

## Fort Worth District Stream Mitigation Method

The Fort Worth District U.S. Army Corps of Engineers (USACE) has adopted the following stepwise method to provide compensatory mitigation for unavoidable losses of streams associated with Department of the Army (DA) permits. This method in no way modifies or otherwise affects the requirement that all DA permits subject to Section 404 of the Clean Water Act (CWA) comply with all applicable provisions of the Section 404(b)(1) Guidelines at 40 CFR Part 230, nor does this process modify or otherwise affect the 2008 Compensatory Mitigation Rule at 33 CFR Part 332.

### **Applicability:**

The Fort Worth Stream Mitigation Method (SMM) would apply to all permit applications received after the date of the Final Public Notice. For those projects in the planning stages or in the pre-application phase of the permitting process, applicants should develop mitigation plans that are consistent with the SMM. To facilitate the permitting process and to provide effective feedback on compensatory mitigation strategies, including implementation of the SMM, the USACE has developed a Pre-application Meeting Request Form.

[http://media.swf.usace.army.mil/pubdata/enviro/regulatory/permitting/applicationforms/USACE\\_Pre-App\\_Meeting\\_Request.doc](http://media.swf.usace.army.mil/pubdata/enviro/regulatory/permitting/applicationforms/USACE_Pre-App_Meeting_Request.doc)

These meetings may be held either in person or via conference call. Although not all actions rise to the level of complexity that necessitate Pre-application Meetings, such early coordination is frequently an invaluable tool for early identification of permitting challenges and can serve to expedite the overall evaluation process.

Additionally, the USACE has developed a Mitigation Plan Template.

[http://media.swf.usace.army.mil/pubdata/enviro/regulatory/permitting/mitigationtemplates/USACE\\_Mitigation\\_Plan\\_Template\\_Final.doc](http://media.swf.usace.army.mil/pubdata/enviro/regulatory/permitting/mitigationtemplates/USACE_Mitigation_Plan_Template_Final.doc)

Although this template is not mandatory, its use, for both Mitigation Banks and Permittee Responsible Mitigation (PRM) will help ensure that Mitigation Plans submittals are complete and include all elements outlined in the 2008 Mitigation Rule. Further, a number of elements associated with both mitigation banks and PRM will be evaluated relative to the latest mitigation bank guidelines included in the Public Notice CESWF-10-MIT, dated June 16, 2011,

[http://media.swf.usace.army.mil/pubdata/enviro/regulatory/permitting/mitigation/June\\_16\\_2011\\_Mitigation\\_Banking\\_Guidelines\\_PN.pdf](http://media.swf.usace.army.mil/pubdata/enviro/regulatory/permitting/mitigation/June_16_2011_Mitigation_Banking_Guidelines_PN.pdf)

## **Background:**

When compensatory mitigation has been required as a condition of a CWA Section 404 authorization, the USACE has typically shown a preference for in-kind replacement of lost aquatic functions. Because of on-site ecological limitations for PRM and the lack of true in-kind mitigation bank credits, in-kind mitigation has not always been achievable, especially in the case of lost stream functions.

In the Fort Worth District, this particularly holds true for in-kind replacement associated with lost stream functions. In the past, the USACE has allowed activities such as upland buffer planting or wetland enhancement, accomplished either through permittee-responsible mitigation or mitigation bank credits, to be used exclusively as compensatory mitigation for loss of stream functions. As the science associated with stream functions has evolved, the district has come to realize that such forms of mitigation afford some level of benefit to the adjacent stream function, but do not serve to replace in-channel stream functions to the extent directed by the Clean Water Act.

As a result of continued research on stream mitigation, in addition to the field testing and evaluations performed as part of the development of the Texas Rapid Assessment Model (TXRAM), the USACE recognizes that allowing for the exclusive continued use of upland buffer and wetland enhancement activities, to offset stream loss, will result in further net loss of overall stream functions within the Fort Worth District's area of responsibility in the state of Texas. In an effort to address this issue, the USACE has developed the SMM to help ensure that an appropriate level of compensatory mitigation for stream functions is achieved.

## **Definitions:**

This method identifies hydrologic classifications of stream mitigation, ephemeral, intermittent, and perennial and maintains a preference for use of mitigation banks, while making efforts to ensure that compensatory mitigation allow not only upland riparian work, but emphasizes in-channel stream work, to the extent practicable and appropriate for a given project.

- **In-Channel Credits/In-Channel Lift:** Mitigation Bank Credits or PRM TXRAM lift generated from work performed in a given stream assessment reach (SAR) which results in a minimum of 50% ecological lift associated with the three TXRAM in-channel core elements. These elements are identified as Channel Condition, In-stream Condition, and Hydrologic Condition.
- **Stream Credits:** Mitigation Bank Credits generated from activities associated with ecological lift achieved through activities that are not associated with in-channel, nor with riparian work.

