

# Mitigation and Monitoring Plans

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# Agenda

- Mitigation and Monitoring Plans
- SPD Uniform Performance Standards
- SPD Mitigation Ratio Setting Checklist



# Mitigation and Monitoring Plans



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# Compensatory Mitigation Requirements

- Requirement to offset losses of waters of the U.S. resulting from DA authorizations
- Requirement has been in affect since 1986
- Corps has discretion to waive requirements of mitigation, but rarely exercised.



# Revised Mitigation Regulations

- Effective April 10, 2008
- Commonly referred to as the “Mitigation Rule”
- 33 CFR Part 332
- Addresses 12 requirements of a compensatory mitigation plan
- Also addresses Mitigation Banks and ILF



# 12 Elements of the Plan

- Objectives
- Site selection
- Site protection instrument
- Baseline information
- Determination of credits
- Mitigation work plan
- Maintenance plan
- Performance standards
- Long-term management plan
- Adaptive management plan
- Financial assurances



# Objectives

- Description of the resource type(s)
- Amount(s) that will be provided
- Method of compensation (i.e., restoration, establishment, enhancement, and/or preservation)
- How resource functions of the mitigation address the needs of the watershed



# Site Selection

- Description of the factors considered during the site selection process:
  - ▶ Consideration of watershed needs
  - ▶ Onsite alternatives where applicable
  - ▶ Practicability of accomplishing ecologically self-sustaining



# Site Protection Instrument

- Description of the legal arrangements and instrument
  - ▶ Deed restrictions
  - ▶ Conservation easement



# Baseline Information

- Description of the ecological characteristics of impact and mitigation site
  - ▶ Historic and existing plant communities
  - ▶ Historic and existing hydrology
  - ▶ Soil conditions
  - ▶ Delineation of waters at mitigation site



# Determination of Credits

- Description of the number of credits to be provided
- Brief rationale for this determination



# Mitigation Work Plan

- Detailed written specifications and work descriptions
  - ▶ Geographic boundaries
  - ▶ Construction methods
  - ▶ Timing
  - ▶ Source(s) of water, including connections to existing waters and uplands;
  - ▶ Methods for establishing the desired plant community;



# Work Plan Cont'n

- ▶ Plans to control invasive plant species
- ▶ Grading plan
  
- Stream Mitigation
  - ▶ Planform geometry (sinuosity)
  - ▶ Channel form
  - ▶ Watershed size
  - ▶ Design discharge
  - ▶ Riparian area plantings



# Maintenance Plan

- Both short and long-term
- Description and schedule of maintenance
- Ensure the continued viability of the resource once construction is completed



# Performance Standards

- Ecologically-based standards
- Determines whether the compensatory mitigation project is achieving its objectives
  - ▶ SPD Uniform Performance Standards



# Monitoring Requirements

- Parameters to be monitored
- Determines if on track to meet performance standards
- Determines if adaptive management is needed



# Long-Term Management Plan

- Description of how the compensatory mitigation project will be managed after successful
  - ▶ Long-term financing mechanisms
  - ▶ Responsible party



# Adaptive Management Plan

- Management strategy to address:
  - ▶ Unforeseen changes in site conditions or
  - ▶ Other components of the compensatory mitigation project
- Guides decisions for:
  - ▶ Revising compensatory mitigation plans
  - ▶ Implementing measures to address both foreseeable and unforeseen circumstances that adversely affect site success



# Financial Assurance

- Description of financial assurances that will be provided
  - ▶ Performance bonds
  - ▶ Fully funded endowment
  - ▶ Letters of credit
- Sufficient to ensure a high level of confidence that the site is completed and successful



# Other Information

- Case by case
- Information as necessary to determine the appropriateness, feasibility, and practicability of the compensatory mitigation project



# SPD Compensatory Mitigation and Monitoring Guidelines

- Revise January 12, 2015



# SPD Uniform Performance Standards (UPS)



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# UPS

- Public Noticed on December 19, 2012
- Used in determining compensatory mitigation performance standards
- Replaces previous mitigation success criteria.



