

U.S. Army Corps of Engineers (USACE) Fort Worth District



Mitigation Plan Template

This template includes the components required in a mitigation plan as outlined in the Final Rule on Compensatory Mitigation for Losses of Aquatic Resources (Federal Register Vol. 73, No. 70; April 10, 2008) and in the Code of Federal Regulations (CFR) Title 33, Part 332.4. A mitigation plan is required as part of compensatory mitigation projects, including permittee-responsible mitigation, mitigation banks, or in-lieu fee programs.

Contents

- **Background for Mitigation Plans**
- **Instructions**
- **Part I: Project Information**
- **Part II: Avoidance and Minimization**
 - Avoidance
 - Minimization
- **Part III: Compensatory Mitigation**
 - Goals and Objectives
 - Site Selection
 - Liens, Easements or Encumbrances
 - Baseline Information / Site History Including Work Performed in the Last 5 Years
 - Mitigation Work Plan
 - Determination of Credits
 - Maintenance Plan
 - Perpetual Site Protection Instrument
 - Performance Standards
 - Monitoring Requirements
 - Long-term Management Plan
 - Short-term Financial Assurance
 - Adaptive Management Plan
 - Long-term Non-Wasting Endowment
- **Part IV: Attachments**

BACKGROUND FOR MITIGATION PLANS

In a Memorandum of Agreement (MOA) signed February 6, 1990 between the USACE and the EPA, mitigation was defined as a sequential process of avoiding, minimizing, and compensating for adverse impacts to the aquatic ecosystem. Compensatory mitigation is required for unavoidable adverse impacts to the aquatic ecosystem that cannot reasonably be avoided or further minimized in order to replace those aquatic ecosystem functions that would be lost or impaired as a result of a USACE-authorized activity.

A mitigation plan is required for a general permit, individual permit, mitigation bank, or in-lieu fee program. Final mitigation plans must include the 12 components listed in Part II below. The USACE may require additional information as necessary to determine the appropriateness, feasibility, and practicability of the mitigation project.

The purpose of compensatory mitigation is to offset environmental losses resulting from unavoidable impacts to waters of the U.S. authorized by USACE permits. The USACE will determine what compensatory mitigation is required based on the practicability of replacing the aquatic functions lost as a result of the permitted activity. Permit applicants are responsible for proposing an appropriate compensatory mitigation option commensurate with the amount and type unavoidable impacts. Compensatory mitigation may be performed using methods of restoration, enhancement, establishment, and in certain cases preservation in order to successfully improve aquatic resource functions.

Compensatory mitigation should generally be located within the same watershed as the impact site, and should be located where it is most likely to successfully replace lost functions and services, taking into account watershed scale features (e.g., aquatic habitat diversity, habitat connectivity, hydrologic sources, land use trends/compatibility, ecological benefits). Pursuant to the 2008 Final Rule on Compensatory Mitigation, the USACE will consider the type and location options for compensatory mitigation in the following order:

1. Mitigation bank credits, when permitted impacts are located in the service area of an approved mitigation bank with appropriate number and resource type of credits available;
2. In-lieu fee program credits, when permitted impacts are located in the service area of approved in-lieu with appropriate number and resource type of credits available;
3. Permittee-responsible mitigation under a watershed approach, where likely to be successful and sustainable to maintain and improve the quality and quantity of aquatic resources within the watershed;
4. Permittee-responsible mitigation through on-site and in-kind mitigation, when considering the practicability and compatibility with the proposed project; and
5. Permittee-responsible mitigation through off-site and/or out-of-kind mitigation, where an opportunity is identified that has a greater likelihood of offsetting the permitted impacts or is environmentally preferable to on-site or in-kind mitigation.

Instructions: [please do not include pages i-ii when submitting the template]

For those permittees meeting mitigation obligations solely by mitigation bank or in-lieu fee programs, see box 11 in the SWF Recommended Application Form for an Individual Permit or box 10 in the SWF Recommended Application Form for a Nationwide Permit to provide mitigation information.

For those permittees meeting mitigation obligations through multiple mitigation types (e.g., on-site permittee-responsible mitigation as well as purchase of mitigation bank credits), the components of the mitigation plan should address each mitigation type as necessary.

- 1)** Provide specific project information in Part I.
- 2)** Complete all sections of Part II and III of the template with the required information in the space provided after the instructional text boxes. All information located in the instructional text boxes are explanatory and should be removed from the final document.
- 3)** **Attachments:** Check the boxes in Part IV for those attachments that are included, and place a cover sheet or tab with each attachment behind the last page of the template. Place additional information in Attachment I and include a title for this information.

