

# SOUTH PACIFIC DIVISION REGIONAL COMPENSATORY MITIGATION AND MONITORING GUIDELINES

Regulatory Program Workshop

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# APPLY TO ALL OF SOUTH PACIFIC DIVISION



## APPLICABILITY AND EFFECTIVE DATE

- Guidelines were effective January 12, 2015.
- Supersede all previous district-specific compensatory mitigation and monitoring guidelines issued within SPD.
- Applicable for all permit applications and mitigation bank/ILF prospectus submittals received after January 12, 2015.

AND

- Most permit applications received prior to the effective date.



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# WHEN ARE THE GUIDELINES NOT APPLICABLE?

- Permit applications received prior to the effective date must also comply with these guidelines except for:
  - Cases where compensatory mitigation has already been constructed
  - Where the applicant can otherwise fully demonstrate substantial resources have been expended or committed in reliance on previous guidance governing compensatory mitigation for DA permits within SPD (for example, compensatory mitigation plans already approved by the Corps in writing).



# INTRODUCTION AND PURPOSE

- Intended to supplement and improve implementation of 2008 Corps-EPA Mitigation Rule (33 CFR Part 332)
- Provide guidance in selecting appropriate compensatory mitigation sites and preparing mitigation plans
- Standardize compensatory mitigation procedures throughout SPD region.
- Assist the regulated public in implementing successful compensatory mitigation projects using a watershed-based approach.
- Unless otherwise noted, each part of the Guidelines applies to mitigation banks, in-lieu fee programs, and permittee-responsible mitigation.



# SHORT TERM FINANCIAL ASSURANCES

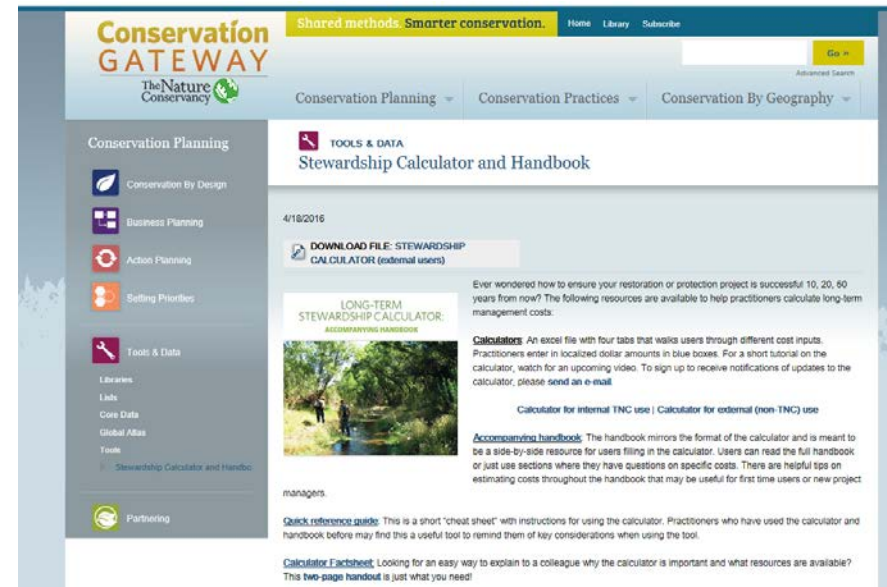
- Provide contingency funding for a third party to complete compensatory mitigation
- Generally provided as bonds or letters of credit. **See IWR White Paper: Implementing Financial Assurances for Mitigation Project Success.**  
(<http://www.iwr.usace.army.mil/Media/News-Stories/Article/481035/iwr-publishes-reference-on-financial-assurance-for-mitigation-projects/>)
- Government agencies may propose alternative mechanisms.



