

# Technical Appendix

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## Question 4.a – Water Quality and Quantity Protection - Location

- A. The project is located in a Hydrologic Unit Code (HUC) 12 watershed identified by the Georgia Environmental Protection Division (GAEPD) as a priority watershed for water quality purposes.

**Resource:** Map and list of priority watersheds (Attachment 1). This map is available as GIS and KMZ files (can be viewed in Google Earth) on EPD’s GIS Databases and Documentation website, <https://epd.georgia.gov/geographic-information-systems-gis-databases-and-documentation>. This map is referred to as “EPD’s 2015 319(h) Priority Watersheds” map on this website. If the project falls into a purple area on the map, then it meets this category.

**Preparing a map as supporting documentation to your GOSA application:** Using the GIS or KMZ map of EPD’s 2015 319(h) Priority Watersheds map, please zoom into your project area and generate a map showing that your project area falls within a priority watershed area.

**Additional Information:** Current Approved Georgia Nonpoint Source Management Plan. <https://epd.georgia.gov/nonpoint-source-program>

**Contact Person:** Joy Hinkle, EPD Watershed Protection Branch Grants Unit Manager, (470) 524-0692 or [Joy.Hinkle1@dnr.ga.gov](mailto:Joy.Hinkle1@dnr.ga.gov).

- B. The project is located in a HUC-12 or equivalent size area identified as impacted by or sensitive to hydrologic alteration.

**Resource:** The Capacity Use Areas and Restricted Use Areas identified by GAEPD in the 2006 Flint River Basin Plan (<https://epd.georgia.gov/georgia-flint-river-basin-plan>), or a similar document. See Attachment 2 for excerpted Figures from this Plan. This map is available as a KMZ file (can be viewed in Google Earth) on EPD’s GIS Databases and Documentation website, <https://epd.georgia.gov/geographic-information-systems-gis-databases-and-documentation>. This map is referred to as “...” map on this website. If the project falls into a yellow or red area on the map, then it meets this category.

**Preparing a map as supporting documentation to your GOSA application:** Using the KMZ map of the 2006 Flint River Basin Plan Capacity Use Areas and Restricted Use Areas, please zoom into your project area and generate a map showing that your project area falls within a yellow or red area.

**Contact Person:** Jennifer Welte, EPD Watershed Protection Branch, (470) 384-7450 or [Jennifer.Welte@dnr.ga.gov](mailto:Jennifer.Welte@dnr.ga.gov).

- C. The project is located in a HUC-12 watershed identified by GAEPD as a healthy watershed.

**Resource:** The most recent approved Georgia 305(b)/303(d) list, as provided on this page: <https://epd.georgia.gov/water-quality-georgia>. Mapped waterbodies from the most recent approved list (2022) are available as GIS and KMZ files on EPD's GIS Databases and Documentation website, <https://epd.georgia.gov/geographic-information-systems-gis-databases-and-documentation>. The files are under the "305(b)/303(d) Integrated Report (Water Quality in Georgia Report)" table on this website. Those waters identified as "Supporting" are shown as blue on the map. If your project is located in a watershed of a "Supporting" waterbody, then it meets this category.

**Preparing a map as supporting documentation to your GOSA application:** Using the GIS or KMZ of the Georgia 305(b)/303(d) list, please zoom into your project area and generate a map showing that your project area falls within the watershed of a "Supporting" waterbody shown in blue.

**Contact Person:** Susan Salter, Watershed Planning & Monitoring Program, (470) 524-0731 or [Susan.Salter@dnr.ga.gov](mailto:Susan.Salter@dnr.ga.gov).

- D. The project is located in a HUC-12 watershed with waters identified by GAEPD as impaired with any of the following criteria violated: Algae, Biota Impacted (Fish Community), Biota Impacted (Macroinvertebrate Community), Bacteria (Fecal Coliform, Enterococci), Chlorophyll a, or Dissolved Oxygen.

**Resource:** The most recent approved Georgia 305(b)/303(d) list, as provided on this page: <https://epd.georgia.gov/water-quality-georgia>. Mapped waterbodies from the most recent approved list (2022) are available as GIS and KMZ files on EPD's GIS Databases and Documentation website, <https://epd.georgia.gov/geographic-information-systems-gis-databases-and-documentation>. The files are under the "305(b)/303(d) Integrated Report (Water Quality in Georgia Report)" table on this website. Those waters identified as "Not Supporting" are shown as purple on the map. In the descriptive information for each waterbody shown as purple, there is a "Cause" identified. If the "Cause" is noted as one of the following for the particular waterbody, then it meets this category.

- Algae = Objectionable Algae
- Bio F = Biota Impacted (Fish Community)
- Bio M = Biota Impacted (Macroinvertebrate Community)
- Chlorophyll a
- E. Coli

- Enterococci
- FC = Fecal Coliform Bacteria
- DO = Dissolved Oxygen

**Preparing a map as supporting documentation to your GOSA application:** Using the GIS or KMZ of the Georgia 305(b)/303(d) list, please zoom into your project area and generate a map showing that your project area falls within the watershed of a “Not Supporting” waterbody shown in purple, with the “Cause” noted on the map.

**Contact Person:** Susan Salter, Watershed Planning & Monitoring Program, (470) 524-0731 or [Susan.Salter@dnr.ga.gov](mailto:Susan.Salter@dnr.ga.gov).

- E. The project is located in one of the Most Significant Groundwater Recharge Areas in Georgia.

