

Update on Galveston District Mitigation Practices

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January 21, 2016



US Army Corps of Engineers
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Compensatory Mitigation is governed by joint Corps-EPA mitigation regulations

33 CFR 332
AKA
“Mitigation Rule”

We are going to focus on the requirements of a mitigation plan.



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What goes in a Mitigation Plan

1. Objectives
2. Site Selection
3. Site protection instrument
4. Baseline information
5. Determination of Credits
6. Work plan
7. Maintenance plan
8. Performance standards
9. Monitoring requirements
10. Long-term management plan
11. Adaptive management plan
12. Financial assurances



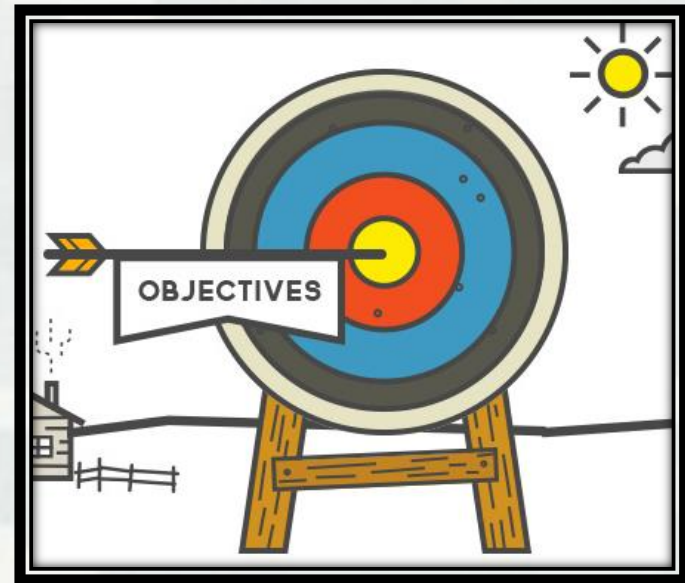
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Objectives

“A description of the resource type(s) and amount(s) that will be provided, the method of compensation, and the manner in which the resource functions of the compensatory mitigation project will address the needs of the watershed, ...”

Galveston District Requirements

1. Need to identify the historical context of the site;
2. How your plan will improve the aquatic resources on that site.
3. What are the needs of the watershed;
4. How will your site and project meet those needs?
5. May require a reference site commensurate with risk.



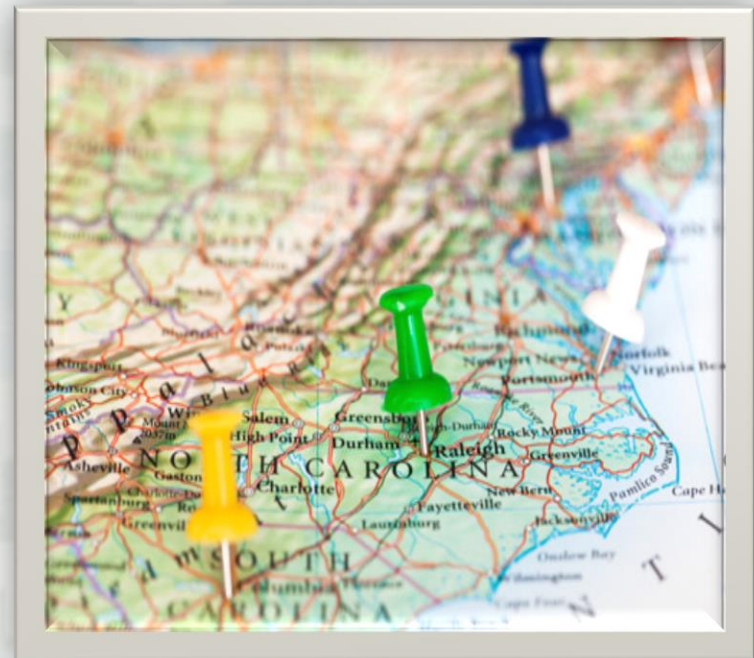
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Site Selection Criteria

“A description of the factors considered during the site selection process. This should include consideration of watershed needs, on-site alternatives where applicable, and the practicability of accomplishing ecologically self-sustaining aquatic resource...”

Galveston District Requirements

1. How is this site going to be ecologically suitable for providing desired aquatic resources?
2. How will this site meet the needs of the watershed?
3. How is this site compatible with adjacent land uses?
4. Does the site have any cultural resources, T&E, EFH, etc.
5. Reference site may be required commensurate with risk.



