

**A TRAINING COURSE FOR
MITIGATION BANKING AND IN-LIEU FEE PROGRAM
INTERAGENCY REVIEW TEAMS**



**Reference Document:
Wetland Credit Determination**

A. Federal Wetland Credit Determination Policy

2008 Compensatory Mitigation Regulations

§332.2 Definitions

Credit

Condition Functional capacity

Functions

§332.3 General compensatory mitigation requirements

(h) Preservation.

(i) Buffers

(j) Relationship to other federal, tribal, state, and local programs.

§332.4 Planning and documentation

(c) Mitigation Plan. [The mitigation plan must include:]

(6) Determination of credits.

§332.8 Mitigation Banks

(o) Determining credits.

(1) Units of measure.

(2) Assessment.

(3) Credit production.

(4) Credit value.

(6) Credits provided by preservation.

(7) Credits provided by riparian areas, buffers, and uplands.

B. Wetland Credit Determination Methods

Charleston District, U.S. Army Corps of Engineers

- The Charleston district's Compensatory Mitigation SOP includes detailed information and formulas for calculating both wetland and stream impacts and credits.

Chicago ICA (2008)

Type of Mitigation Credit	Range of Credit Rate per Acre Allowed for Mitigation Type	Percent of Total Credits Allowed for Mitigation Type
Preservation	10-15%	15%
Establishment (creation)	100%	No maximum
Re-establishment	100%	No maximum
Rehabilitation	10-50%	30% together with Enhancement
Enhancement	10-50%	30% together with Rehabilitation
Upland Buffer	10-25%	15%
Other Upland features	10-25%	15%

Mobile District, U.S. Army Corps of Engineers: Ratio Method

- The Mobile district developed a Ratio Method (RM) to determine the amount of credits available at a proposed wetland mitigation bank. The RM has historically been utilized to determine credits at mitigation banks when other more quantitative methods, such as HGM or WRAP, have not been available. The RM utilizes the following set of Base Ratios:

Type of Mitigation	Value of Impacted Wetland		
	Low	Medium	High
Restoration	1:2	1:3	1:4
Enhancement	1:3	1:5	1:9
Preservation	1:7	1:12	1:23

- These ratios qualitatively consider 1) the different levels of functional lift associated with different types of mitigation, 2) the time required for the mitigation site to reach maturity or target condition, 3) the risk of the mitigation not achieving functional replacement, and 4) an appropriate consideration of the loss of function over time.

New England District (2010)

TABLE 1 - RECOMMENDED COMPENSATORY MITIGATION RATIOS FOR DIRECT PERMANENT IMPACTS

Mitigation Impacts	Restoration¹ (re-establishment)	Creation (establishment)	Enhancement (rehabilitation)	Preservation (protection/management)
Emergent Wetlands (ac)	2:1	2:1 to 3:1	3:1 to 10:1 ²	15:1
Scrub-shrub Wetlands (ac)	2:1	2:1 to 3:1	3:1 to 10:1 ²	15:1
Forested Wetlands (ac)	2:1 to 3:1	3:1 to 4:1	5:1 to 10:1 ²	15:1
Open Water (ac)	1:1	1:1	project specific ³	project specific
Submerged Aquatic Vegetation (ac)	5:1	project specific ⁴	project specific ⁵	N/A
Streams⁶ (lf)	2:1 ⁷	N/A	3:1 to 5:1 ⁸	10:1 to 15:1 ⁹
Mudflat (ac)	2:1 to 3:1	2:1 to 3:1	project specific	project specific
Upland¹⁰ (ac)	≥10:1 ¹¹	N/A	project specific	15:1 ¹²

New Jersey Credit Ratios

- The New Jersey Department of Environmental Protection (NJ DEP) rules dictate that wetland restoration and creation projects require the protection of a transition area that is, at a minimum, 50 feet wide. A transition area 150 feet wide is required for exceptional resource value wetlands. Generally NJ DEP requires the following ratios: Creation or restoration – 2:1; Preservation (a minimum of) – 27:1.
- N.J.A.C. 7:7A-15.8
- <http://www.nj.gov/dep/landuse/mitigate.html>