**Resource:** Hydrologic Atlas 18 (HA-18), prepared by the Georgia Geologic Survey, which is available here: <https://epd.georgia.gov/georgia-geologic-survey-atlases>

A digitized version of Hydrologic Atlas 18 is also available on this website:

<https://epd.georgia.gov/geographic-information-systems-gis-databases-and-documentation>

If the project is located in one of the highlighted areas identified in HA-18 (areas shown on Attachment 3, or included as a colored area in the digitized version), then it meets this category.

**Preparing a map as supporting documentation to your GOSA application:** Using the GIS or KMZ of HA-18, please zoom into your project area and generate a map showing that your project area falls within a colored portion of the map.

**Contact Person:** For any needed technical assistance, please contact the Source Water Assessment Team at (470) 524-0728.

- F. The project is located in the Inner or Outer Management Zone identified in a Wellhead Protection Plan or a Source Water Protection Plan.

**Resource:** Information regarding the locations of inner and outer management zones are reviewed and maintained by EPD’s Drinking Water Program, Source Water Assessment Team. Project proponents can determine whether their project boundaries lie in either type of management zone by sending their project boundary map and the following inquiry to [askepd@gaepd.org](mailto:askepd@gaepd.org): “I am writing to inquire whether the attached project boundaries are located within an Inner or Outer Management Zone identified in a Wellhead Protection Plan or a Source Water Protection Plan. This information is being requested to support the project’s consideration for funding under the Georgia Outdoor Stewardship Act.”

**Contact Person:** For any needed technical assistance, please contact the Source Water Assessment Team at (470) 524-0728.

#### **Question 4.b – Water Quality and Quantity Protection – Best Management Practices**

Any improvements, restoration, or management activities associated with the project must include Best Management Practices (BMPs) with demonstrable water quality and water quantity benefits: protection or restoration of vegetated buffers in a condition appropriate for the region; restoration of streambanks and natural hydrologic processes; protection of wetland/marshland or stream buffers, with minimization of impacts from improvements and management activities; or use of green infrastructure (e.g., bioretention areas, grass swales, and trails constructed with mulch, gravel, or other pervious materials rather than concrete or asphalt).

#### **Resources:**

For BMPs intended to mitigate the impact of development, such as impervious trails, gazebos, or viewing platforms, please see the Green Infrastructure and Low Impact Development (GI/LID) structural controls described in the Georgia Stormwater Management Manual, Volume 2. These BMPs include bioretention areas, grass swales, and pervious pavers, among others. <https://cdn.atlantaregional.org/wp-content/uploads/2017/03/gsmm-2016-edition-final-v2.pdf>

For BMPs intended to protect land through conversation or the minimization of the impacts of development, see the Georgia Stormwater Management Manual, Volume 1. <https://cdn.atlantaregional.org/wp-content/uploads/gsmm-2016-edition-final-v1.pdf>

For information about stream restoration, see the GAEPD Streambank and Shoreline Stabilization Guidance and the Georgia Soil and Water Conservation Commission Guidelines for Streambank Restoration. [https://epd.georgia.gov/sites/epd.georgia.gov/files/related\\_files/site\\_page/Streambank\\_and\\_Shoreline\\_Stabilization\\_Guidance\\_Book\\_Revised\\_April\\_2011.pdf](https://epd.georgia.gov/sites/epd.georgia.gov/files/related_files/site_page/Streambank_and_Shoreline_Stabilization_Guidance_Book_Revised_April_2011.pdf)

[https://epd.georgia.gov/sites/epd.georgia.gov/files/related\\_files/site\\_page/Guidelines\\_Streambank\\_Restoration\\_GSWCC\\_Revised\\_2000.pdf](https://epd.georgia.gov/sites/epd.georgia.gov/files/related_files/site_page/Guidelines_Streambank_Restoration_GSWCC_Revised_2000.pdf)

Some projects may require a stream buffer variance. To identify opportunities to go above and beyond in mitigating buffer impact, review the Buffer Mitigation Guidance and the GAEPD Erosion and Sedimentation webpage.

[https://epd.georgia.gov/sites/epd.georgia.gov/files/related\\_files/site\\_page/Buffer%20Mitigation%20Guidance%20September-2017.pdf](https://epd.georgia.gov/sites/epd.georgia.gov/files/related_files/site_page/Buffer%20Mitigation%20Guidance%20September-2017.pdf)

