



**DEPARTMENT OF THE ARMY**  
**MOBILE DISTRICT, CORPS OF ENGINEERS**  
P.O. BOX 2288  
MOBILE, ALABAMA 36628-0001

REPLY TO

CESAM-RD-C  
PUBLIC NOTICE NO.  
SAM-2006-2008-MBM

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**JOINT PUBLIC NOTICE**  
**U.S. ARMY CORPS OF ENGINEERS**  
**MOBILE DISTRICT**

**COMPENSATORY MITIGATION GUIDELINES**

**Background**

As a result of the National Academy of Sciences' (NAS) findings and the ensuing National Mitigation Action Plan (MAP), the U.S. Army Corps of Engineers (Corps) has commenced several national initiatives to improve the success of compensatory mitigation overall and in the context of regional watershed approach.

By Public Notice 2003-03938-B dated December 24, 2003, the Corps, Mobile District, Regulatory Branch provided the NAS' Report entitled, Compensating for Wetland Losses Under the Clean Water Act, including Regulatory Headquarters implementation clarification; and a multi-agency compensatory mitigation plan checklist and supplemental information for public review and comment. In accordance with MAP, all of the Corps' Districts are being requested to incorporate the Corps' Headquarters-generated mitigation plan checklist and associated guidance supplement into their mitigation guidelines. The main purposes of this guidance are to assist applicants in the preparation of compensatory mitigation and monitoring plans associated with projects requiring Department of Army permits, and to assist Corps staff in the timely and thorough evaluation of more standardized compensatory mitigation plans. This guidance is not intended to change requirements of the Clean Water Act or any other applicable statute, regulation or policy and will be included on the Mobile District Regulatory Division website at [www.sam.usace.army.mil/RD/](http://www.sam.usace.army.mil/RD/) where it maintains a Regional Internet Banking Information Tracking System (RIBITS) that provides District guidance on mitigation banking and the District's currently preferred wetland assessment methodology for determining the appropriate amount of mitigation for all permitted projects requiring compensation.

The December 24, 2003, Public Notice 2003-03938-B announced our intention to develop a standard list of mitigation requirements and to solicit comments on this initiative. The public notice was sent to all interested parties including appropriate State and Federal agencies. A 30-day response period was specified in the public notice. After consideration of the comments, the Mobile District has modified the guidance supplement slightly. The final version is attached to this public notice and we will be implementing it and the associated guidance supplement November 1, 2006. Please ensure that all mitigation plans address the items specified in the checklist, as appropriate. This is not a mandatory checklist and it is expected that the level of detail of a mitigation plan will be commensurate with the complexity of the mitigation project.

On November 19, 2004, the U.S. Environmental Protection Agency and U.S. Army Corps of Engineers entered into a partnership agreement to establish a collaborative watershed partnership. The Mobile District Regulatory Division endorses a watershed approach which is consistent with the goals of the

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permitting program to facilitate sustainable economic growth in a manner that is environmentally sound and consistent with protecting and enhancing important recognized aquatic resources within the same watershed. This approach is reflected in the Mobile District Regulatory Division guidance for establishing mitigation banks and the determination of service areas for mitigation banks based upon a watershed approach. In addition, the Mobile District Regulatory Division endorses the use of a Proximity Factor Method which is used to calculate a multiplier for mitigating for wetland/stream impacts outside the service area/watershed of a mitigation bank.

Nationwide, most mitigation projects attempted by permittees fail. As a result, the Mobile District strongly endorses the development and use of mitigation banks. To expedite the development and approval of mitigation banks and improve the likelihood of demonstrating functional replacement of aquatic functions to compensate for lost aquatic functions in permits, the Mobile District has gone to great lengths to standardize much of the process and documentation requirements. The standardized process and documents can be found on the Regional Internet Banking Information Tracking System (RIBITS) site Mobile District Regulatory Division website [www.sam.usace.army.mil/RD/](http://www.sam.usace.army.mil/RD/). Due to their size and scope of work, mitigation banks are required to demonstrate a high level of accountability by providing a Mitigation Banking Instrument that addresses all the items specified in the checklist.

