US Army Corps of Engineers

STANDARD OPERATING PROCEDURE FOR DETERMINATION OF MITIGATION RATIOS 12501-SPD

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Summary

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- General details
- Checklist
- Instructions
- Examples

STANDARD OPERATING PROCEDURE FOR DETERMINATION OF MITIGATION RATIOS

US Army Corps of Engineers

12501-SPD
REGULATORY PROGRAM
STANDARD OPERATING PROCEDURE
FOR DETERMINATION OF
MITIGATION RATIOS

South Pacific Division

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1.0 Purpose. The purpose of this document is to outline the process for determining compensatory mitigation requirements as required for processing of Department of the Army (DA) permits under Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act, and Section 103 of the Marine Protection, Research, and Sanctuaries Act. .

2.0 Applicability. This process applies to the Regulatory Program within South Pacific Division (SPD), including its four subordinate districts, Albuquerque District (SPA), Sacramento District (SPK), Los Angeles District (SPL),and San Francisco District (SPN). Subordinate offices or organizations shall not modify this procedure to form a specific procedure. This procedure is applicable for all permit applications received after 20 April 2011.

3.0 References.

Compensatory Mitigation for Losses of Aquatic Resources (33 C.F.R. Part 332).

Smith, R. D., D. R., A. Ammann, C. Bartoldus, M. M. Brinson. 1995. An Approach for Assessing Wetland Functions Using Hydrogeomorphic Classification, Reference Wetlands, and Functional Indices., Wetlands Research Program Technical Report WRP-DE-9. U.S. Army Corps of Engineers, Waterways Experiment Station, Vicksburg, Mississippi.

Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U. S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. Jamestown, ND: Northern Prairie Wildlife Research Center Home Page. http://www.npwrc.usgs.gov/resource/1998/classwet/classwet.htm (Version 04DEC98).

Collins, J.N., E.D. Stein, M. Sutula, R. Clark, A.E. Fetscher, L. Grenier, C. Grosso, and A. Wiskind. 2008. California Rapid Assessment Method (CRAM) for Wetlands. Version 5.0.2. 151 pp.

4.0 Related Procedures.

None.

5.0 Definitions.

Compensatory mitigation - The restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Condition - The relative ability of an aquatic resource to support and maintain a community of organisms having a species composition, diversity, and functional organization comparable to reference aquatic resources in the region.

Enhancement - The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Establishment (creation) - The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area and functions.

Functions - The physical, chemical, and biological processes that occur in ecosystems.

Impact - Adverse effect.

In-kind - A resource of a similar structural and functional type to the impacted resource.

In-lieu fee program - A program involving the restoration, establishment, enhancement, and/or preservation of aquatic resources through funds paid to a governmental or non-profit natural resources management entity to satisfy compensatory mitigation requirements for DA permits.

Mitigation Ratio-Setting Procedure

- Finalized: April 20, 2011
- Current version: October 2013
- Benefits:
  - Provides structured decision-making procedure while retaining flexibility
  - Allows for qualitative or quantitative assessments of impacts & mitigation
  - Results in a written rationale (decision document) for each ratio determination
  - Includes guidance for each step (consistency)
- Incorporates use of functional/condition assessments when available/required