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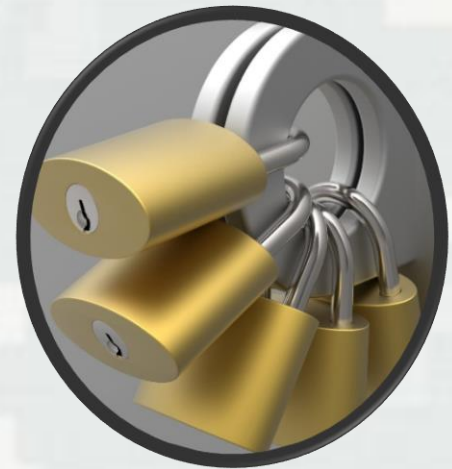
Site Protection

“A description of the legal arrangements and instrument, including site ownership, that will be used to ensure the long-term protection...”

“...mitigation project must be provided long-term protection through real estate instruments or other available mechanisms, as appropriate.”

Galveston District Requirements

1. Third-party, land-trust conservation easement holder.
 - a. Land Trust Alliance Certified or have adopted their standards preferred.
2. Transfer property to state or federal land trust agency.
3. Transfer of property to local agencies or non-profit conservation organization.



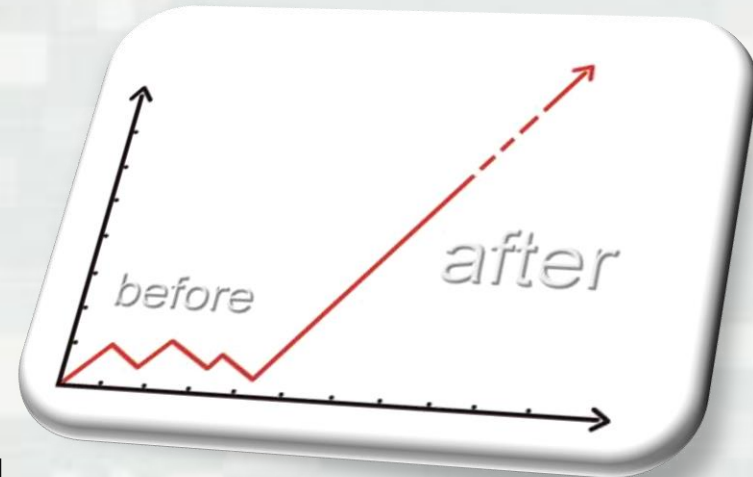
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Baseline Information

“A description of the ecological characteristics of the proposed compensatory mitigation project site and, in the case of an application for a DA permit, the impact site.”

Galveston District Requirements

1. Delineation of waters of the U.S.
2. Analysis of historic and contemporary conditions
 - a. plant and animal communities
 - b. hydrology
 - c. soils
3. Contemporary and proposed functional analysis.
4. Other requirements may be added based on site-specific risks.



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Credit (debit) Determination

“A description of the number of credits to be provided, including a brief explanation of the rationale for this determination.”

Galveston District Requirements

1. PRM should include an explanation of how the compensatory mitigation project will provide the required compensation for unavoidable impacts.
2. Banks are a little different.
3. Use approved* functional assessments.
 - a. Functional assessment calculations are not the ultimate determination that your plan is sufficient.



* If a functional assessment is not available, see my 2015 Environmental Challenges and Innovations Conference presentation on assessing function without a functional assessment.



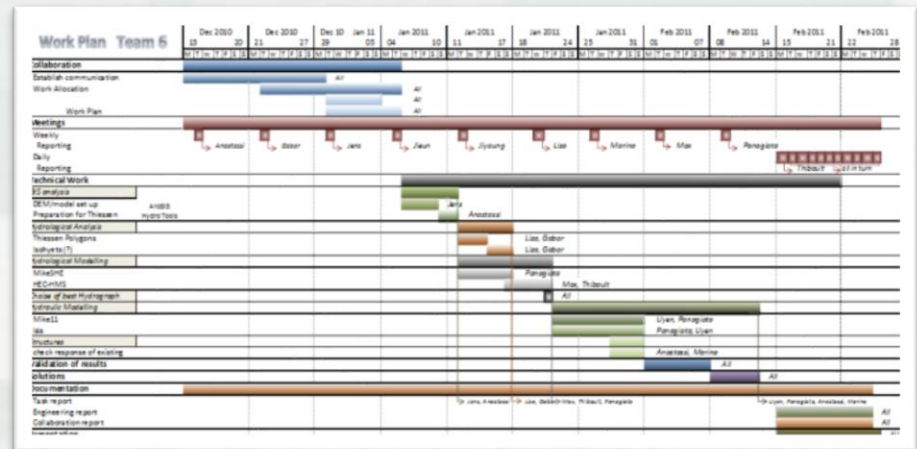
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Work Plan

“Detailed written specifications and work descriptions for the compensatory mitigation project, including, but not limited to, the geographic boundaries of the project; construction methods, timing, and sequence; source(s) of water, including connections to existing waters and uplands; methods for establishing the desired plant community; plans to control invasive plant species; the proposed grading plan, including elevations and slopes of the substrate; soil management; and erosion control measures. For stream compensatory mitigation projects, the mitigation work plan may also include other relevant information, such as planform geometry, channel form (e.g., typical channel cross-sections), watershed size, design discharge, and riparian area plantings.”