**Discussion of Public Comments**

I. Overview

In response to the December 24, 2003, public notice, we received letters from five entities, none of which expressed opposition to the proposed Mitigation Checklist. All comments received have been reviewed and are discussed in more detail below.

II. Specific Comments

The following comments were received and are provided in same sequence as referenced within the mitigation checklist and guidance supplement. The Corps response follows each comment section. Comments were received that suggested we consider the following:

Section 1. Mitigation Goals and Objectives. A comment was received requesting that each mitigation project be required to demonstrate how it meets the "no-net-loss" requirements.

We agree that every mitigation project should be held accountable for demonstrating a no-net-loss of wetland functions by providing measurable and defensible compensatory mitigation using wetland functional assessment methods approved by the federal and state regulatory agencies. In the Mobile District, approved functional assessment methods include the Ratio Method, Wetland Rapid Assessment Procedure (WRAP), Hydrogeomorphic Approach (HGM), and Compensatory Stream Mitigation Guidelines SOP. In addition, the Mobile District has developed measurable success criteria that are wetland habitat specific and based upon sound ecological principles and best available science and expertise available.

Section 2. Baseline Information. Various comments requested this section be revised to require coordinates for the entire project boundary and require the applicant to quantify wetland acreage by habitat type and stream resources by linear feet, for stream impacts provide data on stream order, bankfull width and drainage area, and provide data on a water budget. A comment was received stating section 2.e was redundant information and that all these criteria would be captured by the assessment method under

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2.d and that a comprehensive species listing will be too resource demanding. One commenter requested that the final responsible party be identified.

We agree with the comments in general, and that these requirements are currently in place in the Mobile District. However it is important to realize that not all mitigation projects will require the same level of documentation and the amount of documentation will be determined on a case-by-case basis depending on the complexity of the proposed mitigation project. With the ever increasing availability of mitigation banks, much of this information is required in the Mitigation Banking Instruments. We have amended the guidance supplement to ensure consistency with our current mitigation guidance.

Section 3. Mitigation Site Selection & Justification. Comments were received requesting the mitigation sequence be changed to reflect a preference for restoration, creation, then enhancement and that preservation of wetlands be awarded zero mitigation credits. It was requested that coordination with state agencies be mandatory to identify state protected species and state waterbottoms, that section 3.d be deleted since it is impossible to predict future events and that a water budget would be impossible to determine for precipitation driven wetlands, and that under section 3.h the explanation of design include Rosgen stream parameters.

Under existing law the Corps requires compensatory mitigation to replace aquatic resource functions unavoidably lost or adversely affected by authorized activities. While we agree that functional lift is achieved through restoration, enhancement and creation, the goal is to achieve a no-net-loss of wetland functions and to achieve an ecologically sustainable system. Current guidance states that preservation is acceptable, particularly when it serves to augment the functions of newly established, restored or enhanced aquatic resources. The Corps relies on the expertise of tribal, state, local and other Federal resource management agencies and current law requires their coordination in our permit evaluation process for certain permit types. We have amended the guidance supplement to address unrealistic data requirements and wish to emphasize that our current stream mitigation guidance requires the applicant provide Rosgen stream parameter data.

Section 4. Mitigation Work Plan. Comments were received requesting the coordinates of boundaries of different habitat types be provided, clarification on the suitability of upland buffers, and that a 50-foot upland buffer should be required on all mitigation projects however no mitigation credit be allowed for that buffer unless the area is currently under development threat. One commenter stated that the information stated in section 4.f.4 is not attainable.

We agree with the comments in general, and that the different habitat delineation requirement is currently in place in the Mobile District. Federal guidance conditionally endorses preservation mitigation and the Mobile District guidance allows credit for a 50-foot upland buffer around the periphery of mitigation banks and a maximum of 300-foot upland/wetland riparian buffers on streams. We have amended the guidance supplement to remove the requirement of having to obtain the information stated in Section 4.f.4.