Attachment 1 (page 1)
SPD Mitigation Ratio Setting Checklist

Attachment 12501.1 - SPD Mitigation Ratio Setting Checklist

1	Date: _____ Corps file no.: _____ Project Manager: _____ Impact site name: _____ ORM impact resource type: _____ Hydrology: _____ Impact Cowardin or HGM type: _____ Impact area (acres): _____ Impact distance (linear feet): _____	Column A: Mitigation site name: _____ Mitigation type: _____ Resource type: _____ Cowardin/HGM type: _____ Hydrology: _____	Column B (optional): Mitigation site name: _____ Mitigation type: _____ Resource type: _____ Cowardin/HGM type: _____ Hydrology: _____	Column C (optional): Mitigation site name: _____ Mitigation type: _____ Resource type: _____ Cowardin/HGM type: _____ Hydrology: _____
2	**QUALITATIVE impact-mitigation comparison:** Has a Corps-approved functional/condition assessment been obtained? If not, complete step 2; otherwise, complete step 3. Yes ☐ No ☐ Optional: use Table 1 (page 3).	Note: steps 2 and 3 are mutually exclusive. If step 2 is used, then complete the rest of the checklist (steps 4-10). Starting ratio: 1:1 Ratio adjustment: ___ Baseline ratio: __:__ PM justification:	Starting ratio: 1:1 Ratio adjustment: ___ Baseline ratio: __:__ PM justification:	Starting ratio: 1:1 Ratio adjustment: ___ Baseline ratio: __:__ PM justification:
3	**QUANTITATIVE impact-mitigation comparison:** Use step 3 if a Corps-approved functional/condition assessment has been obtained. Use Before-After-Mitigation-Impact (BAMI) spreadsheet (attachment 12501.4) (if a district-approved functional/condition method is not available, use step 2 instead). See example in attachment 12501.2.	Note: steps 2 and 3 are mutually exclusive. If step 3 is used, steps 3 and 5 may also be mutually exclusive. If a functional/ condition assessment method is used that explicitly accounts for area (such as HGM), steps 3 and 5 are mutually exclusive; however, if a method is used that does *not* explicitly account for area (such as CRAM), then both steps should be used. Complete the rest of the checklist (steps 4-10 or steps 4 and 6-10, as appropriate). Baseline ratio from BAMI procedure (attached): __:__	Baseline ratio from BAMI procedure (attached): __:__	Baseline ratio from BAMI procedure (attached): __:__
4	**Mitigation site location:**	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:

Attachment 1 (page 2)
SPD Mitigation Ratio Setting Checklist

5	**Net loss of aquatic resource surface area:**	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:
6	**Type conversion:**	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:
7	**Risk and uncertainty:**	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:
8	**Temporal loss:**	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:
9	**Final mitigation ratio(s):**	Column A: 1. Baseline ratio from step 2 or 3 = __:__ 2. Total adjustments = ___ 3. Final ratio: __ : __ Proposed impact (total): ___ acre ___ linear feet to Resource type: _____ Cowardin or HGM: _____ Hydrology: _____ Required mitigation: ___ acre ___ linear feet of Mitigation type: _____ Resource type: _____ Cowardin or HGM: _____ Hydrology: _____ Additional PM comments:	Column B: 1. Baseline ratio from step 2 or 3 = __:__ 2. Total adjustments = ___ 3. Final ratio: __ : __ Remaining impact: _____ Required mitigation: ___ acre ___ linear feet of Mitigation type: _____ Resource type: _____ Cowardin or HGM: _____ Hydrology: _____ Additional PM comments:	Column C: 1. Baseline ratio from step 2 or 3 = __:__ 2. Total adjustments = ___ 3. Final ratio: __ : __ Remaining impact: _____ Required mitigation: ___ acre ___ linear feet of Mitigation type: _____ Resource type: _____ Cowardin or HGM: _____ Hydrology: _____ Additional PM comments:
10	**Final compensatory mitigation requirements:**	PM summary:		

Checklist Step 1

1	Date: _____ Corps file no.: _____ Project Manager: _____ Impact site name: _____ ORM impact resource type: _____ Hydrology: _____ Impact Cowardin or HGM type: _____ Impact area (acres): _____ Impact distance (linear feet): _____	Column A: Mitigation site name: _____ Mitigation type: _____ Resource type: _____ Cowardin/HGM type: _____ Hydrology: _____	Column B (optional): Mitigation site name: _____ Mitigation type: _____ Resource type: _____ Cowardin/HGM type: _____ Hydrology: _____	Column C (optional): Mitigation site name: _____ Mitigation type: _____ Resource type: _____ Cowardin/HGM type: _____ Hydrology: _____

- One checklist per impact site or resource type
- Start with mitigation option A → B → C
- Alternatives (Columns):
  - A only (1 mitigation proposal)
  - A and B… (mulitple mitigation proposals)
  - A vs B (compare two proposals)