# LONG TERM FINANCIAL ASSURANCES/ENDOWMENTS

- An endowment or other long term funding mechanism must be provided to ensure management in perpetuity.
- Some tools for calculating endowment amounts:
  - PAR analysis
  - Nature Conservancy's long term stewardship calculator

(<https://www.conservationsgateway.org/ConservationPlanning/ToolsData/Pages/stewardshipcalculator.aspx>)



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# AMOUNT OF FINANCIAL ASSURANCE

- Mitigation plans should include an itemized budget
- Should address all the items listed in 33 CFR § 332.3(n)(2)
- Must include minimum 20 percent (%) contingency funding
- PAR or a custom budget can be utilized
- Should be based on a reasonable estimate of costs





# FINANCIAL ASSURANCE RELEASE PROCESS

- The DA permit/instrument must clearly specify the conditions under which the financial assurances are to be released to the permittee, sponsor, and/or other financial assurance provider, including, as appropriate:
  - Linkage to achievement of performance standards
  - Adaptive management
  - Compliance with special conditions.



# AQUATIC RESOURCE DESCRIPTION

- All compensatory mitigation proposals and plans should provide a detailed description of aquatic resource sites in table format (see example tables B-1 and B-2 in Appendix B)
- Both for “pre-construction” conditions (baseline conditions before impacts and implementation of the compensatory mitigation) and proposed “post-construction” conditions (after impacts and implementation of the compensatory mitigation).



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# TABLE B-1: IMPACT SITE DESCRIPTION

Pre-Construction Site Conditions							Post-Construction Site Conditions			
Site No.	Habitat Types	Vegetation Communities	Cowardin	HGM	Hydrology	FCAM CRAM	Activity	Permanent Loss	Temporary Loss	Lin. Feet
<b>Wetland Waters of the U.S.</b>										
1	Alkali meadow	Saltgrass series	PUB	Slope	Saturated	Wet Meadow	Road Crossing	0.3	N/A	N/A
2	Freshwater marsh	Bulrush cattail series	R2UB	Depressional	Seasonally Flooded	Depression	Building Pads	2.1	N/A	N/A
Total								2.4	N/A	N/A
<b>Non-Wetland Waters of the U.S.</b>										
3	Mulefat	Mulefat series	R4SB	Riverine	Intermittent	Riverine	Utility Line	N/A	0.27	673
4	Riparian scrub	Arroyo willow series	R4SB	Riverine	Intermittent	Riverine	Building Pads	0.7	N/A	1202
Total								0.7	0.27	1875
<b>Upland Habitat</b>										
5	Native Grassland	Purple needlegrass series	N/A	N/A	N/A	N/A	Grading	N/A	1.2	N/A
6	Sage Scrub	CA encelia series	N/A	N/A	N/A	N/A		4.5	N/A	N/A
Total								4.5	1.2	N/A



# FUNCTIONAL OR CONDITION ASSESSMENT METHODS (FCAM)

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- In general, an FCAM should be developed and calibrated for the aquatic resource type(s) and geographic area within which it is being applied.
- Appropriate FCAMs must be:
  - aquatic resource-based
  - Repeatable
  - Standardized
  - Comparable from site to site
  - Based on sound science
  - Receive prior project-specific approval from the Corps.
- Proposed FCAM should be peer reviewed, if possible
- Should be used for larger, more complex projects (generally those having permanent impacts greater than 0.5 acre of waters of the United States and/or greater than 300 linear feet of jurisdictional stream bed).



# PLANNING AND DOCUMENTATION

- Overall, the process of developing a mitigation plan can be described as having the following stages:
  - Determination of compensatory mitigation source(s),
  - Determination of objectives,
  - Site selection,
  - Design,
  - Determination of credits,
  - Other considerations (including development of performance standards and monitoring protocols), and
  - Completion
- Flowchart and checklist included in Guidelines (Appendix C)



# MITIGATION PLAN CHECKLIST

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Section	Required Content
4.6.1	Title Page
4.6.2	Contributor Page
4.6.3	Distribution Page
4.6.4	Table of Contents
4.6.5	Brief Description of Overall Project
4.6.6	Objectives
4.6.7	Determination of Credit
4.6.8	Description of Site Selection Criteria
4.6.9	Baseline Information
4.6.10	Mitigation Work Plan
4.6.11	Description of Site Protection Instrument
4.6.12	Maintenance Plan
4.6.13	Ecological Performance Standards
4.6.14	Monitoring Requirements
4.6.15	Long Term Management Plan
4.6.16	Long-term Funding (Endowment)
4.6.17	Adaptive Management Plan
4.6.18	Financial Assurance
4.6.19	Other Information Required by the District Engineer