Section 5. Performance Standards. Comments were received requesting the Mobile District require and incorporate a time-lag factor and include stream mitigation in the language of section 5.b.

Under existing law the Corps requires compensatory mitigation to replace aquatic resource functions unavoidably lost or adversely affected by authorized activities. The Corps uses approved functional assessment methods to measure these functions. For mitigation banks using the Wetland Rapid Assessment Procedure (WRAP), the Mobile District currently uses the WRAP time-lag factor for

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bottomland hardwood habitat since the mature canopy is a critical function of this ecosystem. The Ratio Method replaces aquatic resource functions at higher than 1 to 1 ratio of impact acreage to mitigation acreage and qualitatively considers the different levels of functional lift associated with different types of mitigation, the time required for the mitigation site to reach maturity or target condition, the risk of the mitigation not achieving functional replacement, and an appropriate consideration of the loss of function over time. We have amended the guidance supplement to ensure consistency with both our current wetland and stream mitigation guidance.

Section 6. Site protection and Maintenance. One comment was received requesting deed language requiring mitigation lands be protected in-perpetuity to ensure they can never be used for development or personal gain in the future except for utility corridors or public health and safety reasons.

We agree and this requirement is currently in place in the Mobile District. All mitigation projects are required to be protected using either a restrictive covenant or conservation easement. The Mobile District has developed preferred templates which can be found at our website at [www.sam.usace.army.mil/RD/](http://www.sam.usace.army.mil/RD/).

Section 8. Adaptive Management Plan. One comment was received that stated that identifying elements that pose a risk to the success of a mitigation project seems to contradict a previous requirement of explaining how the project is going to be self-sustaining.

The goal of the Corps is to approve and achieve successful mitigation projects that are designed to be self-sustaining to the greatest extent possible. However, pine savannahs wetlands are a dominant wetland habitat along the Gulf Coast region and require long-term prescribe burn management. Most other wetland habitats require some form of long-term invasive species control measures.

**Multi-Agency Compensatory Mitigation Plan Checklist and Guidance Supplement**

Based on the National initiative and the comments received in response to the public notice, effective November 1, 2006, the Mobile District will begin to implement the attached Mitigation Plan Checklist and Guidance Supplement in their review of applications for Department of Army individual permits. Please ensure that mitigation plans submitted in support of an application for an individual permit address the items in the checklist and guidance supplement.

David S. Hobbie  
Chief, Regulatory Division

**MULTI-AGENCY COMPENSATORY MITIGATION PLAN CHECKLIST<sup>1</sup>**

- Mitigation Goals and Objectives
  - Describe functions lost at impact site
  - Describe functions to be gained at mitigation site
  - Describe overall watershed improvements to be gained
  
- Baseline Information for Impact and Proposed Mitigation Sites
  - Provide data on physical attributes of sites (soils, vegetation, hydrology)
  - Describe historic and existing land uses and resources impacted
  - Describe reference site attributes if available
  
- Mitigation Site Selection and Justification
  - Describe process of selecting proposed site
  - Likelihood of success, future land use compatibility, etc.
  
- Mitigation Work Plan
  - Location
  - Construction Plan
  - Describe planned hydrology, vegetation, soils, buffers, etc.
  
- Performance Standards
  - Identify success criteria
  - Compare functions lost and gained at impact and mitigation sites
  - Describe soils, vegetation and hydrology parameter changes
  
- Site Protection and Maintenance
  - List parties and responsibilities
  - Provide evidence of legal protective measures
  - Maintenance plan and schedule
  
- Monitoring Plan
  - Regulatory Guidance Letter 06-03
  - Provide monitoring schedule, identify party (ies) and responsibilities
  - Specify data to be collected, including assessment tools and methodologies
  
- Adaptive Management Plan
  - Identify party (ies) and responsibilities
  - Remedial measures (financial assurances, management plan, etc.)
  