Checklist Step 2

2	**QUALITATIVE impact-mitigation comparison:** Has a Corps-approved functional/condition assessment been obtained? If not, complete step 2; otherwise, complete step 3. Yes ☐ No ☐ Optional: use Table 1 (page 3).	Note: steps 2 and 3 are mutually exclusive. If step 2 is used, then complete the rest of the checklist (steps 4-10). Starting ratio: 1:1 Ratio adjustment: ___ Baseline ratio: __:__ PM justification:	Starting ratio: 1:1 Ratio adjustment: ___ Baseline ratio: __:__ PM justification:	Starting ratio: 1:1 Ratio adjustment: ___ Baseline ratio: __:__ PM justification:

- Starting Ratio 1:1
- 1:1 +/- adjustment = baseline ratio
- Details in PM Justification (BPJ)
- Table is a guide
- Range = -2 to 4

Function	Impact site	Mitigation site
Short- or long-term surface water storage		
Subsurface water storage		
Moderation of groundwater flow or discharge		
Dissipation of energy		
Cycling of nutrients		
Removal of elements and compounds		
Retention of particulates		
Export of organic carbon		
Maintenance of plant and animal communities		
	Step 2 adjustment:	

Checklist Step 3

3	**QUANTITATIVE impact-mitigation comparison:** Use step 3 if a Corps-approved functional/condition assessment has been obtained. Use Before-After-Mitigation-Impact (BAMI) spreadsheet (attachment 12501.4) (if a district-approved functional/condition method is not available, use step 2 instead). See example in attachment 12501.2.	Note: steps 2 and 3 are mutually exclusive. If step 3 is used, steps 3 and 5 may also be mutually exclusive. If a functional/ condition assessment method is used that explicitly accounts for area (such as HGM), steps 3 and 5 are mutually exclusive; however, if a method is used that does *not* explicitly account for area (such as CRAM), then both steps should be used. Complete the rest of the checklist (steps 4-10 or steps 4 and 6-10, as appropriate). Baseline ratio from BAMI procedure (attached): __:__	Baseline ratio from BAMI procedure (attached): __:__	Baseline ratio from BAMI procedure (attached): __:__

- Either Step 2 **or** Step 3
- Determination that a functional/condition assessment is appropriate
- Complete BAMI spreadsheet

BAMI Spreadsheet

Step 3

Before-After-Mitigation-Impact (BAMI) procedure	(CRAM example)					
Functions/conditions	$Impact_{Before}$	$Impact_{After}$	$Impact_{delta}$	$Mitigation_{Before}$	$Mitigation_{After}$	$Mitigation_{delta}$
4.1 Buffer and Landscape Context						
4.1.1 Landscape Connectivity	9	3	-6	6	6	0
4.1.2 Percent of AA with Buffer	12	6	-6	3	9	6
4.1.3 Average Buffer Width	3	3	0	3	12	9
4.1.4 Buffer Condition	6	6	0	3	9	6
RAW SCORE	**15.0**	**8.0**	**-7**	**9.0**	**15.7**	**7**
FINAL SCORE	**62.5**	**33.6**	**-29**	**37.5**	**65.3**	**28**
4.2 Attribute 2: Hydrology						
4.2.1 Water Source	6	6	0	6	6	0
4.2.2 Hydroperiod or Channel Stability	9	12	3	3	9	6
4.2.3 Hydrologic Connectivity	12	9	-3	3	12	9
RAW SCORE	**27.0**	**27.0**	**0**	**12.0**	**27.0**	**15**
FINAL SCORE	**75.0**	**75.0**	**0**	**33.4**	**75.0**	**42**
4.3 Attribute 3: Physical Structure						
4.3.1 Structural Patch Richness	6	3	-3	3	9	6
4.3.2 Topographic Complexity	6	3	-3	3	6	3
RAW SCORE	**12.0**	**6.0**	**-6**	**6.0**	**15.0**	**9**
FINAL SCORE	**50.0**	**25.0**	**-25**	**25.0**	**62.5**	**38**
4.4 Attribute 4: Biotic Structure						
4.4.1 Number of Plant Layers	12	9	-3	6	9	3
4.4.2 Co-Dominant Species	6	6	0	6	12	6
4.4.3 Percent Invasion	6	9	3	3	12	9
4.4.4 Interspersion/Zonation	9	3	-6	3	9	6
4.4.5 Vertical Structure	6	3	-3	3	6	3
RAW SCORE	**23**	**14**	**-9**	**11**	**26**	**15**
FINAL SCORE	**63.9**	**38.9**	**-25**	**30.6**	**72.3**	**42**
OVERALL SCORE	**65.0**	**46.0**	**-19**	**32.0**	**70.0**	**38**