Galveston District Requirements

1. See Above
2. Yes, we really want all of this, and it may be more detailed than your impact plans



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Maintenance Plan

“A description and schedule of maintenance requirements to ensure the continued viability of the resource ...”

Galveston District Requirements

1. Maintenance is necessary for mitigation projects reach their objectives and to operate as designed on a long-term basis.
2. Must provide detailed information about inspection and maintenance activities.
3. Failure to properly identify maintenance invites risk.



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Performance Standards

“Ecologically-based standards that will be used to determine whether the compensatory mitigation project is achieving its objectives.”

Galveston District Requirements

1. Tie the ecologically based standards to the objectives.
2. Must cover chemical, physical and biological functions.
3. Must be objective, verifiable, and clearly demonstrable.
The determination of success or failure should not be subjective; failure to meet performance standards may result in loss of financial assurances and implementation of adaptive management.
4. Use established and appropriate ecological methodologies.
Do not rely on functional assessments, that is not what they are designed for.
5. Reference site may be required commensurate with risk.



Monitoring Requirements

“A description of parameters to be monitored in order to determine if the compensatory mitigation project is on track to meet performance standards and if adaptive management is needed.”

Galveston District Requirements

1. Must have a schedule for monitoring and report submission.
2. Must identify the length and frequency of monitoring and the party responsible.
3. Must identify parameters to be monitored (e.g. performance standards.)
4. Scope will be commensurate with risk.
5. Do not rely on functional assessments.
6. Failure to monitor properly is most common non-compliance.



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Long-Term Management Plans

“A description of how the compensatory mitigation project will be managed after performance standards have been achieved to ensure the long-term sustainability of the resource, including long-term financing mechanisms and the party responsible for long-term management.”

Galveston District Requirements

1. Identify responsible party and secure agreement.
 - a. In cases where is a government agency, that entity must provide a plan for the long-term financing of the site.
2. Include a description of long-term management needs based on project specifics, annual cost estimates for these needs, and identify the funding mechanism that will be used to meet those needs.
 - a. Poorly developed long-term plans invite risk.

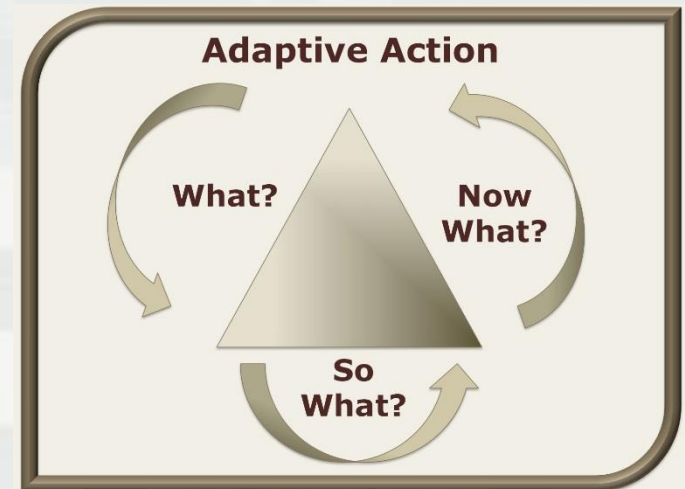


Adaptive Management Plans

“A management strategy to address unforeseen changes in site conditions or other components of the compensatory mitigation project, including the party or parties responsible for implementing adaptive management measures. The adaptive management plan will guide decisions for revising compensatory mitigation plans and implementing measures to address both foreseeable and unforeseen circumstances that adversely affect compensatory mitigation success.”

Galveston District Requirements

1. Anything* except, *“we will come talk to the Corps when it fails.”*
2. If failure occurs, site modifications, design changes, revisions to maintenance requirements, and revised monitoring requirements will occur.
3. Failure to develop an adaptive management plan invites risk.



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* Anything that functions as a structured, iterative process of robust decision making in the face of uncertainty, with an aim to reducing uncertainty over time via system monitoring.



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Financial Assurances

“A description of financial assurances that will be provided and how they are sufficient to ensure a high level of confidence that the compensatory mitigation project will be successful...”

Galveston District Requirement

1. Short-term
 - a. Sufficient funding to address failure to reach sustainability.
 - i. May include funds to secure new site.
 - ii. Casualty insurance, performance bond, *etc.*
2. Long-term Management
 - a. Cost of maintaining site in perpetuity.
 - i. Recommend Property Analysis Record.



Army Engineer Trivia

1. Founded June 1775
2. Mustered out after the Revolution.
3. Reformed in 1800 in West Point, NY with a military academy.
4. West Point was supervised by the Corps for 64 years
5. Lewis and Clark were Army engineers.
6. Army engineers were the first casualties of WWI, and the first on the beach at Normandy.
7. Army Engineers Supervised Panama Canal and Manhattan Projects.

Questions



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