivalent government from which members are elected to the lower chamber of a state governing body. The lower chamber is the House of Representatives in a bicameral legislature.
G5240	Voting District	The generic name for the geographic features, such as precincts, wards, and election districts, established by state, local, and tribal governments for the purpose of conducting elections.
G5400	Elementary School District	A geographic area within which officials provide public elementary grade-level educational services for residents.
G5410	Secondary School District	A geographic area within which officials provide public secondary grade-level educational services for residents.
G5420	Unified School District	A geographic area within which officials provide public educational services for all grade levels for residents.
G6120	Public-Use Microdata Area	A decennial census area with a population of at least 100,000 or more persons for which the Census Bureau provides selected extracts of household-level data that are screened to protect confidentiality.
G6300	Traffic Analysis District	An area delineated by Metropolitan Planning Organizations (MPOs) and state Departments of Transportation (DOTs) for

MTFCC	Feature Class	Feature Class Description
		tabulating journey-to-work and place-of-work data. A Traffic Analysis District (TAD) consists of one or more Traffic Analysis Zones (TAZs).
G6320	Traffic Analysis Zone	An area delineated by Metropolitan Planning Organizations (MPOs) and state Departments of Transportation (DOTs) for tabulating journey-to-work and place-of-work data.
G6330	Urban Growth Area	An area defined under state authority to manage urbanization that the Census Bureau includes in the MAF/TIGER System in agreement with the state.
G6350	ZIP Code Tabulation Area (Five-Digit)	An approximate statistical-area representation of a U.S. Postal Service (USPS) 5-digit ZIP Code service area.
G6400	Commercial Region	For the purpose of presenting economic statistical data, municipios in Puerto Rico are grouped into commercial regions.
H1100	Connector	A known, but nonspecific, hydrographic connection between two nonadjacent water features.
H2025	Swamp/Marsh	A poorly drained wetland, fresh or saltwater, wooded or grassy, possibly covered with open water. [includes bog, cienega, marais and pocosin].
H2030	Lake/Pond	A standing body of water that is surrounded by land.
H2040	Reservoir	An artificially impounded body of water.
H2041	Treatment Pond	An artificial body of water built to treat fouled water.
H2051	Bay/Estuary/Gulf/Sound	A body of water partly surrounded by land. [includes arm, bight, cove and inlet].
H2053	Ocean/Sea	The great body of salt water that covers much of the earth.
H2060	Gravel Pit/Quarry filled with water	A body of water in a place or area from which commercial minerals were removed from the Earth.
H2081	Glacier	A body of ice moving outward and down slope from an area of accumulation; an area of relatively permanent snow or ice on the top or side of a mountain or mountainous area. [includes ice field and ice patch].
H3010	Stream/River	A natural flowing waterway. [includes anabranch, awawa, branch, brook, creek, distributary, fork, kill, pup, rio, and run].
H3013	Braided Stream	A natural flowing waterway with an intricate network of interlacing channels.

MTFCC	Feature Class	Feature Class Description
H3020	Canal, Ditch or Aqueduct	An artificial waterway constructed to transport water, to irrigate or drain land, to connect two or more bodies of water, or to serve as a waterway for watercraft. [includes lateral].
K1225	Crew-of-Vessel Location	A point or area in which the population of military or merchant marine vessels at sea are assigned, usually being at or near the homeport pier.
K1231	Hospital/Hospice/Urgent Care Facility	One or more structures where the sick or injured may receive medical or surgical attention. [including infirmary].
K1235	Juvenile Institution	A facility (correctional and non-correctional) where groups of juveniles reside; this includes training schools, detention centers, residential treatment centers and orphanages.
K1236	Local Jail or Detention Center	One or more structures that serve as a place for the confinement of adult persons in lawful detention, administered by a local (county, municipal, etc.) government.
K1237	Federal Penitentiary, State Prison, or Prison Farm	An institution that serves as a place for the confinement of adult persons in lawful detention, administered by the federal government or a state government.
K1238	Other Correctional Institution	One or more structures that serve as a place for the confinement of adult persons in lawful detention, not elsewhere classified or administered by a government of unknown jurisdiction.
K1239	Convent, Monastery, Rectory, Other Religious Group Quarters	One or more structures intended for use as a residence for those having a religious vocation.
K1246	Community Center	Community Center.
K2110	Military Installation	An area owned and/or occupied by the Department of Defense for use by a branch of the armed forces (such as the Army, Navy, Air Force, Marines, or Coast Guard), or a state owned area for the use of the National Guard.
K2165	Government Center	A place used by members of government (either federal, state, local, or tribal) for administration and public business.
K2167	Convention Center	An exhibition hall or conference center with enough open space to host public and private business and social events.
K2180	Park	Parkland defined and administered by federal, state, and local governments.
K2181	National Park Service Land	Area—National parks, National Monuments, and so forth—under the jurisdiction of the National Park Service.