Quotient= $ABS(M/I)_{deltas}$ **2**

Baseline ratio: **1 : 2**

Checklist Steps 4 & 5

4	**Mitigation site location:**	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:
5	**Net loss of aquatic resource surface area:**	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:

- Step 4
  - Define “watershed”
  - Inside of watershed = 0, outside of watershed = +1
- Step 5
  - Re-establishment or establishment = 0
  - Rehabilitation, enhancement, or preservation = +1

Checklist Steps 6 & 7

6	**Type conversion:**	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:
7	**Risk and uncertainty:**	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:

- Step 6
  - From Rare to Common = +0.25 to + 4.0
  - From common to rare = -0.25 to -4.0
  - Similar = 0
- Step 7
  - Analyze several factors – Permittee-responsible, difficult to replace, modified hydrology, long-term maintenance, long-term preservation, etc…
  - Adjustment ranges +0.1 to +0.3

Checklist Step 8

8	**Temporal loss:**	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:	Ratio adjustment: PM justification:

- Known scheduled delays
  - Multiply number of months by 0.05
- Full Replacement of functions
  - Trees/woodlands or saltmarsh = +3
  - Shrubs = +2
  - Herbaceous = +1

Checklist Steps 9 & 10

9	**Final mitigation ratio(s):**	Column A: 1. Baseline ratio from 2 or 3: ___:___ 2. Total adjustments (4-8): _____ 3. **Final ratio**: ___:___ Proposed impact (total): _____ acres _____ linear feet To Resource type: _____ Cowardin or HGM: _____ Hydrology: _____ **Required mitigation**: _____ acres _____ linear feet Of Resource type: _____ Cowardin or HGM: _____ Hydrology: _____ Proposed mitigation: _____ acres _____ linear feet **Impact Unmitigated**: _____ % _____ acres Additional PM comments:	Column B: 1. Baseline ratio from 2 or 3: ___:___ 2. Total adjustments (4-8): _____ 3. **Final ratio**: ___:___ Proposed impact (total): _____ acres _____ linear feet To Resource type: _____ Cowardin or HGM: _____ Hydrology: _____ **Required mitigation**: _____ acres _____ linear feet Of Resource type: _____ Cowardin or HGM: _____ Hydrology: _____ Proposed mitigation: _____ acres _____ linear feet **Impact Unmitigated**: _____ % _____ acres Additional PM comments:	Column C: 1. Baseline ratio from 2 or 3: ___:___ 2. Total adjustments (4-8): _____ 3. **Final ratio**: ___:___ Proposed impact (total): _____ acres _____ linear feet To Resource type: _____ Cowardin or HGM: _____ Hydrology: _____ **Required mitigation**: _____ acres _____ linear feet Of Resource type: _____ Cowardin or HGM: _____ Hydrology: _____ Proposed mitigation: _____ acres _____ linear feet **Impact Unmitigated**: _____ % _____ acres Additional PM comments:
10	**Final compensatory mitigation requirements:**	PM summary:		

- Adjustments are additive
- Minimum 1:1 ratio unless a function/condition assessment is used
- Describe final mitigation in step 10

Attachment 3
Examples of Mitigation Ratio Setting Checklist

Attachment 12501.3-SPD - Examples for SPD Mitigation Ratio Setting Checklist

We'll go through example #1.

