

## U.S. Army Corps of Engineers Charleston District

**SUBJECT:** Charleston District Service Area Guidance for Mitigation Banks and In-Lieu Fee Program Sites within South Carolina.

33 CFR 332.2 Definitions: Service Area means the geographic area within which impacts can be mitigated at a specific mitigation bank or an in-lieu fee program, as designated in its instrument.

In April 2008, the US Army Corps of Engineers (Corps) and the U.S. Environmental Protection Agency issued regulations governing Compensatory Mitigation for Losses of Aquatic Resources, known as the Federal Mitigation Rule. These regulations, located at 33 CFR Part 332, expand on many earlier federal guidance documents and provide the most comprehensive direction to date on procedures to be followed by the Corps to offset unavoidable impacts to waters of the U.S. authorized through the issuance of Department of the Army permits pursuant to section 404 of the Clean Water Act (33 U.S.C. 1344) and/or Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 104, 403).

In a collaborative effort, the South Carolina Interagency Review Team (IRT) has developed a series of service area maps to assist mitigation bankers with their initial feasibility analysis for proposing new mitigation banks within the state. When preparing a mitigation bank or in-lieu fee program prospectus/instrument, the Sponsor should include the appropriate service area map and a brief narrative of the geographic boundary (8-digit HUC and eco-region). Any proposed changes to the Service Area Maps should include a map supported with a detailed narrative description of the geographic boundary and documentation supporting the proposed service area(s).

These Service Area maps were developed using ArcGIS 10.0 (ESRI). The 8-digit Hydrologic Unit (HU) polygons were obtained from the Watershed Boundary Dataset (WBD) and may be downloaded through the USDA – NRCS Geospatial Data Gateway. A hydrologic unit is a drainage area delineated to nest in a multi-level, hierarchical drainage system. Its boundaries are defined by hydrographic and topographic criteria that delineate an area of land upstream from a specific point on a river, stream or similar surface waters. A hydrologic unit can accept surface water directly from upstream drainage areas (thus many HUs are not “watersheds” in the classic sense, but rather portions of watersheds), and indirectly from associated surface areas such as remnant, non-contributing, and diversions to form a drainage area with single or multiple outlet points. At a minimum, the WBD is being delineated and geo-referenced to the USGS 1:24,000 scale topographic base map meeting National Map Accuracy Standards (NMAS).

Ecoregions denote areas of general similarity in ecosystems and in the type, quality, and quantity of environmental resources. Ecoregion boundaries in North and South Carolina were developed through a collaborative effort involving multiple federal and

state agencies (Griffith et al. 2002) and may be downloaded through EPA's Western Ecology Division.

The eight major river basin boundaries of South Carolina are sourced from and used as geographic management units, for example for surface water availability assessment, by the South Carolina Department of Health and Environmental Control (SCDHEC). The boundaries correspond with the WBD. Two of the units (the Savannah and the Pee Dee) correspond to 6-digit HUs, and the others correspond to portions of 6-digit HUs. Thus, they are basins in the classic sense, as only 6-digit HUs are officially called "basins" in the WBD.

**Primary Service Area:** To create the primary service area boundary (depicted in green on the maps), the IRT began with the 8-digit HU boundary in which the mitigation bank is located, a smoothed (removed spikes) Level III ecoregion line (Blue Ridge, Piedmont, Upper Coastal Plain, or Lower Coastal Plain), and the 8 major river basins within the state. The 8-digit HU boundary extending beyond the smoothed ecoregion line was clipped (removed from the service area) so that the primary service area represents the 8-digit HU within a particular ecoregion.

**Secondary Service Area:** The secondary service area boundary (depicted in yellow on the maps) is/are based on the adjacent 8-digit HU(s) within the same ecoregion as the primary service area and are also included in the same major river basin as the primary service area.

The secondary service area may be utilized for compensatory mitigation for any DA permit if: 1. There are no available credits at any primary service area mitigation banks or in-lieu fee programs; and, 2. The applicant demonstrates with supporting documentation that the credits in the secondary service area will compensate for the lost aquatic functions at the impact site.