MTFCC	Feature Class	Feature Class Description
K2182	National Forest or Other Federal Land	Land under the management and jurisdiction of the federal government, specifically including areas designated as National Forest, and excluding areas under the jurisdiction of the National Park Service.
K2183	Tribal Park, Forest, or Recreation Area	A place or area set aside for recreation or preservation of a cultural or natural resource and under the administration of an American Indian tribe.
K2184	State Park, Forest, or Recreation Area	A place or area set aside for recreation or preservation of a cultural or natural resource and under the administration of a state government.
K2185	Regional Park, Forest, or Recreation Area	A place or area set aside for recreation or preservation of a cultural or natural resource and under the administration of a regional government.
K2186	County Park, Forest, or Recreation Area	A place or area set aside for recreation or preservation of a cultural or natural resource and under the administration of a county government.
K2187	County Subdivision Park, Forest, or Recreation Area	A place or area set aside for recreation or preservation of a cultural or natural resource and under the administration of a minor civil division (town/township) government.
K2188	Incorporated Place Park, Forest, or Recreation Area	A place or area set aside for recreation or preservation of a cultural or natural resource and under the administration of a municipal government.
K2189	Private Park, Forest, or Recreation Area	A privately owned place or area set aside for recreation or preservation of a cultural or natural resource.
K2190	Other Park, Forest, or Recreation Area (quasi-public, independent park, commission, etc.)	A place or area set aside for recreation or preservation of a cultural or natural resource and under the administration of some other type of government or agency such as an independent park authority or commission.
K2191	Post Office	An official facility of the U.S. Postal Service used for processing and distributing mail and other postal material.
K2193	Fire Department	Fire Department.
K2194	Police Station	Police Station.
K2195	Library	Library.
K2196	City/Town Hall	City/Town Hall.
K2400	Transportation Terminal	A facility where one or more modes of transportation can be accessed by people or for the shipment of goods; examples of such

MTFCC	Feature Class	Feature Class Description
		a facility include marine terminal, bus station, train station, airport and truck warehouse.
K2424	Marina	A place where privately owned, light-craft are moored.
K2432	Pier/Dock	A platform built out from the shore into the water and supported by piles. This platform may provide access to ships and boats, or it may be used for recreational purposes.
K2451	Airport or Airfield	A manmade facility maintained for the use of aircraft. [including airstrip, landing field and landing strip].
K2452	Train Station, Trolley or Mass Transit Rail Station	A place where travelers can board and exit rail transit lines, including associated ticketing, freight, and other commercial offices.
K2453	Bus Terminal	A place where travelers can board and exit mass motor vehicle transit, including associated ticketing, freight, and other commercial offices.
K2454	Marine Terminal	A place where travelers can board and exit water transit or where cargo is handled, including associated ticketing, freight, and other commercial offices.
K2455	Seaplane Anchorage	A place where an airplane equipped with floats for landing on or taking off from a body of water can debark and load.
K2456	Airport—Intermodal Transportation Hub/Terminal	A major air transportation facility where travelers can board and exit airplanes and connect with other (i.e. non-air) modes of transportation.
K2457	Airport—Statistical Representation	The area of an airport adjusted to include whole 2000 census blocks used for the delineation of urban areas.
K2458	Park and Ride Facility/Parking Lot	A place where motorists can park their cars and transfer to other modes of transportation.
K2459	Runway/Taxiway	A fairly level and usually paved expanse used by airplanes for taking off and landing at an airport.
K2460	Helicopter Landing Pad	A fairly level and usually paved expanse used by helicopters for taking off and landing.
K2540	University or College	A building or group of buildings used as an institution for post-secondary study, teaching, and learning. [including seminary].
K2543	School or Academy	A building or group of buildings used as an institution for preschool, elementary or secondary study, teaching, and learning. [including elementary school and high school].