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Attachment 3
Example 1 (overview)

Checklist Example 1: One impact site/type with two mitigation sites/types

Impact(s): The applicant is proposing to permanently impact 0.3 acre (870 linear feet) of intermittent stream with mature, native riparian vegetation (southern willow woodland).

Proposed mitigation: The applicant has proposed to mitigate through: 1) 0.3 acre of on-site, in-kind establishment of intermittent stream by re-aligning the existing stream such that the new alignment would be constructed across existing uplands (prior to grading to reduce elevations appropriately); and 2) 0.6 acre of off-site, out-of-kind enhancement of depressional wetland through a mitigation bank.

Method: The project manager has completed one checklist (see below), using column "A" for the on-site, proposed mitigation and column "B" for the off-site proposed mitigation.

Results: After completing the checklist columns "A" and "B", and after discussing the results with the applicant, the project manager has determined the final mitigation ratios to be 4.3:1 for on-site (0.3 acre, as proposed) and 5:1 for off-site (1.15 acre of enhancement credit). As part of this process, the applicant agreed to increase his/her off-site mitigation from 0.6 acre to 1.15 acre. The project manager then entered the final requirement on the last page of the checklist and added the completed checklist to the administrative record (either as a paper copy in the paper file or as an electronic file in ORM). Alternatively, the project manager and/or applicant could have proposed all on-site mitigation (1.29 acre of establishment) or all off-site mitigation (1.5 acre of enhancement) to mitigate for the proposed impact. Regardless of the outcome of any negotiations, the final mitigation ratio(s) and requirement(s) should be explicitly described in steps 9 and 10 of the checklist.

Attachment 3: Example 1 (steps 1-2)

SPD mitigation ratio setting checklist

1	Date: 5/17/2010 Corps file no.: 2010-XYZ Project Manager: John Doe Impact site name: Tullay Creek ORM impact resource type: stream Hydrology: intermittent Impact Cowardin or HGM type: riverine Impact area (acres): 0.3 Impact distance (linear feet): 870	Column A: Mitigation site name: Tullay Creek Mitigation type: establishment Resource type: stream Cowardin/HGM type: riverine Hydrology: intermittent	Column B (optional): Mitigation site name: WL bank Mitigation type: enhancement Resource type: non-tidal WL Cowardin/HGM type: palustrine Hydrology: saturated	Column C (optional): Mitigation site name: ____ Mitigation type: ____ Resource type: ____ Cowardin/HGM type: ____ Hydrology: ____
2	**QUALITATIVE impact-mitigation comparison:** Has a Corps-approved functional/condition assessment been obtained? If not, complete step 2; otherwise, complete step 3. Yes ☐ No ☒ Optional: use Table 1 (page 3).	Note: steps 2 and 3 are mutually exclusive. If step 2 is used, then complete the rest of the checklist (steps 4-10). Starting ratio: 1:1 Ratio adjustment: 0 Baseline ratio: 1:1 PM justification: impact and mitigation are within the same water body, habitat type, etc., so functional gain and loss would be equal.	Starting ratio: 1:1 Ratio adjustment: +3 Baseline ratio: 4:1 PM justification: Functional loss is greater than functional gain since in this case, there is total functional loss and only gain of selected functions via enhancement.	Starting ratio: 1:1 Ratio adjustment: ___ Baseline ratio: __:__ PM justification:

Attachment 3: Example 1 (steps 3-7)