# DESIGN RECOMMENDATIONS FOR COMPENSATORY MITIGATION

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- 4.4.1.1 General design recommendations
  - Adequate buffers
  - Diversity of habitats
  - Use of reference sites & native species
  - Avoiding adverse impacts to existing resources



# DESIGN RECOMMENDATIONS FOR COMPENSATORY MITIGATION

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- 4.4.1.2 Design recommendations for wetlands
  - Natural
  - Self-sustaining hydrology
  - Secure water rights
  - Understanding future water risks





# DESIGN RECOMMENDATIONS FOR COMPENSATORY MITIGATION

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- 4.4.1.3 Design recommendations for streams:
  - Allow main channel to migrate laterally
  - Site-appropriate channel geometry
  - Use of local, native materials, and bioengineering
  - Establish/protect adjacent riparian areas



# DESIGN PITFALLS

- List of conflicts or questionable design features that should be avoided or may warrant seeking alternative sites to provide compensatory mitigation that will achieve the desired objectives:
  - Site unsuitable to meet objectives: site should include existing water source(s) that can be used, and require minimal earthwork.
  - Insufficient soil characterization.
  - Presence of structures that require long-term maintenance and/or disrupt or replace natural hydrology, such as drop structures; high-flow bypass structures; gabions or levees; buried structures (e.g. riprap); artificial hydrology (permanent irrigation, pumped water sources); and engineered slopes.



# DESIGN PITFALLS

- Presence of competing/conflicting uses (e.g., existing or proposed transportation, flood control structures, or planned flood control-related maintenance activities and easements, existing or proposed fuel modification areas).
- Insufficient buffers: insufficient buffer area to achieve plan objectives; buffers with mechanically or chemically manipulated fire breaks, i.e., disking, scraping, mowing, or spraying, buffers that are bypassed by pipes or other conveyances.
- Insufficient connectivity with other aquatic resources, and/or a compensatory mitigation project sited where future land uses in the immediate area would have a large impact on the physical, chemical, or biological components of the wetland (increase in runoff, close proximity to future urban development, etc.).



# DESIGN PITFALLS

- Placement where surface water can be diverted in the future or groundwater table lowered due to future land uses upstream or upslope.
- Insufficient analysis of hydrology and soil interaction (see examples in Guidelines).
- Over-excavation to soils or subsoils unsuitable for the growth and reproduction of the desired plant species.
- Planting vegetation species in unsuitable locations without appropriate hydrologic regimes or soil types (texture and chemistry).



# OTHER CONSIDERATIONS

- **Water Rights:** Water rights must be addressed explicitly in the mitigation plan, to ensure that the necessary hydrology will be available for a self-sustaining compensatory mitigation project.
- **Mineral Rights and Other Easements:** Mineral rights or other potential easements that could adversely affect the long-term sustainability of the site must be disclosed.





# MITIGATION PLAN OUTLINE

- Provides required content and suggested format for mitigation plans
- Includes prompts and explanations for required information
- Amount and type of information necessary depends on type and complexity of the compensatory mitigation project as well as the scope and scale of impacts to the aquatic environment



# ECOLOGICAL PERFORMANCE STANDARDS

- 5.2 Recommended range and formulation of performance standards: In general, ecological performance standards for compensatory mitigation should measure a range of environmental variables to assess ecological functions or condition.
- Compensatory mitigation plans should, when applicable, include performance standards related to:
  - physical characteristics,
  - hydrology,
  - flora,
  - fauna, and
  - in certain cases water quality (within an ecological context).
- For more information, see Corps QMS Document 12505: [SPD Uniform Performance Standards for Compensatory Mitigation Requirements](#).



# SETTING PERFORMANCE STANDARDS USING REFERENCE SITES

- Tool to identify reasonable targets for compensatory mitigation projects, in the context of the current regional environmental conditions.
- The **reference standard** represents the highest level of aquatic resource functioning/condition observed within a watershed or region.
- In general and where appropriate, compensatory mitigation plans should utilize reference sites to help develop performance standards.
- The reference standard for that watershed (or ecoregion) should be considered in selecting reference sites.
- Where appropriate and practicable, multiple reference sites may be used rather than a single reference site.