- **Riparian Buffer Credits/Riparian Buffer Lift:** Mitigation Bank Credits or PRM TXRAM lift generated from riparian work performed in a given SAR, which results in ecological lift associated with the TXRAM core element identified as Riparian Buffer Condition.
- **In-Kind Mitigation:** Perennial and intermittent stream impacts are to be mitigated with in-kind replacement relative to stream type. Ephemeral stream impacts may be mitigated with either ephemeral or intermittent stream mitigation.

### **Stream Mitigation Approach:**

The following mitigation sequencing will occur on a stepwise basis and will be contingent on bank credit availability, verified by Mitigation Bank Sponsors. Further, in accordance with the Compensatory Mitigation Rule, on a case by case basis, the USACE may determine that due to specific watershed needs PRM might be the most environmentally preferable form of compensatory mitigation.

As indicated above, this approach in no way modifies nor affects the 2008 Compensatory Mitigation Rule at 33 CFR Part 332, nor does it affect any elements of approved Mitigation Banking Instruments (MBI). MBI elements such as, but not limited to, established credit categories, credit ratios, and service areas remain unaltered. However, as further described below, the USACE will offer a process for Mitigation Bank Sponsors to request an evaluation to have their stream categories revised to appropriately reflect work performed within the categories listed above.

The SMM identifies three categories of stream mitigation, ephemeral, intermittent, and perennial and maintains a preference for use of mitigation banks, while making efforts to ensure that compensatory mitigation allow upland riparian work, but emphasizes in-channel stream work, to the extent practicable and appropriate. Currently there are five alternatives for each hydrologic classification. However, if in the future the USACE approves an in-lieu fee program, an additional alternative will be added requiring the use of in-lieu fee in a manner consistent with the 2008 Mitigation Rule preference for compensatory mitigation.

## Ephemeral Streams

**Compensatory mitigation alternatives, identified as Alternatives 1 – 5 for stream impacts will be evaluated sequentially in the order presented below.**

**Ephemeral Alternative 1.** A minimum of 50% of the required mitigation would be achieved through the purchase of ephemeral or intermittent in-channel credits. In the event the full 50% is not available, mitigation would be achieved through the purchase of the maximum number of in-channel credits available. The remaining mitigation could be achieved through any combination of ephemeral or intermittent riparian buffer credits, or stream credits.

**Ephemeral Alternative 2.** A minimum of 50% of the required mitigation would be achieved through the purchase of ephemeral or intermittent riparian buffer credits. In the event the full 50% is not available, mitigation would be achieved through the purchase of the maximum number of credits available. The remaining mitigation could be achieved through the purchase of ephemeral or intermittent stream credits.

**Ephemeral Alternative 3.** All required mitigation would be achieved through purchase of stream credits.

**Ephemeral Alternative 4.** All required mitigation would be achieved through performance of PRM with a minimum of 50% of the required mitigation achieved through in-channel work performed on either an ephemeral or an intermittent reach of stream. The remaining 50% of the required mitigation would consist of ephemeral or intermittent riparian buffer mitigation. The selection of sites appropriate for the performance of PRM would follow a watershed approach and would be evaluated on a case-by-case basis in a manner similar to the service area determination approach outlined in the mitigation banking guidelines, announced in the Public Notice CESWF-10-MITB, dated June 16, 2011. Depending on the distance and location of the PRM sites relative to impact sites, mitigation at greater than a 1:1 ratio may be required to offset certain considerations such as distance, watershed locations, and Ecoregions. These factors would be evaluated in a manner consistent with the above referenced mitigation banking guidelines. All PRM sites are to be protected in perpetuity. For private lands in the state of Texas, the legal instrument to ensure perpetual protection would be a conservation easement, overseen by a third-party land trust organization. In the event PRM were to occur on public lands, an appropriate legal instrument such as federal facility management plans or integrated natural resources management plan would typically be required and would be overseen by the respective governmental agency.

**Ephemeral Alternative 5.** In the event an applicant can demonstrate to the satisfaction of the USACE that PRM sites appropriate for in-channel ephemeral or intermittent stream work are not available, riparian only mitigation work along an ephemeral or intermittent reach would be performed at an approved PRM site and would occur at a 2:1 ratio (based on TXRAM lift) to compensate for lack of in-channel work.

## **Intermittent Streams**

**Intermittent Alternative 1.** A minimum of 50% of the required mitigation would be achieved through the purchase of intermittent in-channel credits. In the event the full 50% is not available, mitigation would be achieved through the purchase of the maximum number of credits available. The remaining mitigation could be achieved through any combination of intermittent riparian credits or stream credits.

**Intermittent Alternative 2.** A minimum of 50% of the required mitigation would be achieved through the purchase of intermittent riparian buffer credits. In the event the full 50% is not available, mitigation would be achieved through the purchase of the maximum number of credits available. The remaining mitigation could be achieved through the purchase of stream credits.