Mitigation Plan

Part I: Project Information

Project Name:
SWF Permit No.:
Project Location:
Mitigation Site Location(s) (if different):
Watershed(s):
County or Counties:

Part II: Avoidance and Minimization

1. Avoidance

For projects requiring a USACE permit, describe the appropriate and practicable measures taken to avoid those adverse impacts to the aquatic ecosystem that are not necessary.

For example, selection of a project alternative that avoids placement of fill in a stream or wetland versus alternatives with greater impacts.

2. Minimization

For projects requiring a USACE permit, describe the appropriate and practicable measures taken to minimize those adverse impacts to the aquatic ecosystem that cannot reasonably be avoided.

For example, construction of a bridge requiring minor fill for stream channel improvements versus fill necessary to enclose the water of the U.S. in a culvert. Another example is the use of bioengineering or biotechnical channel design versus concrete or gabion-lined channel modifications.

Part III: Compensatory Mitigation

1. Goals and Objectives

The purpose of this section is to outline the goals and objectives of the mitigation plan.

Goals should clearly define the intended result of the proposed compensatory mitigation in terms of aquatic ecosystem functions and hydrologic conditions within a watershed context.

Objectives should be a list of specific, measurable outcomes of the compensatory mitigation that can be used to demonstrate whether or not the goals of the mitigation plan have been achieved.

In accordance with 33 CFR 332.2, the objectives should include:

- Description of the resource type(s) and amount(s) that will be provided
- The method of compensation (restoration [i.e., re-establishment or rehabilitation], establishment [i.e., creation], enhancement, and/or preservation [i.e., protection])
- How the anticipated functions of the mitigation project will address watershed needs

For example, the goal may be to replace the functions of the waters of the U.S. that will be lost or degraded due to impacts. Possible objectives would include the rehabilitation and protection of 500 feet of a perennial stream and the restoration of 0.5 acres of wetland.

Note: The figures provided are only examples and meant to aide in the development of a Mitigation Plan. They are not intended for use in determining mitigation ratios on specific projects and may not be appropriate for all scenarios.

2. Site Selection

In this section, provide a detailed explanation of the selection process, including any constraints and associated factors used in determining the proposed mitigation site(s). The proposed mitigation site(s) should be ecologically suitable for providing the desired compensatory aquatic resource functions and be adjacent to existing aquatic resources or where aquatic resources previously existed. In addition, the proposed mitigation site(s) should generally be located within the same watershed as the proposed impacts. Provide a general location map showing the locations of the impact and mitigation site(s) in **Attachment A**.

In accordance with 33 CFR 332.3(d), site selection includes:

- Description of the factors considered during the site selection process
- Consideration of watershed needs (i.e., habitat diversity, connectivity, land use trends, and compatibility with adjacent uses)
- On-site and off-site alternatives
- The location of any existing or proposed commercial or private airports located within a five-mile radius of the site
- Practicability of accomplishing ecologically self-sustaining aquatic resource restoration (i.e., re-establishment and rehabilitation) establishment (i.e., creation), enhancement, and/or preservation (i.e., protection) at the mitigation project site(s)
- Detailed discussion of the likelihood of success and risk of failure
- Discussion of limitations or constraints such as surrounding development or proposed land use effects
- Demonstration of appropriate hydrology
- Discussion of other ecological considerations such as surrounding land use, adjacency to other protected lands or state-owned waters, endangered species considerations, non-native species concerns, and other relevant ecological factors

3. Liens, Easements or Encumbrances

As a component of the Mitigation Plan, the applicant shall provide a copy of a title abstract, including a 50-year title search performed by a title company operating within the state. The submittal shall also include a legal survey of the proposed mitigation bank site with all easements and encumbrances depicted. The applicant shall submit an attorney's Opinion of Title prepared in accordance with Federal Title Standards, addressing each scheduled exception to title and either clear said exception or explain its permissible use in the project. The Opinion of Title may be structured in a manner similar to that used in a standard American Land Title Association Title Commitment Form. Dependent upon the location of the proposed mitigation site and potential for mineral extraction on properties adjacent to the proposed site, a title abstract, including a 50-year title search may be required on the adjacent properties. This information may be required on a case by case basis to identify and evaluate the likelihood and extent to which existing or proposed land use activities located on adjacent lands, could adversely affect the ecological condition of the mitigation site. The applicant shall secure a "surface use subordination" from any/all parties with severed mineral, sand, gravel, and/or coal rights to the bank site (or any other rights which have been severed whose activities may impact the mitigation project). If the applicant is unable to secure a surface use subordination, the USACE will evaluate the potential impacts of the severed rights to the long term viability of the proposed mitigation site on a case-by-case basis. This information is required to ensure that all properties being considered as potential mitigation sites have been fully researched and full disclosure has been provided relative to all liens and encumbrances.