- Financial Assurances
  - Regulatory Guidance Letter 05-1
  - Identify party (ies) responsible for assurances
  - Specify type of assurance, contents and schedule

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<sup>1</sup> Refer to “Supplement: Compensatory Mitigation Plan Checklist” for further explanation of specific checklist items.

**SUPPLEMENT: COMPENSATORY MITIGATION PLAN CHECKLIST**

This document is intended as a technical guide for Clean Water Act (CWA) Section 404 permit applicants<sup>2</sup> preparing compensatory mitigation plans. Compensatory mitigation is required to offset impacts that cannot be avoided and minimized to the extent practicable. The purpose of this document is to identify the types and extent of information that agency personnel need to assess the likelihood of success of a mitigation proposal. Success is generally defined as: a healthy sustainable wetland/water that – to the extent practicable – compensates for the lost functions of the impacted water in an appropriate landscape/watershed position. This checklist provides a basic framework that will improve predictability and consistency in the development of mitigation plans for permit applicants. Although every mitigation plan may not need to include each specific item, applicants should address as many as possible and indicate, when appropriate, why a particular item was not included (For example, permit applicants who will be using a mitigation bank would not be expected to include detailed information regarding the proposed mitigation bank site since that information is included in the bank’s enabling instrument). This checklist can be adapted to account for specific environmental conditions in different regions of the U.S.

**1. Mitigation Goals and Objectives**

**Impact Site**

- a. Describe and quantify the aquatic resource type and functions that will be impacted at the proposed impact site and any secondary and cumulative impacts to aquatic resources that will result. These will include temporary and permanent impacts to the aquatic environment.
- b. Describe aquatic resource concerns in the watershed (e.g. flooding, water quality, habitat) and how the impact site contributes to overall watershed/regional functions. Identify watershed or other regional plans that describe aquatic resource objectives.

**Mitigation Site**

- c. Describe and quantify the aquatic resource type and functions for which the mitigation project is intended to compensate. Wetland functions for the approved impact and compensatory mitigation site should be evaluated using the same wetland functional assessment methodology and should demonstrate in-kind functional replacement in the same watershed. If in-kind mitigation cannot be provided, describe how the type and functions of out-of-kind mitigation is more ecologically preferable from a watershed approach.
- d. Mitigation banks restore wetland functions at an ecosystem level and contribute to overall no-net-loss of watershed/regional functions. If the mitigation is not being performed at a mitigation bank, then describe how the proposed mitigation will contribute to overall no-net-loss of the larger watershed/regional functions.

**2. Baseline Information - for proposed impact site, proposed mitigation site & if applicable, proposed reference site(s).**

**a. Location**

1. Survey coordinates & written location description (including block, lot, township, county, Hydrologic Unit Code (HUC) number, for project boundary and different habitat areas as appropriate and pertinent.
2. Maps (e.g., site map with delineation (verified by the Corps), map of vicinity, map identifying location within the watershed, NWI map, NRCS soils map, zoning or planning maps; indicate area of proposed fill on site map).
3. Aerial/Satellite photos.

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<sup>2</sup> The checklist may be used in other federal or state programs as well; however, additional information may be needed to satisfy specific program requirements. For example, Attachment A indicates additional information needed by the Natural Resources Conservation Service (NRCS) to satisfy the Swampbuster provisions of the Food Security Act.