MTFCC	Feature Class	Feature Class Description
K2545	Museum, Visitor Center, Cultural Center, or Tourist Attraction	An attraction of historical, cultural, educational or other interest that provides information or displays artifacts.
K2561	Golf Course	A place designed for playing golf.
K2582	Cemetery	A place or area for burying the dead. [including burying ground and memorial garden].
K2586	Zoo	A facility in which terrestrial and/or marine animals are confined within enclosures and displayed to the public for educational, preservation, and research purposes.
K3544	Place of Worship	A sanctified place or structure where people gather for religious worship; examples include church, synagogue, temple, and mosque.
L4010	Pipeline	A long tubular conduit or series of pipes, often underground, with pumps and valves for flow control, used to transport fluid (e.g., crude oil, natural gas), especially over great distances.
L4020	Powerline	One or more wires, often on elevated towers, used for conducting high-voltage electric power.
L4031	Aerial Tramway/Ski Lift	A conveyance that transports passengers or freight in carriers suspended from cables and supported by a series of towers.
L4110	Fence Line	A man-made barrier enclosing or bordering a field, yard, etc., usually made of posts and wire or wood, used to prevent entrance, to confine, or to mark a boundary.
L4121	Ridge Line	The line of highest elevation along a ridge.
L4125	Cliff/Escarpment	A very steep or vertical slope. [including bluff, crag, head, headland, nose, palisades, precipice, promontory, rim and rimrock].
L4130	Point-to-Point Line	A line defined as beginning at one location point and ending at another, both of which are in sight.
L4140	Property/Parcel Line (Including PLSS)	This feature class may denote a nonvisible boundary of either public or private lands (e.g., a park boundary) or it may denote a Public Land Survey System or equivalent survey line.
L4150	Coastline	The line that separates either land or Inland water from Coastal, Territorial or Great Lakes water. Where land directly borders Coastal, Territorial or Great Lakes water, the shoreline represents the Coastline. Where Inland water (such as a river) flows into Coastal, Territorial or Great Lakes water, the closure line separating the Inland water from the other class of water represents the Coastline.

MTFCC	Feature Class	Feature Class Description
L4165	Ferry Crossing	The route used to carry or convey people or cargo back and forth over a waterbody in a boat.
P0001	Nonvisible Linear Legal/Statistical Boundary	A legal/statistical boundary line that does not correspond to a shoreline or other visible feature on the ground.
P0002	Perennial Shoreline	The more-or-less permanent boundary between land and water for a water feature that exists year-round.
P0003	Intermittent Shoreline	The boundary between land and water (when water is present) for a water feature that does not exist year-round.
P0004	Other non-visible bounding Edge (e.g., Census water boundary, boundary of an aerial feature)	A bounding Edge that does not represent a legal/statistical boundary, and does not correspond to a shoreline or other visible feature on the ground. Many such Edges bound area landmarks, while many others separate water features from each other (e.g., where a bay meets the ocean).
R1011	Railroad Feature (Main, Spur, or Yard)	A line of fixed rails or tracks that carries mainstream railroad traffic. Such a rail line can be a main line or spur line, or part of a rail yard.
R1051	Carline, Streetcar Track, Monorail, Other Mass Transit	Mass transit rail lines (including lines for rapid transit, monorails, streetcars, light rail, etc.) that are typically inaccessible to mainstream railroad traffic and whose tracks are not part of a road right-of-way.
R1052	Cog Rail Line, Incline Rail Line, Tram	A special purpose rail line for climbing steep grades that is typically inaccessible to mainstream railroad traffic. Note that aerial tramways and streetcars (which may also be called “trams”) are accounted for by other MTFCCs and do not belong in R1052.
S1100	Primary Road	Primary roads are generally divided, limited-access highways within the interstate highway system or under state management, and are distinguished by the presence of interchanges. These highways are accessible by ramps and may include some toll highways.
S1200	Secondary Road	Secondary roads are main arteries, usually in the U.S. Highway, State Highway or County Highway system. These roads have one or more lanes of traffic in each direction, may or may not be divided, and usually have at-grade intersections with many other roads and driveways. They often have both a local name and a route number.
S1400	Local Neighborhood Road, Rural Road, City Street	Generally, a paved non-arterial street, road, or byway that usually has a single lane of traffic in each direction. Roads in this feature class may be privately or publicly maintained. Scenic park roads would be included in this feature class, as would (depending on the region of the country) some unpaved roads.

MTFCC	Feature Class	Feature Class Description
S1500	Vehicular Trail (4WD)	An unpaved dirt trail where a four-wheel drive vehicle is required. These vehicular trails are found almost exclusively in very rural areas. Minor, unpaved roads usable by ordinary cars and trucks belong in the S1400 category.
S1630	Ramp	A road that allows controlled access from adjacent roads onto a limited access highway, often in the form of a cloverleaf interchange. These roads are unaddressable and do not carry a name in the MAF/TIGER System.
S1640	Service Drive usually along a limited access highway	A road, usually paralleling a limited access highway that provides access to structures along the highway. These roads can be named and may intersect with other roads.
S1710	Walkway/Pedestrian Trail	A path that is used for walking, being either too narrow for or legally restricted from vehicular traffic.
S1720	Stairway	A pedestrian passageway from one level to another by a series of steps.
S1730	Alley	A service road that does not generally have associated addressed structures and is usually unnamed. It is located at the rear of buildings and properties and is used for deliveries.
S1740	Private Road for service vehicles (logging, oil fields, ranches, etc.)	A road within private property that is privately maintained for service, extractive, or other purposes. These roads are often unnamed.
S1750	Internal U.S. Census Bureau use	Internal U.S. Census Bureau use.
S1780	Parking Lot Road	The main travel route for vehicles through a paved parking area.
S1820	Bike Path or Trail	A path that is used for manual or small, motorized bicycles, being either too narrow for or legally restricted from vehicular traffic.
S1830	Bridle Path	A path that is used for horses, being either too narrow for or legally restricted from vehicular traffic.
S2000	Road Median	The unpaved area or barrier between the carriageways of a divided road.