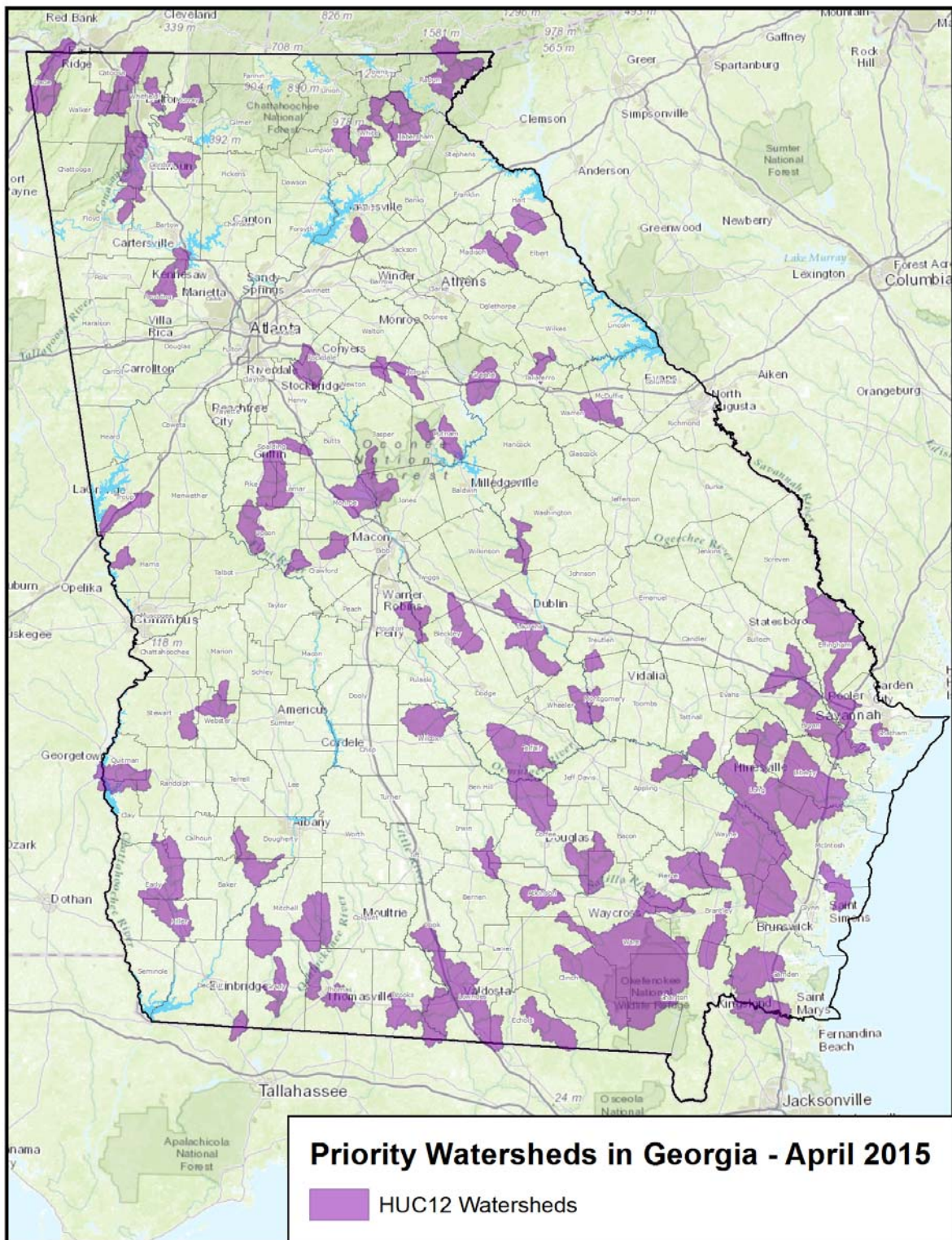
**Additional Information:** <https://epd.georgia.gov/erosion-and-sedimentation>

**Contact Person:** Veronica Craw, Nonpoint Source Program Manager, (470) 938-3384 or [Veronica.Craw@dnr.ga.gov](mailto:Veronica.Craw@dnr.ga.gov).

# ATTACHMENT 1



## MAP & LIST OF PRIORITY HUC-12 WATERSHEDS



SORTED ALPHABETICALLY by COUNTY NAME

HUC12	Watershed Name	DNR_BASIN	COUNTY NAME
030701060301	Fivemile Creek	Altamaha	Appling
030701060203	Lower Tenmile Creek	Altamaha	Appling
030702010302	Little Red Bluff Creek	Satilla	Atkinson
030702010603	Middle Hog Creek	Satilla	Bacon
031300080304	Lower Cooleewahee Creek	Flint	Baker
031102020604	Lower Willacoochee River	Suwannee	Berrien
030701050102	District Hollow Branch-Gum Swamp Creek	Ocmulgee	Bleckley
030701050101	Reedy Creek-Gum Swamp Creek	Ocmulgee	Bleckley
030702011104	Lower Buffalo Creek	Satilla	Brantley
031102030703	Lower Piscola Creek	Suwannee	Brooks
030602030606	Clyde Creek-Canoochee River	Ogeechee	Bryan
030602020508	Little Creek-Black Creek	Ogeechee	Bryan
030602020507	Lower Mill Creek	Ogeechee	Bryan
030602040301	Sterling Creek-Ogeechee River	Ogeechee	Bryan
030602020503	Ash Branch-Lower Black Creek	Ogeechee	Bulloch
030602020505	Caney Branch-Black Creek	Ogeechee	Bulloch
031300100102	Perry Creek-Spring Creek	Flint	Calhoun
030702040902	Cabbage Creek-St. Marys River	Saint Mary's	Camden
030702040905	Catfish Creek-St. Marys River	Saint Mary's	Camden
030702040904	Little St. Marys River	Saint Mary's	Camden
030702011202	Rose Creek-Satilla River	Satilla	Camden
060200010702	Lower East Chickamauga Creek	Tennessee	Catoosa
060200010703	Tiger Creek	Tennessee	Catoosa
031102010105	Okeefenokee Swamp	Suwannee	Charlton
030602040201	Hardin Canal-Little Ogeechee River	Ogeechee	Chatham
030602040303	Vernon River	Ogeechee	Chatham
031102010103	Suwannee Creek	Suwannee	Clinch
031102010201	Upper Tatum Creek	Suwannee	Clinch
030702010401	Broxton Creek	Satilla	Coffee
030702010504	Cat Creek-Seventeen Mile River	Satilla	Coffee
030701040804	Gregeory Creek-Ocmulgee River	Ocmulgee	Coffee
030702010403	Rose Creek	Satilla	Coffee
031200020402	Middle Little Ochlockonee Creek	Ochlockonee	Colquitt
031200020401	Upper Little Ochlockonee Creek	Ochlockonee	Colquitt
031102040501	Wells Mill Creek	Suwannee	Cook
030701031503	Little Echeconnee Creek	Ocmulgee	Crawford
031300051206	Lower Ulcohatchee Creek	Flint	Crawford
060200011103	Crawfish Creek-Lookout Creek	Tennessee	Dade
060200011102	Gulf Creek-Lookout Creek	Tennessee	Dade
060200011105	Lookout Creek	Tennessee	Dade
060200011104	Sitton Gulch Creek-Lookout Creek	Tennessee	Dade
031200030205	Lower Swamp Creek	Ochlockonee	Decatur
031300090806	West Chickasawhatchee Creek-Chickasawhatchee Creek	Flint	Dougherty
031300100205	Lower Dry Creek	Flint	Early
031300100104	Spring Branch-Spring Creek	Flint	Early
031300100103	Town of Crossroads-Spring Creek	Flint	Early
031102010502	Lower Toms Creek	Suwannee	Echols