4. Baseline Information / Site History

This section should include a description of the ecological conditions for the proposed mitigation project site(s) and the impact site for projects requiring a USACE permit. The description should include the location, type, functions, and amount of adverse or beneficial impacts on the aquatic environment and other resources. Baseline information should generally include the following components.

In accordance with 33 CFR 332.4(c)(5), baseline information includes:

- Description of the ecological characteristics of the proposed mitigation project site(s)
- A delineation of waters of the United States on the proposed mitigation project site(s). Provide complete delineation of waters of the U.S. in **Attachment B**
- Baseline conditional assessment such as the Texas Rapid Assessment Methodology (TXRAM)

May include:

- Descriptions of historic and existing plant communities
- Historic and existing hydrology
- Soil conditions
- Site photographs, including historic aerials if applicable to mitigation plans (provide in **Attachment C**)
- Other characteristics appropriate to the type of resource proposed as compensation

5. Mitigation Work Plan

The mitigation work plan should contain a detailed description of the proposed compensatory mitigation activities, with emphasis on documenting that the proposed mitigation work will achieve the stated ecological goals and objectives and support the restoration, establishment, enhancement, and/or preservation of the desired aquatic resource functions. Figures illustrating details of the mitigation work plan should be included in **Attachment D**.

Detailed written specifications and work descriptions for the mitigation project should include:

- Geographic boundaries of the project
- Construction methods, timing, and sequence
- Sources of water and irrigation schedule
- Methods for establishing the desired plant community
- Planting success criteria, including initial densities for each habitat type
- Plans to control invasive and non-native plant species
- Acreage and/or linear feet of proposed impacts to waters of the United States
- Proposed grading plan
- Soil management
- Erosion control measures

For stream mitigation projects, the mitigation work plan should include other relevant information such as:

- Data supporting the proposed plan, profile and dimension of the bankfull channel design
- Planform geometry
- Channel form (e.g., typical channel cross-sections)
- Watershed size
- Design discharge
- Riparian area plantings
- Existing and anticipated hydrologic conditions
- Reference reach data, including a TXRAM assessment, which demonstrates the mature ecological condition anticipated to be achieved

6. Determination of Credits

In accordance with 33 CFR 332.4(c)(6) the determination of credits includes a description of the number of functional credits to be provided by compensatory mitigation as well as a brief explanation of the rationale for this determination. Include a post-construction conditional assessment such as TXRAM scores to reflect anticipated ecological lift. Reference site location and conditional assessment data to demonstrate proposed post-construction scores are recommended. If a functional or condition assessment or other suitable metric is not used, an acreage or linear foot compensation ratio will be presented by the permittee and evaluated by the USACE. For mitigation banks, an evaluation of mitigation debits and credits including a table showing calculations should be included (provide in **Attachment F**).

For stream mitigation banks seeking credit for in-channel or riparian buffer enhancement or restoration, the applicant must own or control both sides of the stream.

In some cases, a mitigation ratio greater than one-to-one is 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.

For permittee-responsible mitigation, this section should include an explanation of how the mitigation project will provide the required compensation for unavoidable impacts to aquatic resources resulting from the permitted activity.

For those permittees meeting mitigation obligations through multiple mitigation types (e.g., permittee-responsible mitigation as well as purchase of credits from a mitigation bank or in-lieu fee program), this section should include a description of how the credits for each mitigation type were calculated in order to demonstrate that the total functional impacts are compensated by the total functional credit generated by all the mitigation types. If one of the mitigation types includes the use of credits from an approved mitigation bank or in-lieu fee program, the permittee should describe how the number and resource type of credits were determined.

7. Maintenance Plan

The maintenance plan should include a description and schedule of maintenance requirements to ensure the continued viability of the resource once initial construction is completed.

Includes:

- Measures to control predation/grazing of mitigation plantings
- Temporary irrigation for plant establishment
- Replacement plan
- Structure maintenance/repair
- Other applicable maintenance plan components

8. Perpetual Site Protection Instrument

In accordance with 33 CFR 332.7(a) this section should include a description of the legal arrangements and instrument, including site ownership, that will be used to ensure the long-term protection of the mitigation project site(s). Long-term protection should be provided through conservation easements held by entities such as federal, tribal, state or local resources agencies; non-profit conservation organizations; and private land managers. For government property, long-term protection may be provided through federal facility management plans or integrated natural resources management plans. Provide a copy of the long-term legal protection instrument using the most current Fort Worth District Conservation Easement Template (e.g., conservation easement, transfer of title) in **Attachment G**. If all elements of the template are not utilized in their current form, explain the rationale for any proposed revisions and provide the Draft Conservation Easement in an electronic format using track changes. In addition, identify the party(ies) responsible for protecting the mitigation site(s) and their role (e.g., site owner, easement owner, maintenance implementation). If more than one party will be involved in site protection, identify the party with primary responsibility.