The information in this table was last updated in October 2015.

APPENDIX D STANDARD STREET TYPE ABBREVIATIONS

The street name types and their abbreviations are shown in **Table 56**.

Table 56: Standard Street Type Abbreviations

Street Name Type	Standard Abbreviation
ALLEY	ALY
ANEX	ANX
ARCADE	ARC
AVENUE	AVE
BAYOU	BYU
BEACH	BCH
BEND	BND
BLUFF	BLF
BLUFFS	BLFS
BOTTOM	BTM
BOULEVARD	BLVD
BRANCH	BR
BRIDGE	BRG
BROOK	BRK
BROOKS	BRKS
BURG	BG
BURGS	BGS
BYPASS	BYP
CAMP	CP
CANYON	CYN
CAPE	CPE
CAUSEWAY	CSWY
CENTER	CTR
CENTERS	CTRS
CIRCLE	CIR
CIRCLES	CIRS
CLIFF	CLF
CLIFFS	CLFS
CLUB	CLB

Street Name Type	Standard Abbreviation
COMMON	CMN
COMMONS	CMNS
CORNER	COR
CORNERS	CORS
COURSE	CRSE
COURT	CT
COURTS	CTS
COVE	CV
COVES	CVS
CREEK	CRK
CRESCENT	CRES
CREST	CRST
CROSSING	XING
CROSSROAD	XRD
CROSSROADS	XRDS
CURVE	CURV
DALE	DL
DAM	DM
DIVIDE	DV
DRIVE	DR
DRIVES	DRS
ESTATE	EST
ESTATES	ESTS
EXPRESSWAY	EXPY
EXTENSION	EXT
EXTENSIONS	EXTS
FALL	FALL
FALLS	FLS
FERRY	FRY
FIELD	FLD
FIELDS	FLDS
FLAT	FLT
FLATS	FLTS

Street Name Type	Standard Abbreviation
FORD	FRD
FORDS	FRDS
FOREST	FRST
FORGE	FRG
FORGES	FRGS
FORK	FRK
FORKS	FRKS
FORT	FT
FREEWAY	FWY
GARDEN	GDN
GARDENS	GDNS
GATEWAY	GTWY
GLEN	GLN
GLENS	GLNS
GREEN	GRN
GREENS	GRNS
GROVE	GRV
GROVES	GRVS
HARBOR	HBR
HARBORS	HBRS
HAVEN	HVN
HEIGHTS	HTS
HIGHWAY	HWY
HILL	HL
HILLS	HLS
HOLLOW	HOLW
INLET	INLT
ISLAND	IS
ISLANDS	ISS
ISLE	ISLE
JUNCTION	JCT
JUNCTIONS	JCTS
KEY	KY

Street Name Type	Standard Abbreviation
KEYS	KYS
KNOLL	KNL
KNOLLS	KNLS
LAKE	LK
LAKES	LKS
LAND	LAND
LANDING	LNDG
LANE	LN
LIGHT	LGT
LIGHTS	LGTS
LOAF	LF
LOCK	LCK
LOCKS	LCKS
LODGE	LDG
LOOP	LOOP
MALL	MALL
MANOR	MNR
MANORS	MNRS
MEADOW	MDW
MEADOWS	MDWS
MEWS	MEWS
MILL	ML
MILLS	MLS
MISSION	MSN
MOTORWAY	MTWY
MOUNT	MT
MOUNTAIN	MTN
MOUNTAINS	MTNS
NECK	NCK
ORCHARD	ORCH
OVAL	OVAL
OVERPASS	OPAS
PARK	PARK

Street Name Type	Standard Abbreviation
PARKS	PARK
PARKWAY	PKWY
PARKWAYS	PKWY
PASS	PASS
PASSAGE	PSGE
PATH	PATH
PIKE	PIKE
PINE	PNE
PINES	PNES
PLACE	PL
PLAIN	PLN
PLAINS	PLNS
PLAZA	PLZ
POINT	PT
POINTS	PTS
PORT	PRT
PORTS	PRTS
PRAIRIE	PR
RADIAL	RADL
RAMP	RAMP
RANCH	RNCH
RAPID	RPD
RAPIDS	RPDS
REST	RST
RIDGE	RDG
RIDGES	RDGS
RIVER	RIV
ROAD	RD
ROADS	RDS
ROUTE	RTE
ROW	ROW
RUE	RUE
RUN	RUN