3	**QUANTITATIVE impact-mitigation comparison:** Use step 3 if a Corps-approved functional/condition assessment been obtained. Use Before-After-Mitigation-Impact (BAMI) spreadsheet (attachment 12501.4) (if a district-approved functional/condition method is not available, use step 2 instead). See example in attachment 12501.2.	Note: steps 2 and 3 are mutually exclusive. If step 3 is used, steps 3 and 5 may also be mutually exclusive. If a functional/ condition assessment method is used that explicitly accounts for area (such as HGM), steps 3 and 5 are mutually exclusive; however, if a method is used that does *not* explicitly account for area (such as CRAM), then both steps should be used. Complete the rest of the checklist (steps 4-10 or steps 4 and 6-10, as appropriate). Baseline ratio from BAMI procedure (attached): __:__	Baseline ratio from BAMI procedure (attached): __:__	Baseline ratio from BAMI procedure (attached): __:__
4	**Mitigation site location:**	Ratio adjustment: 0 PM justification: impact and mitigation would be within the same watershed	Ratio adjustment: 0 PM justification: impact and mitigation would be within the same watershed	Ratio adjustment: PM justification:
5	**Net loss of aquatic resource surface area:**	Ratio adjustment: 0 PM justification: establishment	Ratio adjustment: +1 PM justification: enhancement	Ratio adjustment: PM justification:
6	**Type conversion:**	Ratio adjustment: 0 PM justification: n,n: no difference between impact and mitigation types	Ratio adjustment: 0 PM justification: intermittent riparian (willow woodland) and depressional wetlands not substantially different in terms of relative value.	Ratio adjustment: PM justification:
7	**Risk and uncertainty:**	Ratio adjustment: +0.3 PM justification: +0.1 for permittee-responsible mitigation, +0.2 as mitigation site did not formerly support target aquatic resource.	Ratio adjustment: 0 PM justification: mitigation bank, uncertainty factors not applicable.	Ratio adjustment: PM justification:

Attachment 3: Example 1 (steps 8-10)

8	**Temporal loss:**	Ratio adjustment: +3 PM justification: a: No planned delay, impact and mitigation to be constructed simultaneously. b: Both to include mature willow canopy (trees/woodlands), +3 to account for time to achieve full functions.	Ratio adjustment: 0 PM justification: bank, no delay	Ratio adjustment: PM justification:
9	**Final mitigation ratio(s):**	Column A: 1. Baseline ratio from step 2 or 3 = _1_:_1_ 2. Total adjustments = __+3.3_ 3.Final ratio: _4.3_ : _1_ Proposed impact (total): __0.3_ acre _870__ linear feet to Resource type: ____stream_____ Cowardin or HGM: riverine Hydrology: intermittent _____ Required mitigation: _0.3*__ acre _900__ linear feet of Mitigation type: __establishment_____ Resource type: _____same_____ Cowardin or HGM: ____same_____ Hydrology: intermittent _____ Additional PM comments: *Applicant proposed alternate, off-site mitigation to account for difference between proposed (0.3 acre establishment, 1:1) and Corps assessment using checklist (1.29 acre establishment, 4.3:1). 0.99 acre of Corps assessment not met = 0.99/1.29*100 = 77%. 77% of impact unmitigated = 0.23 acre of impact. See column B.	Column B: 1. Baseline ratio from step 2 or 3 = _4_:_1_ 2. Total adjustments = _+1__ 3. Final ratio: _5.0_ : _1_ Remaining impact: _0.23 acre_ Required mitigation: _1.15_ acre ___ linear feet of Mitigation type: _enhancement_ Resource type: __non-tidal WL_ Cowardin or HGM: palustrine, depressional wetland Hydrology: saturated_____ Additional PM comments: Applicant originally proposed 0.6 acre of off-site enhancement via bank. Through checklist, I've determined requirement should be 1.15 acre. Applicant has agreed to provide 1.15 acre of wetland enhancement credit at XYZ bank.	Column C: 1. Baseline ratio from step 2 or 3 = __:__ 2. Total adjustments = ___ 3. Final ratio: __ : __ Remaining impact: _____ Required mitigation: ___ acre ___ linear feet of Mitigation type: _____ Resource type: _____ Cowardin or HGM: _____ Hydrology: _____ Additional PM comments:
10	**Final compensatory mitigation requirements:**	PM summary: The final compensatory mitigation requirement for this impact site is 0.3 acre (900 linear feet) of on-site riverine-intermittent stream (realignment of Tullay Creek, mature willow woodland) and 1.15 acre of off-site enhancement of depressional wetland through the XYZ mitigation bank.		

Questions?

Contact Information

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