Ohio Mitigation Banking Credit Ratios

- Developed jointly by Ohio EPA, OHIO DNR, EPA Region V, and the Huntington, Buffalo, and Pittsburgh districts

Type	Credits	Areas > 50 m from Wetland Boundaries	Notes
Re-establishment	1:1	N/A	Preferred
Rehabilitation	Up to 1:2	N/A	No up front release
Establishment	Up to 1:1	N/A	Not the preferred method/up front may be reduced
Preservation	Generally 1:10 Up to 1:4	N/A	Looking for higher quality areas & demonstrated threat
Buffer-restoration	Generally 1:4 within 50m	May be considered for 1:10	
Buffer rehabilitation	Up to 1:4 within 50m	May be considered for 1:10	
Buffer preservation	Generally 1:10	Considered if ecologically compelling reason	Looking for higher quality areas

Omaha District

IV. RATIOS

Because each state within the Omaha District has unique ecosystems actual local ratios may be different. However, no ratio should be below the following:

Wetlands

Restoration (re-establishment)	1.5:1
Restoration (rehabilitation)	1.5:1
Enhancement	4:1
Establishment	2:1
Protection/Maintenance	10:1

Rock Island Iowa Banking Guidelines (2011) - MVR

- Restored/created wetlands – 1:1 (1 acre of restored/created wetland = 1 bank credit)
- Enhanced wetlands – 2:1 (2 acres of enhanced wetland = 1 bank credit)
- Buffer – 4:1 (4 acres of buffer = 1 bank credit)
- A buffer will be required around the perimeter of the proposed mitigation bank site. The buffer width depends on the topography of the proposed bank site, surrounding land use and other factors affecting the success of vegetative establishment. At a minimum, the buffer should be 50 feet in width. This can be changed at the discretion of the IRT, after review of the proposed bank site.
- Preservation may be used only if the resources are under threat of destruction or adverse modification (further requirements outlined in 332.3(h)). The IRT will determine credit value for preserved wetlands after reviewing baseline conditions and methods of preservation.

Washington & Seattle District

From WAC 173-700-313 Wetland credit conversion rates. The ranges for establishing conversion rates for wetland areas are as follows:

Credit:

- Reestablishment 1:1 to 2:1
- Creation (establishment) 1:1 to 2:1
- Rehabilitation of altered processes 2:1 to 3:1
- Enhancement of wetland structure 3:1 to 5:1
- Preservation: In combination with reestablishment, creation, rehabilitation, or enhancement of wetlands 5:1 to 10:1
- Preservation: Alone Case-by-case

St. Paul District, U.S. Army Corps of Engineers and Wisconsin Department of Natural Resources: Credit Determination for Banks in Wisconsin

- The following table summarizes how the St. Paul district and the WI DNR determine credits for mitigation banks (and other compensatory mitigation projects) in Wisconsin.

Credit Acres	Actual Acres	Technique Used – Notes	Bank Site Provisions (see also Section 9.H.)
1.0	1.0	Restoration	
Up to 1.0	1.0	Enhancement – Credit level determined by MBRT or permitting agency depending on a comparison of current functional values to those projected for the compensation site.	
Up to 1.0	1.0	Creation	No more than 25% of total credit acres can be creation.
0.1	1.0	Minimum Upland Buffer	No more than 15% of total credit acres can be upland buffer.
0.25	1.0	Ecological Enhancement in Adjacent Uplands	No more than 15% of total credit acres can be upland buffer.
Up to 1	8.0	Fully Functioning Wetlands – Preservation of existing wetlands under a demonstrable threat may be credited at a rate no greater than 1 acre of credit for every 8 acres preserved.	MBRT determines acres of fully functioning wetland within the bank site.
No credit		Fully Functioning Wetlands – If within or adjacent to the compensation site and not under demonstrable threat, then no credit is received.	MBRT determines acres of fully functioning wetland within the bank site.
No credit		Exchange – Exchange from one wetland type to another is generally not approved for credit.	
No credit		Constructed Facilities for Stormwater/Wastewater Treatment	