Street Name Type	Standard Abbreviation
SHOAL	SHL
SHOALS	SHLS
SHORE	SHR
SHORES	SHRS
SKYWAY	SKWY
SPRING	SPG
SPRINGS	SPGS
SPUR	SPUR
SPURS	SPUR
SQUARE	SQ
SQUARES	SQS
STATION	STA
STRAVENUE	STRA
STREAM	STRM
STREET	ST
STREETS	STS
SUMMIT	SMT
TERRACE	TER
THROUGHWAY	TRWY
TRACE	TRCE
TRACK	TRAK
TRAFFICWAY	TRFY
TRAIL	TRL
TRAILER	TRLR
TUNNEL	TUNL
TURNPIKE	TPKE
UNDERPASS	UPAS
UNION	UN
UNIONS	UNS
VALLEY	VLY
VALLEYS	VLYS
VIADUCT	VIA
VIEW	VW

Street Name Type	Standard Abbreviation
VIEWS	VWS
VILLAGE	VLG
VILLAGES	VLGS
VILLE	VL
VISTA	VIS
WALK	WALK
WALKS	WALK
WALL	WALL
WAY	WAY
WAYS	WAYS
WELL	WL
WELLS	WLS

APPENDIX E SHAPEFILE NAMES

State Shapefile Names – PVS_<yy>_v1<layername>_<SS>.shp, where <SS> is the state FIPS code, <yy> is the year, and <layername> is the abbreviated shapefile name. Descriptions for abbreviated shapefile names are provided in **Table 57**.

Table 57: Abbreviated State Shapefile Names

<layername>	Description
elsd	Elementary School District
scsd	Secondary School District
unsd	Unified School District

County Shapefile Names – PVS_<yy>_v1<layername>_<STCOU>.shp, where <STCOU> is the 4-digit state and county FIPS number, <yy> is the year, and <layername> is the abbreviated shapefile name. Descriptions for abbreviated shapefile names are provided in **Table 58**.

Table 58: Abbreviated County Shapefile Names

<layername>	Description
aial	American Indian Area - Legal
arealm	Area Landmarks
cdp	Census Designated Place
county	Counties and Equivalent Area
edges	All lines
elsd	Elementary School District
scsd	Secondary School District
unsd	Unified School District
faces	Topological Faces
mcd	Minor Civil Division
place	Incorporated Places
water	Hydrography - Area
Relationship Tables	**Description**
addr	Address Ranges
allnames	Linear Feature Names

APPENDIX F SHAPEFILE LAYOUTS AND DATA DICTIONARY

Table 59: Address Ranges (addr)

Attribute field	Length	Type	Description
TLID	10	Number	Permanent Edge ID
STATEFP	2	String	FIPS State Code
COUNTYFP	3	String	FIPS County Code
FROMHN	12	String	From House Number
TOHN	12	String	To House Number
SIDE	1	String	Side Indicator Flag
ZIP	5	String	5-digit ZIP Code
PLUS4	4	String	ZIP+4 Code
LFROMADD	10	String	Left From Address
LTOADD	10	String	Left To Address
RFROMADD	10	String	Right From Address
RTOADD	10	String	Right To Address
ZIPL	5	String	Left 5-digit ZIP Code
ZIPR	5	String	Right 5-digit ZIP Code
ZIP4L	4	String	Left ZIP+4 Code
ZIP4R	4	String	Right ZIP+4 Code

Table 60: Linear Feature Names (allnames)

Attribute field	Length	Type	Description
OID	22	Number	Object ID
STATEFP	2	String	FIPS State Code
COUNTYFP	3	String	FIPS County Code
TLID	10	Number	Permanent Edge ID
NAME	100	String	Base Name portion of the Standardized Name
PREDIR	2	String	Prefix Direction code component of the Feature Name
PRETYP	14	String	Prefix Type Description component of the Feature Name
PREQUAL	5	String	Prefix Qualifier code component of the Feature Name
SUFDIR	2	String	Suffix Direction code component of the Feature Name
SUFTYP	14	String	Suffix Type Description component of the Feature Name

Attribute field	Length	Type	Description
SUFQUAL	5	String	Suffix Qualifier Code component of the Feature Name
MTFCC	5	String	MAF/TIGER Feature Class Code
PAFLAG	1	String	Primary/Alternate flag

Table 61: American Indian Areas (aial)

Attribute Field	Length	Type	Description
STATEFP	2	String	FIPS State Code
COUNTYFP	3	String	FIPS County Code
AIANNHCE	4	String	Census AIANNH code
COMPTYP	1	String	Indicates if reservation (or equivalent) or off-reservation trust land is present
AIANNHFSR	1	String	Flag indicating level of recognition of an American Indian, Alaska Native, or Native Hawaiian tribe or group
NAMELSAD	100	String	Name with translated LSAD
AIANNHNS	8	String	ANSI numeric identifier for AIANNH Areas
LSAD	2	String	Legal/Statistical Area Description
FUNCSTAT	1	String	Functional Status
CLASSFP	2	String	FIPS 55 class code describing an entity
PARTFLG	1	String	Part flag indicator
CHNG_TYPE	2	String	Type of area update
EFF_DATE	10	Date	Effective date or vintage
AUTHTYPE	1	String	Authorization type for legal area updates
DOCU	120	String	Supporting documentation
FORM_ID	4	String	Record ID for boundary update
AREA	9	Number	Acreage of area update
RELATE	120	String	Relationship description
JUSTIFY	150	String	Justification
NAME	100	String	Name
VINTAGE	2	String	Vintage