031102010501	Upper Toms Creek	Suwannee	Echols
030601090203	Ebenezer Creek	Savannah	Effingham
030601090202	Lower Runs Branch	Savannah	Effingham
030601090201	Upper Runs Branch	Savannah	Effingham
030601040304	Deep Creek-Broad River	Savannah	Elbert
031501041604	Dykes Creek	Coosa	Floyd
031501030602	Woodward Creek	Coosa	Floyd
030701060504	Altamaha Sound-Frontal Atlantic Ocean	Satilla	Glynn
030702030101	Little Buffalo Creek	Satilla	Glynn
030702030102	Turtle River	Satilla	Glynn
031501030204	Bow Creek-Oostanaula River	Coosa	Gordon
031501030201	Camp Creek	Coosa	Gordon
031501020605	Lick Creek-Salacoa Creek	Coosa	Gordon
031501020604	Marlow Branch-Salacoa Creek	Coosa	Gordon
031501030205	Robbins Creek-Oostanaula River	Coosa	Gordon
031501030203	Snake Creek-Oostanaula River	Coosa	Gordon
031200020704	Little Tired Creek	Ochlockonee	Grady
031200020706	Lower Tired Creek	Ochlockonee	Grady
031200020703	Middle Tired Creek	Ochlockonee	Grady
030701011104	Little Creek-Richland Creek	Oconee	Greene
030701011103	Lower Beaverdam Creek	Oconee	Greene
030701011101	Town Creek-Richland Creek	Oconee	Greene
030701011102	Upper Beaverdam Creek	Oconee	Greene
031300010105	Amys Creek-Chattahoochee River	Chattahoochee	Habersham
031300010201	Headwaters Soquee River	Chattahoochee	Habersham
031300010206	Lower Soquee River	Chattahoochee	Habersham
031300010204	Middle Soquee River	Chattahoochee	Habersham
031300010202	Upper Soquee River	Chattahoochee	Habersham
030701010104	Upper Walnut Creek	Oconee	Hall
031300021103	Mountain Oak Creek	Chattahoochee	Harris
030601030407	Little Coldwater Creek	Savannah	Hart
030601030406	Upper Coldwater Creek	Savannah	Hart
030701040107	Thompson Mill Creek-Ocmulgee River	Ocmulgee	Houston
030701031303	Little Falling Creek	Ocmulgee	Jasper
030701031307	Berry Creek-Ocmulgee River	Ocmulgee	Jones
030701031304	Lower Falling Creek	Ocmulgee	Jones
031300050901	Honey Bee Creek-Potato Creek	Flint	Lamar
031300050904	Little Potato Creek	Flint	Lamar
030701021104	Bluewater Creek-Turkey Creek	Oconee	Laurens
030701021103	Horse Branch-Turkey Creek	Oconee	Laurens
030701021105	Reedy Creek-Turkey Creek	Oconee	Laurens
030701021304	Upper Ochwalkee Creek	Oconee	Laurens
030602030505	Middle Taylors Creek	Ogeechee	Liberty
030602030507	Strum Bay-Canoochee Creek	Ogeechee	Liberty
030602040401	Upper North Newport River	Ogeechee	Liberty
030701060404	Lower Doctors Creek	Altamaha	Long
030602030503	Strickland Pond-Canoochee Creek	Ogeechee	Long
031102021003	Alapahoochee River	Suwannee	Lowndes
031102040504	Franks Creek	Suwannee	Lowndes
031102021002	Lower Mud Swamp	Suwannee	Lowndes
031102030804	Redland Creek	Suwannee	Lowndes