# MORE ON PERFORMANCE STANDARDS

- 5.4 Interim performance standards: Interim performance standards are crucial to ensuring compensatory mitigation performance follows a trajectory to attain final mitigation success.
- 
- 5.5 Performance standards format: Ecological performance standards should be listed in table format and clearly document the interim and final performance requirements of the compensatory mitigation site.
- 5.6 Functional/condition assessment data: For projects where a functional/condition assessment method is used to assess a mitigation project's "before" and "after" conditions, the projected "after" score shall be included as a performance standard, after accounting for the length of the monitoring period.



# MONITORING

- 6.1 Monitoring methods:
- Compensatory mitigation monitoring methods should include quantitative sampling methods following established, scientific protocols (e.g., California Native Plant Society protocols) (Also see the 1987 Wetland Delineation Manual and applicable regional supplement.)
- Sampling documentation, as part of monitoring reports, should include maps showing locations of sampling points, transects, quadrants, etc.
- Permanent photo stations should be coincident with sampling locations.
- Where structures are placed in waters of the U.S., photo stations should be established that capture the structures and any effect on channel morphology.



# LONGER MONITORING PERIODS

- Monitoring periods of more than 5 years are warranted for aquatic resources with slow development rates. Examples of such aquatic resources within the South Pacific Division include:
  - vernal pools,
  - riparian forest, and
  - coastal salt marsh.
- Monitoring periods may be extended if the compensatory mitigation project is not meeting its ecological performance standards and the district engineer determines more time is needed to assess success.
- As an option to make longer monitoring periods more practicable, monitoring periods exceeding the 5-year minimum may have longer periods between the required submission of monitoring reports (for example, every 2 years for a 10-year monitoring period). For the first 5 years, however, submission of monitoring reports should occur annually to demonstrate an initial trajectory toward meeting success criteria.



# SPD MONITORING REPORT FORM

- Monitoring reports must be submitted using the new SPD mitigation monitoring form.
- Supporting data must be attached to the form, including:
  - Vicinity map(s).
  - Compensatory Mitigation Site Map(s). Note: maps must comply with the [SPD Map and Drawings Standard](#).
  - Photographic record of the site at designated photo stations.
  - Results of FCAM (if applicable)
  - Narrative report (optional).
  - Critical survey elevations, properly benchmarked (if applicable).
  - As-built drawing(s) (if any change from authorized design).



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## MONITORING (CONTINUED)

- 6.5 Third-party monitoring: The Corps may require monitoring by approved third-party entities.
- 6.6 Monitoring and reference sites: Compensatory mitigation plans should incorporate reference sites as part of performance monitoring.
- 6.7 Attainment of compensatory mitigation success and release from monitoring requirements: The Corps ultimately determines if a compensatory mitigation project has achieved its objectives and performance standards and is successful.



# MANAGEMENT

- 7.1 Long-term site protection: advantages & disadvantages of each identified:
  - 7.1.1 Conservation easements
  - 7.1.2 Deed restrictions (restrictive or negative covenants)
  - 7.1.3 Transfer of title
- 7.2 Government property
- 7.3 Other available mechanisms
- 7.4 Required provisions
- 7.5 Approval process (see following slides)
- 7.6 Templates
- 7.7 Exhibits
- 7.8 Funding for long-term management
- 7.9 Long-term management
- 7.9 Protection of water and mineral rights



# MANAGEMENT: APPROVAL PROCESS

- 7.5 Approval process:
  - 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 district engineer in advance of the activity causing the authorized impacts.**
  - Must be reviewed and approved by the District Office of Counsel, in coordination with the District's Regulatory Division.





# CONSERVATION EASEMENT REVIEW AND APPROVAL

- There is a template conservation easement available:

<http://www.spd.usace.army.mil/Missions/Regulatory/Public-Notices-and-References/Article/558934/final-regional-compensatory-mitigation-and-monitoring-guidelines/>

- Corps review and approval required for the entity proposed for long-term ownership or oversight of the mitigation site.
- Typically require Land Trust Alliance accreditation or equivalent for conservation easement holders.