Table 62: Area Landmark (arealm)

Attribute field	Length	Type	Description
STATEFP	2	String	FIPS State Code
COUNTYFP	3	String	FIPS County Code
MTFCC	5	String	MAF/TIGER Feature Class Code
FULLNAME	120	String	Prefix direction code, prefix type code, base name,
AREAID	22	String	Landmark identification number
ANSICODE	8	String	ANSI code for area landmarks
PARTFLG	1	String	Part Flag Indicator
CHNG_TYPE	2	String	Type of area landmark update
EFF_DATE	10	Date	Effective Date or Vintage
RELATE	120	String	Relationship description
JUSTIFY	150	String	Justification
BAG	3	String	Block Area Grouping

Table 63: Census Designated Places (cdp)

Attribute field	Length	Type	Description
STATEFP	2	String	FIPS State Code
COUNTYFP	3	String	FIPS County Code
PLACEFP	5	String	FIPS 55 Place Code
PLACENS	8	String	ANSI feature code for the place
NAMELSAD	100	String	Name with translated LSAD
LSAD	2	String	Legal/Statistical Area Description
FUNCSTAT	1	String	Functional Status
CLASSFP	2	String	FIPS 55 Class Code describing an entity
PARTFLG	1	String	Part Flag Indicator
CHNG_TYPE	2	String	Type of Area Update
EFF_DATE	10	Date	Effective Date or Vintage
RELATE	120	String	Relationship Description
JUSTIFY	150	String	Justification
NAME	100	String	Name
VINTAGE	2	String	Vintage updated with returned data

Table 64: County and Equivalent Areas (county)

Attribute Field	Length	Type	Description
STATEFP	2	String	FIPS State Code
COUNTYFP	3	String	FIPS County Code
COUNTYNS	8	String	ANSI Feature Code for the
NAMELSAD	100	String	Name with translated LSAD code
LSAD	2	String	Legal/Statistical Area Description code
FUNCSTAT	1	String	Functional Status
CLASSFP	2	String	FIPS 55 Class Code describing an entity
CHNG_TYPE	2	String	Type of area update
EFF_DATE	10	String	Effective Date or Vintage
AUTHTYPE	1	String	Authorization type for legal area updates
DOCU	120	String	Supporting Documentation
FORM_ID	4	String	Record ID for boundary update
AREA	10	Number	Acreage of Area Update
RELATE	120	String	Relationship description
JUSTIFY	150	Char	Justification
NAME	100	String	Name
VINTAGE	2	String	Vintage updated with returned data

Table 65: County Subdivisions (mcd)

Attribute Field	Length	Type	Description
STATEFP	2	String	FIPS State Code
COUNTYFP	3	String	FIPS County Code
COUSUBFP	5	String	FIPS County Subdivision Code
NAMELSAD	100	String	Name with translated LSAD
COUSUBNS	8	String	ANSI feature code for the county subdivision
LSAD	2	String	Legal/Statistical Area Description
FUNCSTAT	1	String	Functional Status
CLASSFP	2	String	FIPS 55 Class Code describing an entity
CHNG_TYPE	1	String	Type of Area Update
EFF_DATE	8	Date	Effective Date or Vintage
AUTHTYPE	1	String	Authorization type for legal area updates

Attribute Field	Length	Type	Description
DOCU	120	String	Supporting Documentation
FORM_ID	4	String	Record ID for boundary update
AREA	9	Number	Acreage of Update
RELATE	120	String	Relationship Description
JUSTIFY	150	String	Justification
NAME	100	String	Name
VINTAGE	2	String	Vintage updated with returned data

Table 66: Elementary School Districts (elsd) – County Level

Attribute Field	Length	Type	Description
STATEFP	2	String	State FIPS code
COUNTYFP	3	String	County FIPS code
SDLEA	5	String	Federal School District Local Education Agency number
NAME	100	String	Base name portion of the standardized name
LSAD	2	String	Legal/Statistical Area Description
LOGRADE	2	String	Low grade
HIGRADE	2	String	High grade
PARTFLG	1	String	Part flag indicator
SDTYP	1	String	Census School District Type
POLYID	4	String	Record ID for each ELSD update
CHNG_TYPE	2	String	Type of area update
EFF_DATE	10	Date	Effective date or vintage
RELATE	120	String	Relationship description
JUSTIFY	150	String	Justification
FUNCSTAT	1	String	Functional Status
VINTAGE	2	String	Vintage