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- b. Classification – Hydrogeomorphic or Cowardin classification of habitat types, Rosgen stream type, NRCS classification, as appropriate.
- c. Quantify wetland resources (acreage) by habitat type and stream resources (linear feet) by Rosgen stream type, (stream order, bankfull width, drainage area etc.).
- d. Assessment method(s) used to quantify impacts to aquatic resource functions (e.g., HGM, Ratio Method, WRAP, or Stream Mitigation SOP); explain findings (soils, hydrology, and vegetation). The same method should be used at both impact and mitigation sites.
- e. Existing hydrology
  1. Water budget. Include water source(s) (precipitation, surface runoff, groundwater, stream) and losses(s).
  2. Hydroperiod (seasonal depth, duration, and timing of inundation and/or saturation), percent open water.
  3. Historical hydrology of mitigation site if different than present conditions
  4. Contributing drainage area (acres).
- f. Existing vegetation
  1. List of species on site, indicating dominants.
  2. Species characteristics such as densities, general age and health, and native/non-native/invasive status.
  3. Percent vegetative cover; community structure (canopy stratification).
  4. Map showing location of plant communities.
- g. Existing soils
  1. Soil Type (e.g., soil survey classification and series) and/or stream substrate (locate soil samples on site map).
- h. Existing wildlife usage (indicate possible threatened and endangered species habitat).
- i. Historic and current land use; note prior converted cropland.
- j. Current owner(s), Responsible Party
- k. Watershed context/surrounding land use.
  1. Impairment status and impairment type (e.g., 303(d) list) of aquatic resources.
  2. Description of watershed land uses (percent ag, forested, wetland, developed).
  3. Size/Width of natural buffers (describe, show on map).
  4. Description of landscape connectivity: proximity and connectivity of existing aquatic resources and natural upland areas (show on map).

**3. Mitigation Site Selection & Justification**

- a. Site-specific objectives: Description of mitigation type(s)<sup>3</sup>, acreage(s) and proposed compensation ratios.
- b. Watershed/regional objectives: Description of how the mitigation project will compensate for the functions identified in the Mitigation Goals section 1(c).
- c. Description of how the mitigation project will contribute to aquatic resource functions within the watershed or region (or sustain/protect existing watershed functions) identified in the Mitigation Goals section 1(d). How will the planned mitigation project contribute to landscape connectivity or enhance resources such as State protected species or waters?
- d. Description of site selection practicability in terms of cost, existing technology, and logistics.
- e. If the proposed mitigation is off-site and/or out-of-kind, explain why on-site or in-kind options<sup>4</sup> are not practicable or environmentally preferable.

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<sup>3</sup> That is, restoration, enhancement, creation or preservation: see Regulatory Guidance Letter (RGL) 02-2, Mitigation RGL, for definitions for these terms.

<sup>4</sup> See Federal Guidance on the Use of Off-Site and Out-of-Kind Compensatory Mitigation under Section 404 of the CWA.

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- f. Existing and proposed mitigation site deed restrictions, easements and rights-of-way. Demonstrate how the existence of any such restriction will be addressed, particularly in the context of incompatible uses.
- g. Explanation of how the design is sustainable and self-maintaining. For wetlands mitigation projects provide reference wetland site data if available. For stream mitigation projects provide current and target data on stream pattern, profile and dimension.
- h. USFWS and/or NOAA Fisheries Listed Species Clearance Letter or Biological Opinion.
- i. SHPO Cultural Resource Clearance Letter.