**PLEASE NOTE:**

The following Conservation Easement Deed is provided by the multi-agency Project Delivery Team as a standardized template document for Mitigation and Conservation Banks in California. Any modifications to this template shall be identified using tracked changes or other electronic comparison and explained in a memorandum.  
(Template Version Date: March 2010)

**RECORDING REQUESTED BY AND  
WHEN RECORDED MAIL TO:**

[Fill in Grantee Name/Address]

Grantee Name

Grantee Address

City, State ZIP

Attn: \_\_\_\_\_

Space Above Line for Recorder's Use Only

**CONSERVATION EASEMENT DEED**

[Insert Bank Name]

THIS CONSERVATION EASEMENT DEED ("Conservation Easement") is made as of the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by [insert full legal name(s) of Grantor: \_\_\_\_\_] ("Grantor"), in favor of [insert Grantee's full legal name: \_\_\_\_\_] [if CDFG is Grantee insert: the State of California] ("Grantee"), with reference to the following facts:



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# MANAGEMENT: DEED RESTRICTIONS

- Approval of Deed Restrictions:
  - ✓ If deed restrictions are proposed, the proposal must discuss:
    - How any marketable record title issues will be addressed,
    - Suitability of the owner of the mitigation site for ensuring mitigation responsibilities are met,
    - History of the property owner in meeting mitigation responsibilities for other mitigation sites,
    - What mechanisms will ensure that long-term management requirements for the mitigation site are accomplished, and
    - What mechanism will ensure that required funding for the mitigation site will continue to be provided.
  - ✓ Where deed restrictions are determined to be appropriate, the permittee or the landowner of the mitigation will be required to report periodically on the status of the deed restriction to ensure restriction remains in the chain of title in perpetuity. Such reports would indicate:
    - Date recorded,
    - Date when the statutory period will expire,
    - Date deed restrictions will be re-recorded, and
    - Other pertinent information.



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# CREDIT DETERMINATION

- An FCAM is required when an appropriate FCAM is available and practicable.
- **Generally, it is assumed that for large endeavors such as mitigation banks and ILF programs, use of an appropriate and available FCAM would be practicable.** Therefore, in order to determine the number of proposed credits available at a proposed mitigation bank or ILF Program, a sponsor should incorporate data from an FCAM to estimate the expected functional gain.
- If a functional/condition assessment is not incorporated in the draft instrument, the Corps may adopt a conservative approach in determining the number and type of credits.
- Estimated functional gain would be determined using the same FCAM as part of the mitigation bank or ILF project's performance standards.
- When practicable, in order to use a mitigation bank or ILF Program, permit applicants should estimate functional loss using the same FCAM as used by the mitigation bank or ILF Program. Similarly, if debits are calculated, this should be done using the same FCAM as used by the mitigation bank or ILF program, unless out-of-kind mitigation is being provided and the FCAM is not applicable to that out-of-kind mitigation.



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# CREDIT DETERMINATION (CONTINUED)

- Regardless of the specific factors considered for any given credit determination proposal, the mitigation bank or ILF instrument should:
  - Include a **credit determination exhibit**
    - The numbers and types of expected credits
    - Details on how both were determined
  - Any separate reports and/or analyses relied upon in determining credits
  - If an FCAM is used in credit determination, the exhibit should clearly explain how FCAM data was incorporated and any assumptions relied upon in doing so



# APPENDICES

- Appendix A: Compensatory Mitigation Methods
- Appendix B: Aquatic Resource Description Tables
- Appendix C: Process of Developing a Mitigation Plan
- Appendix D: Mitigation Monitoring Form
- Appendix E: IRT Review Timeline
- Appendix F: List of Acronyms



# DISTRICT POINTS OF CONTACT

- Albuquerque District: Deanna Cummings
- South Pacific Division: Thomas Cavanaugh
- Sacramento District: Will Ness
- Los Angeles District: Dan Swenson (team lead)
- San Francisco District: Bryan Matsumoto





# ANY QUESTIONS?



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