Table 67: Secondary School Districts (scsd) – County Level

Attribute Field	Length	Type	Description
STATEFP	2	String	State FIPS code
COUNTYFP	3	String	County FIPS code
SDLEA	5	String	Federal School District Local Education Agency number

Attribute Field	Length	Type	Description
NAME	100	String	Base name portion of the standardized name
LSAD	2	String	Legal/Statistical Area Description
LOGRADE	2	String	Low grade
HIGRADE	2	String	High grade
PARTFLG	1	String	Part flag indicator
SDTYP	1	String	Census School District Type
POLYID	4	String	Record ID for each SCSD update
CHNG_TYPE	2	String	Type of area update
EFF_DATE	10	Date	Effective date or vintage
RELATE	120	String	Relationship description
JUSTIFY	150	String	Justification
FUNCSTAT	1	String	Functional Status
VINTAGE	2	String	Vintage

Table 68: Unified School Districts (unsd) – County Level

Attribute Field	Length	Type	Description
STATEFP	2	String	State FIPS code
COUNTYFP	3	String	County FIPS code
SDLEA	5	String	Federal School District Local Education Agency number
NAME	100	String	Base name portion of the standardized name
LSAD	2	String	Legal/Statistical Area Description
LOGRADE	2	String	Low grade
HIGRADE	2	String	High grade
PARTFLG	1	String	Part flag indicator
SDTYP	1	String	Census School District Type
POLYID	4	String	Record ID for each UNSD update
CHNG_TYPE	2	String	Type of area update
EFF_DATE	10	Date	Effective date or vintage
RELATE	120	String	Relationship description
JUSTIFY	150	String	Justification
FUNCSTAT	1	String	Functional Status
VINTAGE	2	String	Vintage

Table 69: Elementary School Districts (elsd) – State Level

Attribute Field	Length	Type	Description
STATEFP	2	String	State FIPS code
SDLEA	5	String	Federal School District Local Education Agency number
NAME	100	String	Base name portion of the standardized name
LSAD	2	String	Legal/Statistical Area Description
LOGRADE	2	String	Low grade
HIGRADE	2	String	High grade
SDTYP	1	String	Census School District Type
POLYID	4	String	Record ID for each ELSD update
CHNG_TYPE	2	String	Type of area update
EFF_DATE	10	Date	Effective date or vintage
RELATE	120	String	Relationship description
JUSTIFY	150	String	Justification
FUNCSTAT	1	String	Functional Status
VINTAGE	2	String	Vintage

Table 70: Secondary School Districts (scsd) – State Level

Attribute Field	Length	Type	Description
STATEFP	2	String	State FIPS code
SDLEA	5	String	Federal School District Local Education Agency number
NAME	100	String	Base name portion of the standardized name
LSAD	2	String	Legal/Statistical Area Description
LOGRADE	2	String	Low grade
HIGRADE	2	String	High grade
SDTYP	1	String	Census School District Type
POLYID	4	String	Record ID for each SCSD update
CHNG_TYPE	2	String	Type of area update
EFF_DATE	10	Date	Effective date or vintage
RELATE	120	String	Relationship description
JUSTIFY	150	String	Justification
FUNCSTAT	1	String	Functional Status
VINTAGE	2	String	Vintage

Table 71: Unified School Districts (unsd) – State Level

Attribute Field	Length	Type	Description
STATEFP	2	String	State FIPS code
SDLEA	5	String	Federal School District Local Education Agency number
NAME	100	String	Base name portion of the standardized name
LSAD	2	String	Legal/Statistical Area Description
LOGRADE	2	String	Low grade
HIGRADE	2	String	High grade
SDTYP	1	String	Census School District Type
POLYID	4	String	Record ID for each UNSD update
CHNG_TYPE	2	String	Type of area update
EFF_DATE	10	Date	Effective date or vintage
RELATE	120	String	Relationship description
JUSTIFY	150	String	Justification
FUNCSTAT	1	String	Functional Status
VINTAGE	2	String	Vintage

Table 72: Edges (edges)

Attribute Field	Length	Type	Description
STATEFP	2	String	State FIPS Code
COUNTYFP	3	String	County FIPS Code
TLID	10	Number	Permanent Edge ID
TFIDL	10	Number	Permanent Face ID, Left
TFIDR	10	Number	Permanent Face ID, Right
MTFCC	5	String	MAF/TIGER Feature Class Code
FIDELITY	1	String	Indication to a respondent when their entity boundary has changed through spatial enhancement
FULLNAME	40	Number	Decoded Feature Name with abbreviated qualifier, direction, and feature type
SMID	22	Number	Spatial Tmeta ID
SMIDTYPE	1	String	Source attribution for boundary edges. PLSS, Parcels, Surveyed, etc.
BBSPFLG	1	String	Indicates the Redistricting Data Project participant's submitted request of an EDGE for selection for holding