A real estate instrument, management plan, or other long-term protection mechanism used for site protection of permittee-responsible mitigation must be approved by the USACE in advance of, or concurrent with, the activity causing the authorized impacts.

9. Performance Standards

In accordance with 33 CFR 332.5 performance standards should be ecologically-based criteria that will be used to determine whether the mitigation project is achieving its objective(s). The target performance standards must be established up front by the applicant and must be based on attributes that are unbiased, measurable, and verifiable. Acceptable performance standards may include:

- Variables or measures of functional capacity described in functional or condition assessment methodologies
- Measurements of hydrology or other aquatic resource characteristics
- Planting success criteria (e.g., percent coverage, survival rates, species richness, etc.)
- Comparisons to reference aquatic resources of similar type and landscape position
- Specific conditional assessment target scores, must be identified up front and must be achieved in order to be released from monitoring requirements.

10. Monitoring Requirements

Monitoring requirements should provide a description of monitoring parameters to be used to determine whether the mitigation project is on track to meet performance standards and if adaptive management is needed. A schedule for monitoring and reporting of results to the USACE must be included. See the USACE Regulatory Guidance Letter 08-03 and Fort Worth District Annual Monitoring Report Form for information on monitoring and reporting requirements.

Includes:

- Mitigation monitoring plan describing parameters to be monitored (e.g., derived from performance standards), frequency/timing of monitoring, length of monitoring period, and the party responsible for conducting monitoring. The monitoring period must be sufficient to demonstrate that the compensatory mitigation has met performance standards, but generally not less than five years.
- Reporting program description, including the frequency and timing for submitting reports to the USACE, the party responsible for submitting reports to the USACE, and the contents of the monitoring report (e.g., overview of project/monitoring, evaluation of whether mitigation performance standards are being met, description of any maintenance activities conducted, recommendations for remedial measures, monitoring data, as-built plans, maps, photographs, conclusions and other information to determine how the compensatory mitigation project is progressing towards meeting its performance standards).

11. Long-term Management Plan

The long-term management plan is a description of how the mitigation project will be managed after performance standards have been achieved to ensure the long-term sustainability of the resource (Additional details may be included in **Attachment H**).

Includes:

- Party(ies) responsible for ownership and long-term management
- General provisions of operation (e.g., types of uses allowable and/or restricted, infrastructure to be maintained, vegetation/wildlife management, etc.)
- Description of long-term management needs
- Annual cost estimates for these needs
- Identification of funding mechanism used to meet those needs

Any provisions necessary for long-term financing must be addressed in the original permit or instrument. In cases where the long-term management entity is a public authority or government agency, that entity must provide a plan for the long-term financing of the site. For permittee-responsible mitigation, any long-term financing mechanisms must be approved in advance of the activity causing the authorized impacts.

12. Adaptive Management Plan

The adaptive management plan is a strategy used to address foreseeable or unforeseen changes in site conditions or other components that adversely affect compensatory mitigation success.

Includes:

- Party(ies) responsible for adaptive management
- Potential remedial or corrective measures in the event mitigation does not meet the goals, objectives, and/or performance standards
- Guidelines for revising mitigation plans and implementing remedial measures (e.g., coordinating with and obtaining approval from the USACE)

13. Short-term and Long-term Financial Assurances

This section should include a description of the financial assurances that will be provided and how they are sufficient to ensure a high level of confidence that the mitigation project will be successfully completed, in accordance with its performance standards. See the USACE Fort Worth District guidance on financial assurances for additional information. Financial assurances may be in the following forms:

- Performance bonds
- Escrow accounts
- Casualty insurance
- Letters of credit
- Legislative appropriations for government sponsored projects
- Other appropriate instruments, subject to the approval of the USACE
- Calculations and cost covering all elements of project construction and monitoring
- Calculations and costs covering long-term maintenance
- Signed agreement with third party beneficiaries
- Non-wasting endowment and documentation of the funds needed to ensure a non-wasting status

Part IV: Attachments

	Included
A. General Location Map	<input type="checkbox"/>
B. Delineation of Waters of the U.S., Including Wetlands	<input type="checkbox"/>
C. Site Photos	<input type="checkbox"/>
D. Design/Plan Figures	<input type="checkbox"/>
E. Functional/Condition Assessment	<input type="checkbox"/>
F. Credit/Debit Evaluation with Table	<input type="checkbox"/>
G. Site Protection Instrument	<input type="checkbox"/>
H. Long-term Management Plan	<input type="checkbox"/>
I. Other:	<input type="checkbox"/>

End of Template