- **Benefits:**
  - ▶ Better predictability for regulated community
  - ▶ Increased ability of Regulatory agencies to ensure compliance
  - ▶ Better gauge of long-term ecological viability of mitigation sites
  - ▶ Allow improved scientific comparison between mitigation sites
  
- **Focus:**
  - ▶ Ecological performance standards (not water treatment)
  - ▶ Incorporation of reference sites
  - ▶ Incorporation of functional/condition assessments
  
- **Applicability:**
  - ▶ Permittee-responsible mitigation
  - ▶ Development of mitigation banks and in lieu fee programs



# Demo



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# SPD Mitigation Ratio Setting Checklist



# Ratio Checklist

- Public Noticed on August 8, 2013
- Used to:
  - ▶ document compensatory mitigation decision
  - ▶ determine if sufficient mitigation is proposed



# Items Considered

- Functions and services at impact vs. mitigation site
- Location
- Loss of surface area
- Type conversion
- Risk and uncertainty
- Temporal loss



# Example

- Functions and services at impact vs. mitigation site: (1:1)
- Location: +0
- Loss of surface area: +1
- Type conversion: +1
- Risk and uncertainty: +2
- Temporal loss: +1
  - ▶ Total of 6:1 mitigation ratio



2	<b>Qualitative impact-mitigation comparison:</b>	Starting ratio:	1.0 : 1.0	Starting ratio:	1.0 : 1.0	Starting ratio:	1.0 : 1.0
		Ratio adjustment:		Ratio adjustment:		Ratio adjustment:	
		Baseline ratio:	1.00 : 1.00	Baseline ratio:	1.00 : 1.00	Baseline ratio:	1.00 : 1.00
		PM justification:	see tab	PM justification:	see tab	PM justification:	see
3	<b>Quantitative impact-mitigation comparison:</b>	Ratio adjustment from BAMI procedure (attached):	#DIV/0! : #DIV/0!	Ratio adjustment from BAMI procedure (attached):	#DIV/0! : #DIV/0!	Ratio adjustment from BAMI procedure (attached):	#DIV/0! : #DIV/0!
4	<b>Mitigation site location:</b>	Ratio adjustment:		Ratio adjustment:		Ratio adjustment:	
		PM justification:		PM justification:		PM justification:	
5	<b>Net loss of aquatic resource surface area:</b>	Ratio adjustment:		Ratio adjustment:		Ratio adjustment:	
		PM justification:		PM justification:		PM justification:	
6	<b>Type conversion:</b>	Ratio adjustment:		Ratio adjustment:		Ratio adjustment:	
		PM justification:		PM justification:		PM justification:	
7	<b>Risk and uncertainty:</b>	Ratio adjustment:		Ratio adjustment:		Ratio adjustment:	
		PM justification:		PM justification:		PM justification:	
8	<b>Temporal loss:</b>	Ratio adjustment:		Ratio adjustment:		Ratio adjustment:	
		PM justification:		PM justification:		PM justification:	
9	<b>Final mitigation ratio(s):</b>	Baseline ratio from 2 or 3:	#DIV/0! : #DIV/0!	Baseline ratio from 2 or 3:	#DIV/0! : #DIV/0!	Baseline ratio from 2 or 3:	#DIV/0! : #DIV/0!
		Total adjustments (4-8):	0	Total adjustments (4-8):	0	Total adjustments (4-8):	0
		<b>Final ratio:</b>	#DIV/0! : #DIV/0!	<b>Final ratio:</b>	#DIV/0! : #DIV/0!	<b>Final ratio:</b>	#DIV/0! : #DIV/0!
		Proposed impact (total):	0 acres	Remaining impact:	#VALUE! acres	Remaining impact (acres):	#VALUE! acres
			0 linear feet		#VALUE! linear feet	Remaining impact (linear feet):	#VALUE! linear feet
		to Resource type:	0	to Resource type:	0	to Resource type:	0
		Cowardin or HGM:	0	Cowardin or HGM:	0	Cowardin or HGM:	0
		Hydrology:	0	Hydrology:	0	Hydrology:	0
		Required Mitigation*:	#DIV/0! acres	Required Mitigation*:	#DIV/0! acres	Required Mitigation:	#DIV/0! acres
			#DIV/0! linear feet		#DIV/0! linear feet		#DIV/0! linear feet
		of Resource type:	0	of Resource type:	0	of Resource type:	0
		Cowardin or HGM:	0	Cowardin or HGM:	0	Cowardin or HGM:	0
		Hydrology:	0	Hydrology:	0	Hydrology:	0
		Proposed Mitigation**:	acres	Proposed Mitigation**:	acres	Proposed Mitigation**:	acres
			linear feet		linear feet		linear feet
		Impact Unmitigated:	%	Impact Unmitigated:	%	Impact Unmitigated:	%
			acres		acres		acres
		Additional PM comments:		Additional PM comments:		Additional PM comments:	

# Questions?



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# Thank You

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