**Intermittent Alternative 3.** All required mitigation would be achieved through purchase of stream credits.

**Intermittent Alternative 4.** All required mitigation would be achieved through performance of PRM with a minimum of 50% of the required mitigation achieved through in-channel work performed on either an intermittent reach of stream. The remaining 50% of the required mitigation would consist of intermittent riparian buffer mitigation. The selection of sites appropriate for the performance of PRM would follow a watershed approach and would be evaluated on a case-by-case basis in a manner similar to the service area determination approach outlined in the mitigation banking guidelines, announced in the Public Notice CESWF-10-MITB, dated June 16, 2011. Depending on the distance and location of the PRM sites relative to impact sites, mitigation at greater than a 1:1 ratio may be required to offset certain considerations such as distance, watershed locations, and Ecoregions. These factors would be evaluated in a manner consistent with the above referenced mitigation banking guidelines. All PRM sites are to be protected in perpetuity. For private lands in the state of Texas, the legal instrument to ensure perpetual protection would be a conservation easement, overseen by a third-party land trust organization. In the event PRM were to occur on public lands, an appropriate legal instrument such as federal facility management plans or integrated natural resources management plan would typically be required and would be overseen by the respective governmental agency.

**Intermittent Alternative 5.** In the event an applicant can demonstrate to the satisfaction of the USACE that PRM sites appropriate for in-channel intermittent stream work are not available, riparian only mitigation work along an intermittent reach would be performed at an approved PRM site and would occur at a 3:1 ratio (based on TXRAM lift) to compensate for lack of in-channel work.

## **Perennial Streams**

**Perennial Alternative 1.** A minimum of 50% of the required mitigation would be achieved through the purchase of perennial in-channel credits. In the event the full 50% is not available, mitigation would be achieved through the purchase of the maximum number of credits available. The remaining mitigation could be achieved through any combination of perennial riparian credits or stream credits.

**Perennial Alternative 2.** A minimum of 50% of the required mitigation would be achieved through the purchase of perennial stream riparian buffer credits. In the event the full 50% is not available, mitigation would be achieved through the purchase of the maximum number of credits available. The remaining mitigation could be achieved through the purchase of stream credits.

**Perennial Alternative 3.** All required mitigation would be achieved through purchase of stream credits.

**Perennial Alternative 4.** All required mitigation would be achieved through performance of PRM with a minimum of 50% of the required mitigation achieved through in-channel work performed on a perennial reach of stream. The remaining 50% of the required mitigation would consist of perennial riparian buffer mitigation. The selection of sites appropriate for the performance of PRM would follow a watershed approach and would be evaluated on a case by case basis in a manner similar to the service area determination approach outlined in the mitigation banking guidelines, announced in the Public Notice CESWF-10-MITB, dated June 16, 2011. Depending on the distance and location of the PRM sites relative to impact sites, mitigation at greater than a 1:1 ratio may be required to offset certain considerations such as distance, watershed locations, and Ecoregions. These factors would be evaluated in a manner consistent with the above referenced mitigation banking guidelines. All PRM sites are to be protected in perpetuity. For private lands in the state of Texas, the legal instrument needed to ensure perpetual protection would be a conservation easement, overseen by a third-party land trust organization. In the event PRM were to occur on public lands, an appropriate legal instrument such as federal facility management plans or integrated natural resources management plan would typically be required and would be overseen by the respective governmental agency.

**Perennial Alternative 5.** In the event an applicant can demonstrate to the satisfaction of the USACE that PRM sites appropriate for in-channel perennial stream work are not available, riparian only mitigation work along a perennial reach would be performed at an approved PRM site and would occur at a 5:1 ratio (based on TXRAM lift) to compensate for lack of in-channel work.

### **Existing Mitigation Banks**

For a period of one (1) year from the date of implementation of the method, approved Mitigation Banks which include the category of stream credits, as defined above, and specified in their MBIs, will be afforded the opportunity to have their remaining available credits re-classified in accordance with the categories identified above. All Mitigation Banks having performed in-channel work will have the opportunity to submit data to demonstrate the extent to which ecological lift has been derived from in-channel work, for each respective stream type. Similarly, all Mitigation Banks having performed riparian enhancement work will have the opportunity to submit data to demonstrate the extent to which ecological lift has been derived from riparian work performed within designated riparian buffers as identified in the MBI, for each respective stream type. Based on this information, the USACE will work with the Bank Sponsor to determine the appropriate amount of in-channel and/or riparian credits that would become available. Re-classification of credits in these circumstances would be evaluated as a credit ledger revision and would not require modification of the bank's MBI. Upon USACE approval, all revised ledger data would be entered into RIBITS by the USACE to ensure accurate credit tracking. Sponsors of banks with re-classified credits would be subject to the RIBITS Credit Ledger mitigation bank guideline described in CESWF-12-MITB. In an effort to support this and to maintain the sequencing identified above relative to mitigation credit categories, the USACE will rely on Bank Sponsors to confirm credit availability.