Attribute Field	Length	Type	Description
CBBFLG	1	String	Indicates the status of an EDGE for a selection as tabulation block boundary
BBSP_2020	1	String	New BBSP Flag
CHNG_TYPE	4	String	Type of area update
JUSTIFY	150	Number	Justification
LTOADD	10	Number	Left to address
RTOADD	10	Number	Right to address
LFROMADD	10	String	Left from address
RFROMADD	10	String	Right from address
ZIPL	5	String	Left from ZIP Code
ZIPR	5	String	Right from ZIP Code
EXTTYP	1	String	Extension type
MTUPDATE	10	Date	Date of last update to the edge

Table 73: Faces (faces)

Attribute Field	Length	Type	Description
TFID	20	Number	Permanent Face ID
STATEFP	2	String	State FIPS Code
COUNTYFP	3	String	County FIPS Code
TRIBSUBCE	3	String	Census Tribal Subdivision
TTRACTCE	6	String	Tribal Census Tract Code
TBLKGRPCE	1	String	Tribal Census Block Group Code
AIANNHCE	4	String	Census AIANNH Code
AIANNHCE10	4	String	2010 Census AIANNH code
COMPTYP	1	String	Indicates if reservation (or equivalent) or off-reservation trust land is present, or both
ANRCFP	5	String	FIPS ANRC Code
SLDUST	3	String	SLD Upper Chamber Code
SLDLST	3	String	SLD Lower Chamber Code
ELSD	5	String	Current ELSD Local Education Agency (SDLEA)
SCSD	5	String	Current SCSD Local Education Agency (SDLEA) number

Attribute Field	Length	Type	Description
UNSD	5	String	Current UNSD Local Education Agency (SDLEA) number
CDFP	2	String	Congressional District Code
TRACTCE	6	String	Census Tract Code
UACE	5	String	Census Urban Area Code
CBSAFP	5	String	County-Based Metropolitan-Micropolitan Code
NECTAFP	5	String	New England City and Town Area Code
BLKGRPCE	1	String	Census Block Group Code
BLOCKCE	4	String	Tabulation Block Number
SUFFIX1CE	2	String	Census Block Suffix 1
SUFFIX2CE	2	String	Census Block Suffix 2
BAGCE	3	String	Block Area Grouping
TAZCE	6	String	Traffic Analysis Zone Code
TADCE	8	String	Traffic Analysis District Code
MPOCE	8	String	Metropolitan Planning Organization Code
PUMACE10	5	String	Public Use Microdata Area Code
SUBMCDFP	5	String	FIPS 55 Sub-minor Civil Division Code
UGACE	5	String	Urban Growth Area Code
STATEFP10	2	String	FIPS 2010 State Code
COUNTYFP10	3	String	FIPS 2010 County Code
TRACTCE10	6	String	Census 2010 Tract Code
PLACEFP	5	String	FIPS 55 Place Code
COUSUBFP	5	String	FIPS 55 County Subdivision Code
CONCITYFP	5	String	FIPS 55 Place Code
CDSESSN	3	String	Congressional District Session
VTDST	6	String	Voting District Code
LWFLG	1	String	Land/Water Flag

Table 74: Hydrography Area (water)

Attribute field	Length	Type	Description
STATEFP	2	String	State FIPS Code
COUNTYFP	3	String	County FIPS Code

Attribute field	Length	Type	Description
ANSICODE	8	String	ANSI code for hydrography area
MTFCC	5	String	MAF/TIGER Feature Class Code
FULLNAME	120	String	Prefix direction code, prefix type code, base name, suffix type, suffix type code, suffix direction code
CHNG_TYPE	2	String	Type of area update
HYDROID	22	String	Object ID
RELATE	120	String	Relationship Description
JUSTIFY	150	String	Justification

Table 75: Places (incplace)

Attribute Field	Length	Type	Description
STATEFP	2	String	State FIPS Code
COUNTYFP	3	String	County FIPS Code
PLACEFP	5	String	Place FIPS Code
NAMELSAD	100	String	Name with translated LSAD
PLACENS	8	String	ANSI feature code for the place
LSAD	2	String	Legal/Statistical Area Description
FUNCSTAT	1	String	Functional Status
CLASSFP	2	String	FIPS 55 Class Code describing an entity
PARTFLG	1	String	Part Flag Indicator
CHNG_TYPE	1	String	Type of Area Update
EFF_DATE	8	String	Effective Date or Vintage
AUTHTYPE	1	String	Authorization type for legal area updates
DOCU	120	String	Supporting Documentation
FORM_ID	4	String	Record ID for boundary update
AREA	10	Double	Acreage of Update
RELATE	120	String	Relationship Description
JUSTIFY	150	Char	Justification
NAME	100	String	Name
VINTAGE	2	String	Vintage updated with returned data