031102030802	Tiger Creek-Withlacoochee River	Suwannee	Lowndes
031102021001	Upper Mud Swamp	Suwannee	Lowndes
031102030404	Valdosta-Withlacoochee River	Suwannee	Lowndes
031300010505	Tate Creek-Chestatee River	Chattahoochee	Lumpkin
030601040302	Scull Shoal Creek-Broad River	Savannah	Madison
030601080103	Whites Creek-Brier Creek	Savannah	McDuffie
030602040601	Upper South Newport River	Ogeechee	McIntosh
031300100303	Long Branch-Spring Creek	Flint	Miller
031300100401	Susian Ford Creek	Flint	Miller
031300100505	Town of Boykin-Spring Creek	Flint	Miller
031300100501	Town of Colquitt-Spring Creek	Flint	Miller
031300100403	Upper Aycocks Creek	Flint	Miller
031300080506	Bay Pole Branch-Big Slough	Flint	Mitchell
031200020404	Big Creek	Ochlockonee	Mitchell
031200020403	Lost Creek	Ochlockonee	Mitchell
030701031305	Deer Creek	Ocmulgee	Monroe
030701031306	Rum Creek	Ocmulgee	Monroe
030701021301	Cypress Creek	Oconee	Montgomery
030701011406	Middle Big Indian Creek	Oconee	Morgan
030701011405	Upper Big Indian Creek	Oconee	Morgan
031501010406	Bullpen Branch-Holly Creek	Coosa	Murray
031501010403	Goldmine Branch-Holly Creek	Coosa	Murray
031501010402	Mill Creek-Holly Creek	Coosa	Murray
030701011401	Nelson Creek-Little River	Oconee	Newton
031501041102	Lane Creek-Pumpkinvine Creek	Coosa	Paulding
031501041103	Lawrence Creek-Pumpkinvine Creek	Coosa	Paulding
031501041105	Westbrook Creek-Pumpkinvine Creek	Coosa	Paulding
030702010705	Caney Branch-Satilla River	Satilla	Pierce
030702020501	Sixty Foot Branch	Satilla	Pierce
031300050903	Gola Creek-Potato Creek	Flint	Pike
031300050902	Turnpike Creek	Flint	Pike
030701011803	Lower Rooty Creek	Oconee	Putnam
030701011502	Pearson Creek-Little River	Oconee	Putnam
030701011802	Upper Rooty Creek	Oconee	Putnam
031300031313	Drag Nasty Creek-Chattahoochee River	Chattahoochee	Quitman
031300031507	Lower Holanna Creek	Chattahoochee	Quitman
031300031508	Wilkey Creek-Pataula Creek	Chattahoochee	Quitman
030601020208	Lower Stekoa Creek	Savannah	Rabun
030601020206	Lower Warwoman Creek	Savannah	Rabun
060102020102	Middle Creek-Little Tennessee River	Tennessee	Rabun
030601020207	Upper Stekoa Creek	Savannah	Rabun
030601020205	Upper Warwoman Creek	Savannah	Rabun
030601020203	West Fork Chattooga River	Savannah	Rabun
030701030107	Camp Creek-South River	Ocmulgee	Rockdale
030701030106	Honey Creek	Ocmulgee	Rockdale
030701031104	Cabin Creek	Ocmulgee	Spalding
031300031501	Clear Creek-Pataula Creek	Chattahoochee	Stewart
030601050105	Lick Creek-Little River	Savannah	Taliaferro
030701060302	Watermelon Creek	Altamaha	Tattnall
030701040703	Lower Horse Creek	Ocmulgee	Telfair
030701040702	Middle Horse Creek	Ocmulgee	Telfair

030701040701	Upper Horse Creek
031101030102	Oliver Creek
031200020602	Pine Creek-Ochlockonee River
031300020906	Lower Long Cane Creek
031300020905	Upper Long Cane Creek
031300050908	Bell Creek-Potato Creek
031300050907	Jerry Reeves Creek-Potato Creek
031300050906	Tenmile Creek
060200010704	Upper Little Chickamauga Creek
030702010604	Lower Hog Creek
030701020407	Wheeler Creek-Buffalo Creek
030701060501	Alex Creek-Altamaha River
030702020502	Little Satilla River
030701060402	Penholoway Creek
030701060405	Penholoway Swamp-Altamaha River
031300070201	Clear Creek-Kinchafoonee Creek
031300070203	Lower Lanahassee Creek
030701021401	Larry Creek-Oconee River
030701021403	Lotts Creek-Oconee River
031300010504	Lower Tesnatee Creek
031300010102	Smith Creek-Chattahoochee River
031300010502	Upper Tesnatee Creek
031501010307	Bates Branch-Coahulla Creek
060200010701	Upper East Chickamauga Creek
030701040504	Cedar Creek
030701040505	Folsom Creek
030701020801	Oochee Creek-Oconee River

Ocmulgee	Telfair
Ochlockonee	Thomas
Ochlockonee	Thomas
Chattahoochee	Troup
Chattahoochee	Troup
Flint	Upson
Flint	Upson
Flint	Upson
Tennessee	Walker
Satilla	Ware
Oconee	Washington
Altamaha	Wayne
Satilla	Wayne
Altamaha	Wayne
Altamaha	Wayne
Flint	Webster
Flint	Webster
Oconee	Wheeler
Oconee	Wheeler
Chattahoochee	White
Chattahoochee	White
Chattahoochee	White
Coosa	Whitfield
Tennessee	Whitfield
Ocmulgee	Wilcox
Ocmulgee	Wilcox
Oconee	Wilkinson