**4. Mitigation Work Plan**

- a. Maps reflecting the location of the project within the 8-digit USGS watershed, maps marking boundaries of proposed mitigation area and each habitat type; include DGPS coordinates.
- b. Timing of mitigation: before or concurrent with authorized impacts; if mitigation is not in advance or concurrent with impacts, explain why it is not practicable and describe other measures to compensate for the consequences of temporal losses such as including a temporal lag factor.
- c. Grading plan
  - 1. Indicate existing and proposed elevations and slopes.
  - 2. Describe plans for establishing appropriate microtopography. Reference wetland(s) can provide design templates.
- d. Description of construction methods (e.g., equipment to be used)
- e. Construction schedule (expected start and end dates of each construction phase, expected date for as-built plan).
- f. Planned hydrology
  - 1. Source of water.
  - 2. Connection(s) to existing waters.
  - 3. Hydroperiod (seasonal depth, duration, and timing of inundation and saturation), percent open water, water velocity.
  - 4. Existing monitoring data, if applicable; indicate location of monitoring wells and stream gauges on site map.
  - 5. Stream or other open water geomorphic features (e.g., riffles, pools, bends, deflectors).
  - 6. Structures requiring maintenance (show on map) Explain structure maintenance in section 6(c).
- g. Planned vegetation
  - 1. Native plant species composition (e.g., list of acceptable native hydrophytic vegetation).
  - 2. Source of native plant species (e.g. salvaged from impact site, local source, seed bank) stock type (bare root, potted, seed) and plant age(s)/size(s).
  - 3. Plant zonation/location map (refer to grading plan to ensure plants will have an acceptable hydrological environment).
  - 4. Plant spatial structure – quantities/densities, % cover, community structure (e.g., canopy stratification).
  - 5. Expected natural regeneration from existing seed bank, plantings, and natural recruitment.
- h. Planned soils
  - 1. Soil profile
  - 2. Source of soils (e.g., existing soil, imported impact site hydric soil), target soil characteristics (organic content, structure, texture, permeability), soil amendments (e.g., organic material or topsoil).
  - 3. Erosion and soil compaction control measures.
- i. Planned habitat features (identify large woody debris, rock mounds, etc. on map).
- j. Planned buffer (identify on map).
  - 1. Evaluation of the buffer's expected contribution to aquatic resource functions.
  - 2. Physical characteristics (location, dimensions, native plant composition, spatial and vertical structure).

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k. Other planned features, such as interpretive signs, trails, fence(s), etc.

**5. Performance Standards**

- a. Identify clear, precise, quantifiable parameters that can be used to evaluate the status of desired functions. These may include hydrological, vegetative, faunal, and soil measures. (e.g., plant richness, percent exotic/invasive species, and water inundation/saturation levels). Describe how performance standards will be used to verify that objectives identified in 3(b) and 3(c) have been attained.
- b. Set target values or ranges for the parameters identified. Ideally, these targets should be set to mimic the trends and eventually approximate the values of a reference wetland(s).

**6. Site Protection and Maintenance**

- a. Long-term legal protection instrument using a Corps approved conservation easement or restrictive covenant.
- b. Party(ies) responsible and their role (e.g. site owner, easement owner, project manager, long-term land steward). If more than one party, identify primary party.
- c. Current and long-term maintenance plan and schedule (e.g. measures to control predation/grazing of mitigation plantings, temporary irrigation for plant establishment, replacement planting, structure maintenance/repair, etc.).
- d. Invasive species control plan (plant and animal).

**7. Monitoring Plan**

- a. Party(ies) responsible for monitoring. If more than one, identify primary party.
- b. Data to be collected and reported, how often and for what duration (identify proposed monitoring stations, including transect locations on map).
- c. Assessment tools and/or methods to be used for data collection monitoring the progress towards attainment of performance standard targets.
- d. Format for reporting monitoring data and assessing mitigation status.
- e. Monitoring schedule

**8. Adaptive Management Plan**

- a. Party(ies) responsible for adaptive management.
- b. Identification of potential challenges (e.g., flooding, drought, invasive species, seriously degraded site, extensively developed landscape) that pose a risk to project success. Discuss how the design accommodates these challenges.
- c. Discussion of potential remedial measures in the event mitigation does not meet performance standards in a timely manner.
- d. Description of procedures to allow for modifications of performance standards if mitigation projects are meeting mitigation goals, but in unanticipated ways.

**9. Financial Assurances**

- a. For each of the following, identify party(ies) responsible to establish and manage the current and long-term financial assurances, the specific type of financial instrument, the method used to estimate assurance amount, the date of establishment, and the release and forfeiture conditions:
  1. Construction phase
  2. Maintenance
  3. Monitoring
  4. Remedial measures
  5. Project success

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- b. Types of assurances (e.g., performance bonds, irrevocable trusts, escrow accounts, casualty insurance, letters of credit, etc.).
  
- c. Schedule by which financial assurance will be reviewed and adjusted to reflect current economic factors.