US Army Corps
of Engineers

United States Army Corps of Engineers
Regulatory Branch
Washington, D.C. 20314

United States Environmental Protection Agency
Wetlands and Aquatic Resources Regulatory Branch
Washington, D.C. 20460

MEMORANDUM TO THE FIELD

SUBJECT: Model Compensatory Mitigation Plan Checklist for Aquatic Resource Impacts Under the Corps Regulatory Program Pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act.

We are pleased, as part of the implementation of the National Wetlands Mitigation Action Plan, to enclose a model compensatory mitigation plan checklist with a supporting supplement. The checklist and supplement should serve as a technical guide for permit applicants preparing compensatory mitigation plans to offset impacts to aquatic resources authorized under the Clean Water Act Section 404 and the Rivers and Harbors Act Section 10 programs.

The purpose of the checklist is to identify the types and extent of information that agency personnel need to assess the likelihood of success of a mitigation proposal. The checklist provides a basic framework that will improve predictability and consistency in the development of mitigation plans for permit applicants. This checklist should be included, along with the National Research Council's Guidelines for Self-Sustaining Mitigation sent under separate cover, in each Corps Districts' Mitigation and Monitoring Guidelines currently under development or revision. This checklist can be adapted to account for specific environmental conditions in different regions of the U.S.

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MULTI-AGENCY COMPENSATORY MITIGATION PLAN CHECKLIST[1]

- ☐ 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
  - 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
  - Identify party (ies) responsible for assurances
  - Specify type of assurance, contents and schedule

[1] 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[2] 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. 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.

d. Describe the contribution to overall watershed/regional functions that the mitigation site(s) is intended to provide.

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

a. Location

1. Coordinates (preferably using DGPS) & written location description (including block, lot, township, county, Hydrologic Unit Code (HUC) number, 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.

b. Classification – Hydrogeomorphic as well as Cowardin classification, Rosgen stream type, NRCS classification, as appropriate.

[2] 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.

c. Quantify wetland resources (acreage) or stream resources (linear feet) by type(s).
d. Assessment method(s) used to quantify impacts to aquatic resource functions (e.g., HGM, IBI, WRAP, etc.); explain findings. 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). Provide budgets for both wet and dry years.
    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).
    5. Results of water quality analyses (e.g., data on surface water, groundwater, and tides for such attributes as pH, redox, nutrients, organic content, suspended matter, DO, heavy metals).
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 profile description (e.g., soil survey classification and series) and/or stream substrate (locate soil samples on site map).
    2. Results of standard soils analyses, including percent organic matter, structure, texture, permeability.
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)
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).
    5. Relative amount of aquatic resource area that the impact site represents for the watershed and/or region (i.e., by individual type and overall resources).

3. Mitigation Site Selection & Justification

a. Site-specific objectives: Description of mitigation type(s)[3], 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

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

Goals section 1(d). How will the planned mitigation project contribute to landscape connectivity?

d. Likely future adjacent land uses and compatibility (show on map or aerial photo).

e. Description of site selection practicability in terms of cost, existing technology, and logistics.

f. If the proposed mitigation is off-site and/or out-of-kind, explain why on-site or in-kind options[4] are not practicable or environmentally preferable.

g. 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.

h. Explanation of how the design is sustainable and self-maintaining. Show by means of a water budget that there is sufficient water available to sustain long-term wetland or stream hydrology. Provide evidence that a legally defensible, adequate and reliable source of water exists.

i. USFWS and/or NOAA Fisheries Listed Species Clearance Letter or Biological Opinion.

j. SHPO Cultural Resource Clearance Letter.

4. Mitigation Work Plan

a. Maps marking boundaries of proposed mitigation types; include DGPS coordinates.

b. Timing of mitigation: before, concurrent or after 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.

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. Potential interaction with groundwater.
5. Existing monitoring data, if applicable; indicate location of monitoring wells and stream gauges on site map.
6. Stream or other open water geomorphic features (e.g., riffles, pools, bends, deflectors).
7. 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] See Federal Guidance on the Use of Off-Site and Out-of-Kind Compensatory Mitigation under Section 404 of the CWA.

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.

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, 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 (e.g. conservation easement, deed restriction, transfer of title).

b. Party(ies) responsible and their role (e.g. site owner, easement owner, maintenance implementation). If more than one party, identify primary party.

c. 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 financial assurance, 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

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.

ATTACHMENT A
NATURAL RESOURCES CONSERVATION SERVICE (NRCS) PROGRAM REQUIREMENTS[5]

- ☐ NRCS conservation practice standards and specifications
- ☐ NRCS Environmental Evaluation
- ☐ Mitigation agreement
- ☐ Federal/State/Local required permits
- ☐ Compatible use statement:
  - Allowable uses (e.g. hunting, fishing)
  - Prohibited uses (e.g. grazing, silviculture)
  - Uses approved by compatible use permit
- ☐ Copy of recorded easement
- ☐ Subordination waiver on any existing liens on mitigation site
- ☐ Statement of landowner's tax liability
- ☐ Copy of Warrantee Deed from landowner's attorney (no encumbrances, if so list)
- ☐ Copy of certified wetland determination:
  - NRCS-CPA-026 Highly Erodible Land and Wetland Conservation Certification
  - Wetland label map
- ☐ Copy of FSA Good Faith Waiver
- ☐ Copy of easement(s) ingress/egress granted to USDA employees for gaining legal access to mitigation site
- ☐ Copy of NRCS-CPA-38 Request for Certified Wetland Determination/Delineation

[5] For a complete list of the program requirements needed by NRCS to satisfy the Swampbuster provisions of the Food Security Act see the National Food Security Act Manual.