# ATTACHMENT 2

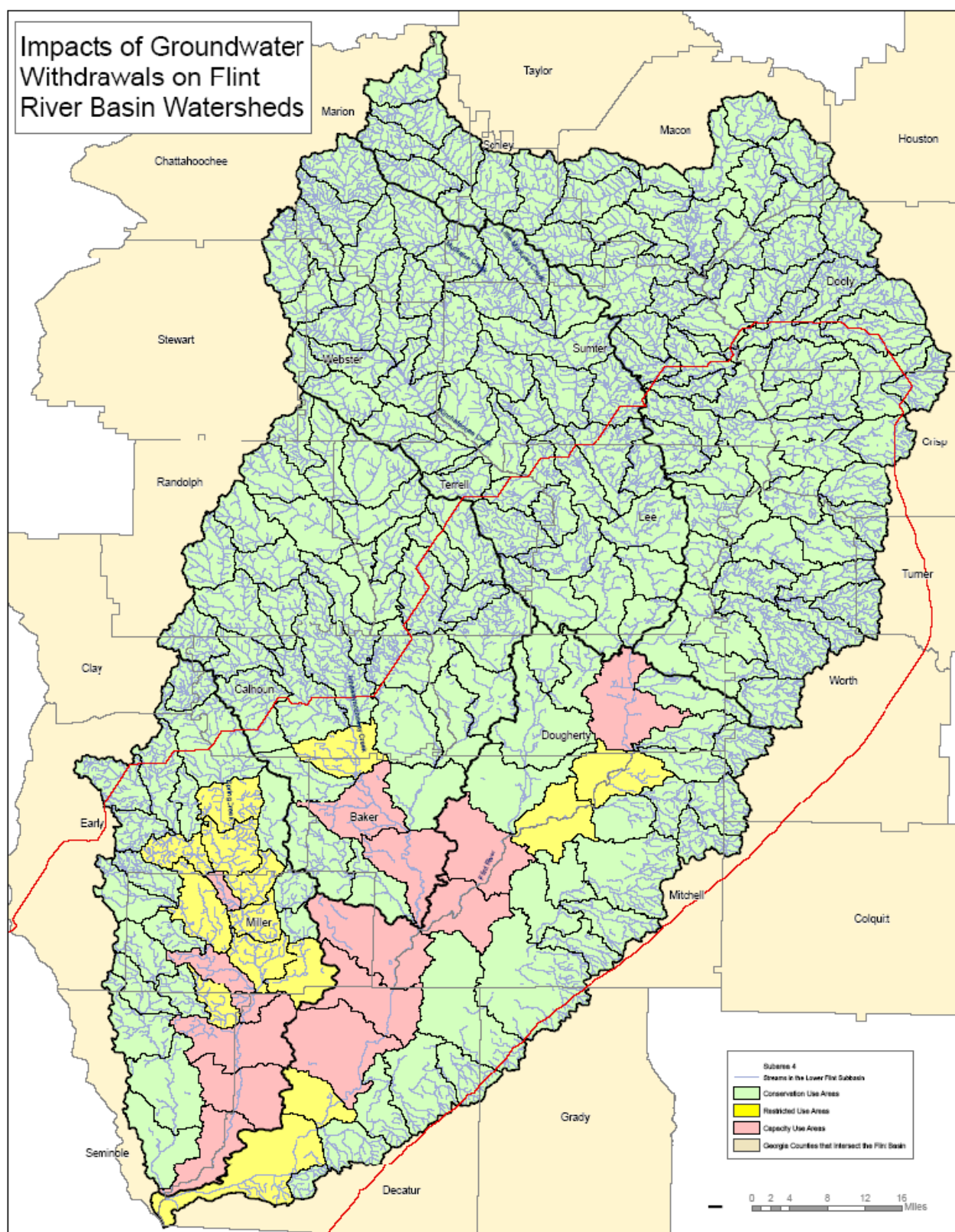


Figure 0.2 Classification of HUC-12 watersheds in the lower Flint River Basin.

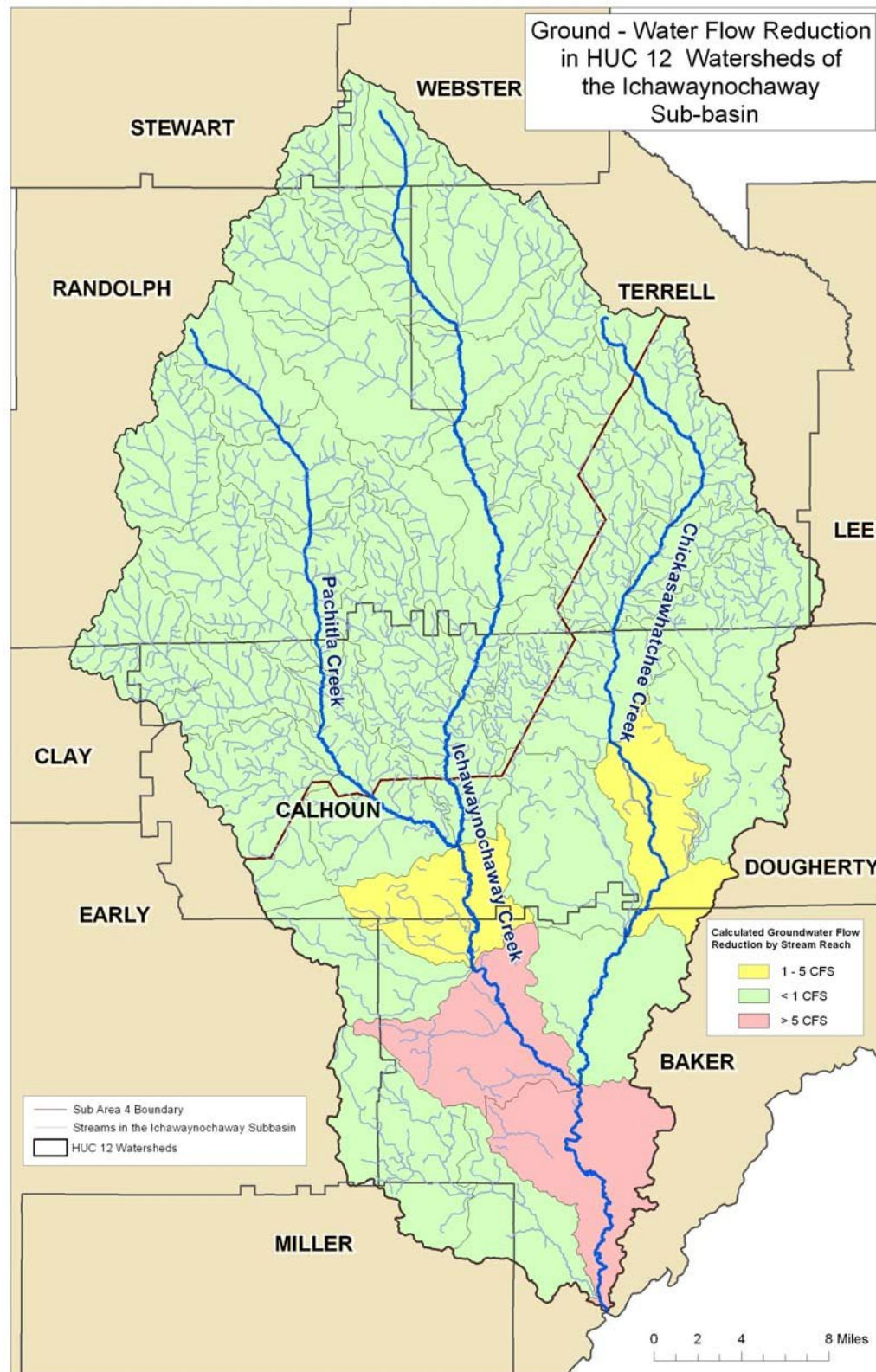


Figure 0.3 Classification of HUC-12 watersheds in the Ichawaynochaway Creek sub-basin.