**Tertiary Service Area:** The IRT determined that tertiary service areas would be acceptable based on economic and environmental considerations in the following region:

The Lower Coastal Plain is comprised of two Level III ecoregions: Middle Atlantic Coastal Plain and Southern Coastal Plain. With 1-2 exceptions, all existing and proposed banks are located in the Middle Atlantic Coastal Plain ecoregion; however, many impacts are located in the Southern Coastal Plain ecoregion. To account for ecoregion differences, and the associated functional differences, the Southern Coastal Plain ecoregion is included as a potential tertiary service area for the same HU and basin as the primary and secondary service areas. However, the sponsor is responsible for justifying why the tertiary service area should apply, if proposed. Should a mitigation bank be proposed in the Southern Coastal Plain Level III ecoregion (indicated by hash marks on the maps), the IRT will review and approve service areas on a case-by-case basis.

The tertiary service area may be utilized for compensatory mitigation for any DA permit if 1. There are no available credits at any primary or secondary service area mitigation banks or in-lieu fee programs; and, 2. The applicant demonstrates with supporting documentation that the credits in the tertiary service area will compensate for the lost aquatic functions at the impact site.

**NOTE:** Impacts should be mitigated with in-kind credits. For example, tidal wetland impacts should not be mitigated with credits from a non-tidal bank despite that bank being within the service area of the proposed impacts. MBIs prepared for approval of non-tidal wetland mitigation banks within the Lower Coastal Plain should explicitly state that credits from the bank cannot be used to offset loss to tidal wetlands. Additionally, saltwater wetland impacts should not be mitigated with credits from a freshwater bank.

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Where to find the information the IRT used to develop the Service Area boundaries:

For the current 8-digit HU boundaries/names go to <https://gdg.sc.egov.usda.gov/>

A reference document for the HUCs can be found at:

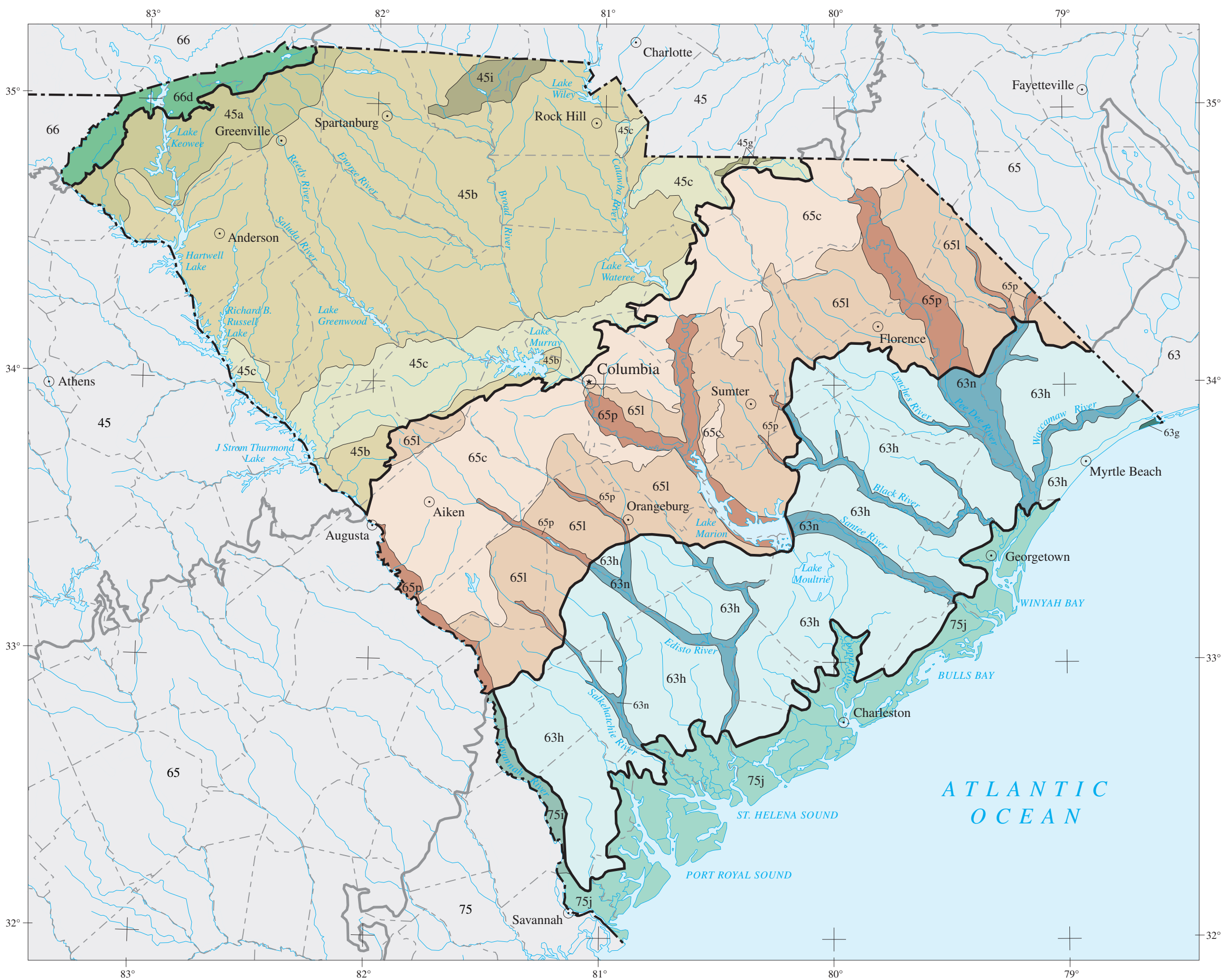
[http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_015367.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_015367.pdf) (Source: Jeannie P. Eidson, Cynthia M. Lacy, Luke Nance, William F. Hansen, Mark A. Lowery, and Noel M. Hurley, Jr., 2005, Development of a 10- and 12-Digit Hydrologic Unit Code Numbering System for South Carolina)

For the current Level III Ecoregion boundaries go to:

[ftp://newftp.epa.gov/EPADataCommons/ORD/Ecoregions/nc/ncsc\\_front.pdf](ftp://newftp.epa.gov/EPADataCommons/ORD/Ecoregions/nc/ncsc_front.pdf) (Source: Griffith, G.E., Omernik, J.M., Comstock, J.A., Schafale, M.P., McNab, W.H., Lenat, D.R., MacPherson, T.F., Glover, J.B., and Shelburne, V.B., 2002, Ecoregions of North Carolina and South Carolina, (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:1,500,000).)

For the SCDHEC Major River Basin boundaries go to:

<http://www.scdhec.gov/HomeAndEnvironment/maps/GIS/GISDataClearinghouse/>



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| <b>45 Piedmont</b>                                 | <b>65 Southeastern Plains</b>                 |
| 45a Southern Inner Piedmont                        | 65c Sand Hills                                |
| 45b Southern Outer Piedmont                        | 65l Atlantic Southern Loam Plains             |
| 45c Carolina Slate Belt                            | 65p Southeastern Floodplains and Low Terraces |
| 45g Triassic Basins                                | <b>66 Blue Ridge</b>                          |
| 45i Kings Mountain                                 | 66d Southern Crystalline Ridges and Mountains |
| <b>63 Middle Atlantic Coastal Plain</b>            | <b>75 Southern Coastal Plain</b>              |
| 63g Carolinian Barrier Islands and Coastal Marshes | 75i Floodplains and Low Terraces              |
| 63h Carolina Flatwoods                             | 75j Sea Islands/Coastal Marsh                 |
| 63n Mid-Atlantic Floodplains and Low Terraces      |   |

Level III ecoregion

Level IV ecoregion

County boundary

State boundary

