



**DEPARTMENT OF THE ARMY**  
**GALVESTON DISTRICT, CORPS OF ENGINEERS**  
**P.O. BOX 1229**  
**GALVESTON, TEXAS 77553-1229**

REPLY TO  
ATTENTION OF:

CESWG-PE-R

11 SEP 2008

MEMORANDUM FOR: All SWG Regulatory Branch Personnel

**SUBJECT: SWG-Standard Operating Procedures (SOP); Using HGM to Determine Potential Wetland Functions and the Appropriate Compensatory Mitigation for Unavoidable Wetland Impacts**

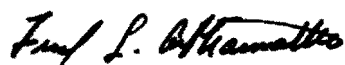
1. Reference: Compensatory Mitigation for Losses of Aquatic Resources (73 Fed. Reg. 19594, 10 April 2008 (to be codified in 33 CFR 332))
2. Reference: The National Action Plan to Implement the Hydrogeomorphic Approach to Assessing Wetland Functions (62 Fed. Reg. 33607, June 20, 1997)
3. The purpose of this document is to provide internal guidance to Galveston District (SWG) personnel in determining the amount of required compensatory mitigation associated with unavoidable wetland impacts, consistent with existing regulations and policies. It does not change the substantive requirements of the Section 10/404 permit program.
4. Reference 1. above states that after a permit applicant has avoided and minimized project impacts and the district engineer determines compensatory mitigation is necessary to offset unavoidable impacts to aquatic resources, the amount of required compensatory mitigation must be, to the extent practicable, sufficient to replace lost aquatic resource functions. In cases where appropriate functional or condition assessment methods are available, these methods should be used where practicable to determine how much compensatory mitigation is required. The mitigation rules also require that performance standards must be based on the best available science that can be measured or assessed in a practicable manner. Performance standards may be based on variables or measures of functional capacity described in functional assessment methodologies, measurements of hydrology or other aquatic resource characteristics, and/or comparisons to reference aquatic resources.
5. Reference 2. above identified the strategy USACE and other Federal agencies will follow to implement the Hydrogeomorphic Approach for Assessing Wetland Functions (HGM), through the development of HGM Regional Guidebooks. HGM, developed by scientists at the U.S. Army Engineer Research and Development Center (ERDC), is a procedure for measuring the potential of a wetland to perform critical functions. The HGM Regional Guidebooks were developed following specific protocols and subjected to a rigorous peer review process involving wetland experts. The procedure was designed to satisfy the need for better information on wetland functions within the programmatic requirements of the (Section 10 & 404) Regulatory program. The use of this methodology will increase the consistency and accuracy associated with determining wetland functional assessments (for impacts and/or mitigation), provide a standard for others to determine suitable mitigation, reduce the subjectivity associated with conducting a functional assessment, and ultimately result in decreased permit review time. Its' focus is to (1) help determine the nature and level of any compensatory mitigation that may be needed, (2) support mitigation banking, and (3) support watershed planning.
6. Pursuant to Title 180 of the National Food Security Act, The Natural Resources Conservation Service (NRCS), with the assistance of a multi-agency and multi-discipline workgroup, developed simplified or

“Interim-HGM” (iHGM) models, based on the HGM Regional Guidebooks, in order to efficiently assess specific priority wetland functions. These models were developed by a team of regional experts using reference standards. Since the HGM approach classifies wetlands by regional wetland subclass based on their geomorphic position and hydrologic characteristics, the iHGM models were likewise developed for each wetland subclass, including riverine, tidal fringe, lacustrine, depressional, slopes, and flats. Through further coordination between Regulatory Branch personnel and NRCS, four primary SWG-iHGM models have been developed/refined for use in the SWG Regulatory program. These models are to be used on projects that do not warrant using the more comprehensive HGM Regional Guidebook, and/or where Regional Guidebooks, or other models deemed more appropriate, are not yet available. The SWG-iHGM models provide a quantitative method to consistently measure a wetlands’ potential functionality. They are associated with the three primary hydrologic regimes, Lacustrine (Lakes), Riparian (Rivers) and Estuarine (Tidal) that are within our current jurisdiction. The four existing SWG-iHGM models are: 1) SWG Tidal Fringe iHGM – to be used for tidal wetlands; 2) SWG Riverine Forested iHGM – to be used for forested wetlands in a riverine system; 3) SWG Riverine Herbaceous/Shrub iHGM - to be used for non-forested wetlands in a riverine system; and 4) SWG Lacustrine iHGM - to be used for wetlands adjacent to lakes. Additional SWG-iHGM models (e.g. flats, depressions) will be available when calibrated for our area of operation. All of the SWG-iHGM models will be updated and maintained on the Regulatory Branch shared drive.

7. Branch personnel should use these SWG-iHGM models to assess jurisdictional wetland impacts that exceed 3 acres in cumulative size (e.g. fill and/or other regulated impacts). Discretion may be taken to use the models in assessing jurisdictional impacts lower than this threshold, if the resource warrants. This will generally be consistent with projects addressed under the Tier II 401 certification process. There may be unique cases, commensurate with large or controversial projects, where it will be warranted to utilize available HGM Regional Guidebook models. In cases where impacts are to be compensated from a phase of a mitigation bank previously credited with another functional assessment method, (e.g. WETII –Katy Cypress & Greens Bayou WMB) the respective method of that bank should be used; all others should use the appropriate HGM model. USACE is responsible for verifying model results; additional agency coordination that would delay further permit processing is not required.

8. Our goal is no net loss of aquatic resource function. The result of these models is a number called a functional index (FCI). This FCI is a quantitative number that estimates the capacity of the wetland to perform a function as it relates to the adjacent water body and is calibrated to other wetlands in the region and subclass. In determining the amount of mitigation required, the functional capacity units (FCUs = FCI multiplied by acres) for each function impacted must ultimately be accounted for by the same or greater amount of FCUs for each respective function compensated. In doing this, there will be circumstances where we must require a mitigation ratio greater than one-to-one where necessary to account for: the method of compensatory mitigation (e.g., preservation); the likelihood of success; differences between the functions lost at the impact site and the functions expected to be produced by the compensatory mitigation project; temporal losses of aquatic resource functions; the difficulty of restoring or establishing the desired aquatic resource type and functions; and/or the distance between the affected aquatic resource and the compensation site. The rationale for the required replacement ratio and the functional assessment must be documented in the administrative record for the permit action.

9. This policy is effective as of 1 October 2008 until rescinded or replaced.



FRED L. ANTHAMATTEN  
Chief, Regulatory Branch