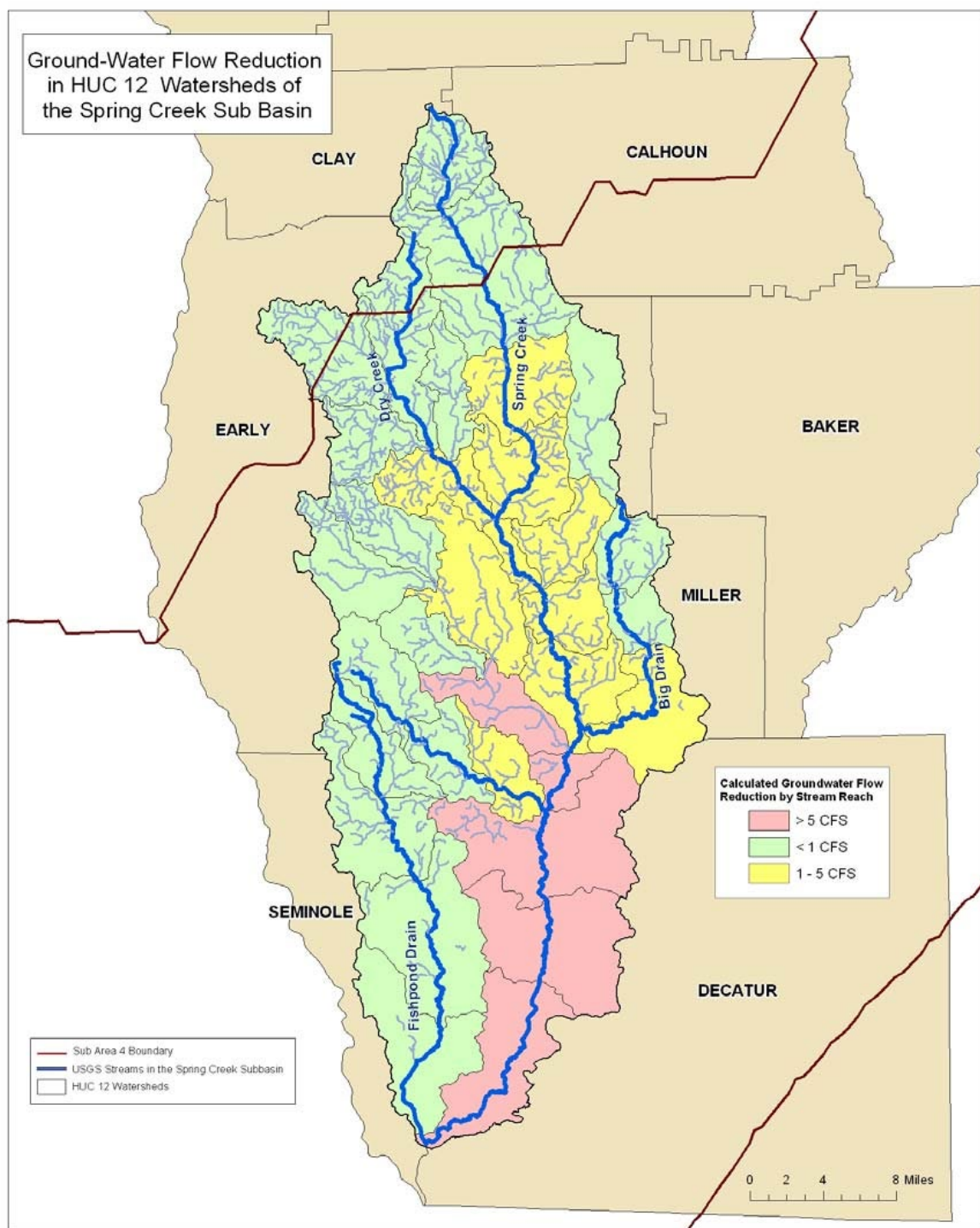


Figure 0.4. Classification of HUC-12 watersheds in the Spring Creek sub-basin.

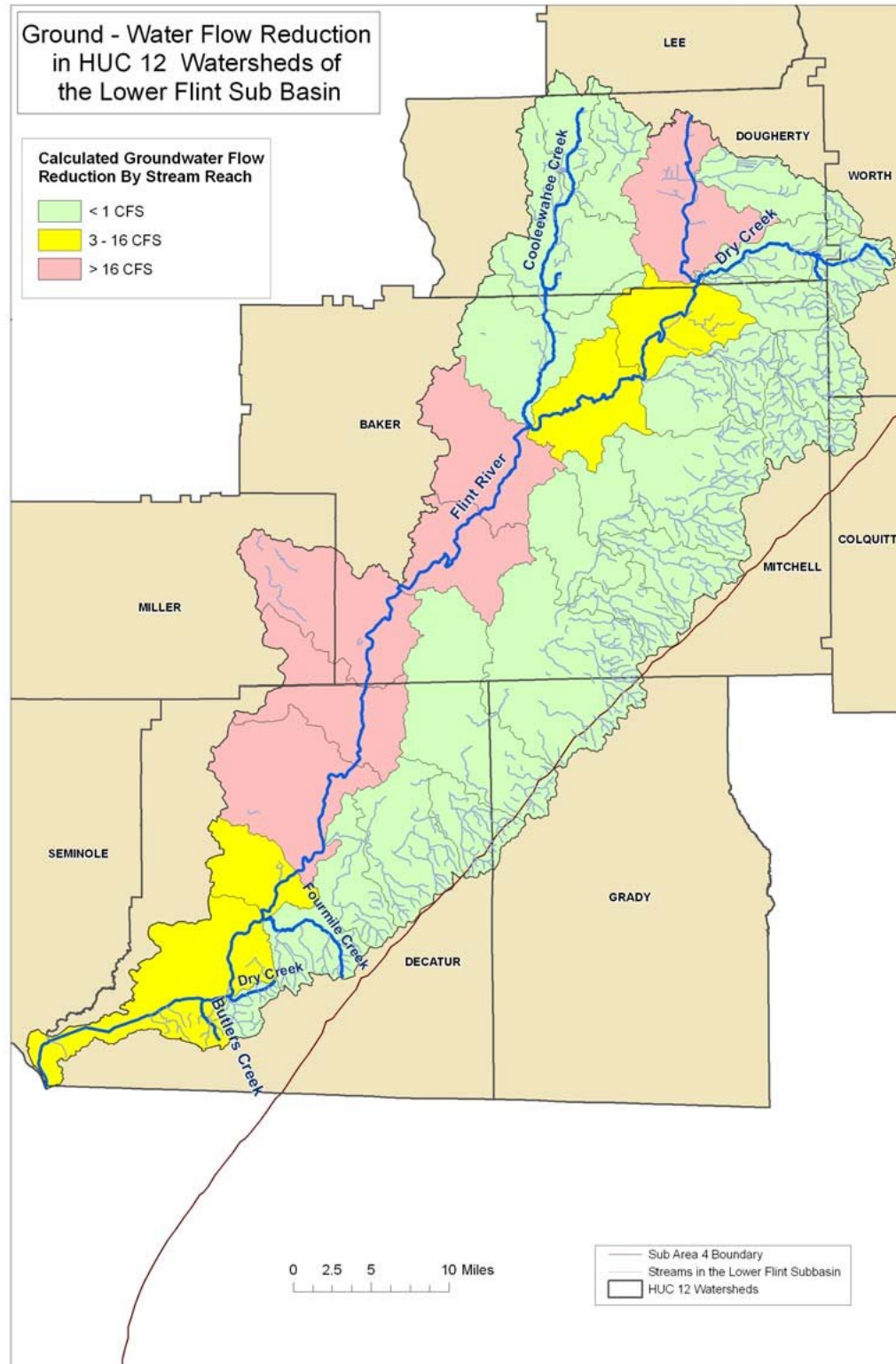
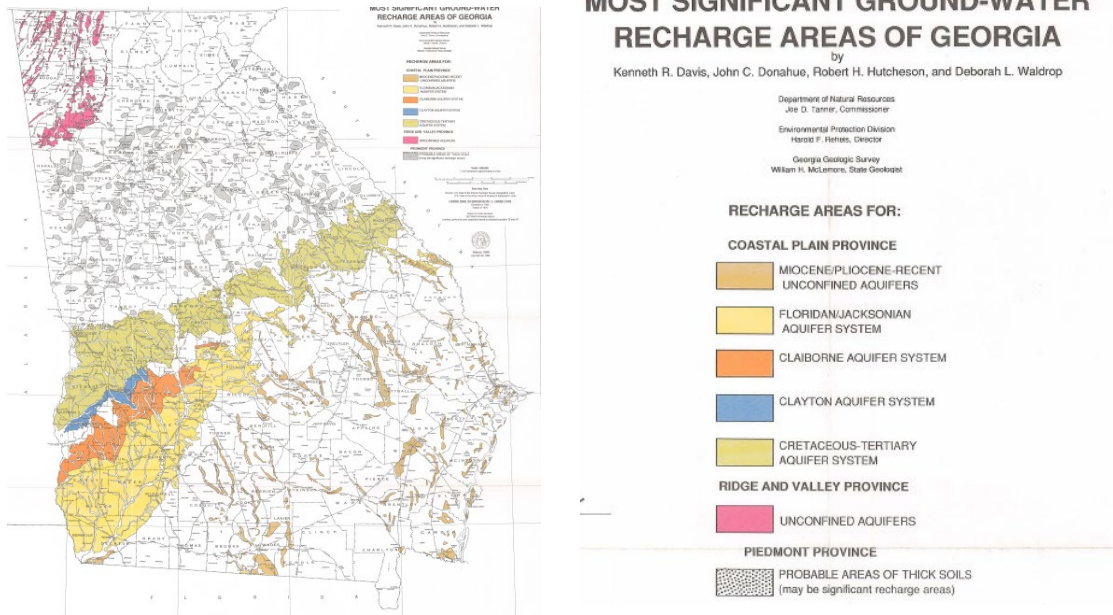


Figure 0.5. Classification of HUC-12 watersheds in the Lower Flint River sub-basin.

# ATTACHMENT 3

## Hydrology Atlas 18 (HA-18)

In the map available at <https://epd.georgia.gov/georgia-geologic-survey-atlases>, the project should be located in one of the areas shaded in accordance with the legend below.



In the digitized version available at <https://epd.georgia.gov/geographic-information-systems-gis-databases-and-documentation>, the project should be located in one of the shaded areas.

