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of Engineers®
New England District

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PROPOSED ADDENDUM TO NEW ENGLAND DISTRICT COMPENSATORY MITIGATION GUIDANCE: COMPENSATION FOR IMPACTED AQUATIC RESOURCE FUNCTIONS

Both the Corps of Engineers and Environmental Protection Agency have a national goal of no overall net loss of wetland functions (<http://www.usace.army.mil/cw/cecwo/reg/mou/mitigate.htm>). This goal is achieved through mitigation of aquatic resource impacts. Mitigation includes a sequence of avoidance, minimization, and finally compensation. This proposal does not alter that sequencing in any way; however, the terms “mitigation” and “compensation” are here used interchangeably to refer to compensatory mitigation.

The New England District (District) has examined its aquatic resource mitigation program over the past decade and is proposing to implement compensatory mitigation ratios as part of the ongoing process to improve the overall success of aquatic resource mitigation being required through the Regulatory Program to compensate for lost functions. The District already has two documents on compensatory mitigation in place: a Mitigation Plan Checklist and Mitigation Plan Checklist Guidance, both dated January 12, 2007 and posted on the District website (www.nae.usace.army.mil). The District is now proposing an addendum to the guidance by joining many other Corps districts and establishing standard guidelines for mitigation, including minimum ratios for compensatory mitigation. The proposed ratios are for all compensatory aquatic resource mitigation required by New England District. They are based on:

- Complexity of system impacted,
- Likelihood of mitigation success,
- Degree to which functions are replaced, and
- Temporal losses for certain functions (e.g., water quality renovation).

While these ratios will be the starting point for developing appropriate compensatory mitigation, there continues to be flexibility on a project-by-project basis in order to achieve the most appropriate mitigation for a specific project. This flexibility may lead, on rare occasions, to compensatory mitigation deemed adequate and appropriate which is at a lower ratio than included here. It may also lead to project-specific ratios which are higher than depicted here, so that unavoidable impacts to particularly high quality wetlands may be adequately mitigated and/or indirect and secondary impacts may be addressed. The Corps will also work

closely with state regulatory agencies to achieve as much consistency as possible, given differing state and federal requirements.

TABLE 1

Form of Mitigation	Restoration¹ (re-establishment)	Creation (establishment)	Enhancement (re-habilitation)	Preservation (protection/ management)
Emergent Wetlands (ac)	2:1	2.5:1	3:1 to 10:1 ²	20:1
Scrub-shrub Wetlands (ac)	2:1	2.5:1	3:1 to 10:1 ²	20:1
Forested Wetlands (ac)	3:1	4:1	5:1 to 10:1 ²	20:1
Upland (ac)	≥10:1 ³	N/A	highly variable	15:1
Open Water (ac)	1:1	1:1	highly variable ⁴	highly variable
Submerged Aquatic Vegetation (ac)	2:1	highly variable ⁵	highly variable ⁶	highly variable
Streams⁷ (lf)	2:1 ⁸	N/A	3:1 to 5:1 ⁹	10:1 to 20:1 ¹⁰
Mudflat (ac)	2:1	2:1	highly variable	highly variable

¹ Assumes no irreversible change has occurred to the hydrology. If there has been such a change, then the corresponding creation ratio should be used.

² Based on number and level of functions enhanced.

³ Only applies if existing condition is pavement or structure AND must complement aquatic functions.

⁴ Might include planting submerged and/or floating aquatics and/or removal of invasive species.

⁵ Rare cases, e.g., removal of uplands, old fill, etc.

⁶ E.g., remove pollutant source such as an outfall, remove moorings.

⁷ Note that this assumes both banks will be restored/enhanced/protected. If only one bank will be restored/enhanced/protected, use half the linear foot credit.

⁸ E.g., daylighting stream, elimination of concrete channel.

⁹ Enhancement of denuded banks and channelized streams = 3:1. Enhancement of denuded banks when there is a natural channel = 4:1. Enhancement when there already are vegetated banks but the stream has been channelized = 5:1.

¹⁰ 10:1 for preserving buffer beyond the 25-foot minimum up to 50 feet from channel; 20:1 for additional buffer 50 to 250 feet from channel.

Proposed Ratios (see Table 1)

It is extremely important to remember to mitigate for impacted functions, generally by replacing the same type of system impacted. This will vary with watershed and landscape considerations; the mitigation must be functionally and geographically appropriate. These ratios were developed with the presumption of in-kind compensation. In cases where out-of-kind compensation is performed, project-specific ratios should be developed. The requirement for higher ratios for impacts to higher quality systems or to those systems whose functions take longer to develop will not be reduced if a lower ratio form of mitigation is selected which will not replace the impacted functions. If it is deemed appropriate to compensate for lost forested wetlands with scrub-shrub or emergent wetlands, the higher ratio associated with forested wetlands must still be used. Mitigation ratios may also increase when dealing with impaired waters (Clean Water Act 303(d)). These ratios do not include the preservation of necessary buffers with a minimum of 200' width which all wetland restoration, creation, and enhancement must have (does not receive additional credit). Stream restoration and enhancement must include a preserved buffer of a minimum of 25' from each bank.

Compensatory Mitigation Guidelines

In order to more closely replace impacted functions, in-kind mitigation is generally preferred to out-of-kind mitigation for impacted resources that are not heavily degraded, provided this is appropriate in the landscape. It is important that mitigation be functionally and geographically appropriate in the overall watershed context, so in-kind mitigation may not be preferred in some situations. Out-of-kind mitigation may be preferred for heavily degraded systems or where it would be more beneficial to the overall watershed (at the U.S.G.S. Hydrologic Unit Code Level 8). Compensation should generally occur as close to the impacts as feasible, however, not to the detriment of the compensation site (e.g., on-site compensatory mitigation functions may be degraded by proximity to the project). Some functions (e.g., floodflow alteration) may need to be mitigated on-site, while others (e.g., wildlife habitat) should be mitigated off-site in most cases. If more than one compensation site is to be used, they do not need to be contiguous with each other. Again, overall watershed concerns may affect location of compensatory mitigation projects.

The types of mitigation in order of preference are restoration, creation, enhancement, and finally preservation. Restoration, provided there have been no irreversible changes to the hydrology, generally has the greatest likelihood of success. It is also usually appropriate in a landscape perspective. Successful wetland restoration and creation efforts yield a gain in wetland acreage and function. Enhancement, restoring natural functions to an existing wetland which is degraded, yields a gain in wetland function, but not wetland acreage. Since this form of mitigation increases levels of functions in existing functioning systems, a higher ratio is typically required than is required for mitigation involving restoration or creation.

Preservation is an important element of every compensatory mitigation project. The created, restored, and enhanced sites should be preserved in perpetuity, along with an appropriate buffer to ensure the long term viability of these compensatory mitigation sites. Preservation alone may be considered for compensatory mitigation in exceptional circumstances. It results in neither a

gain in wetland acreage, nor a gain in wetland functions. The goal of required compensatory mitigation is to prevent a net loss in wetland functions resulting from the project. Mitigation comprised solely of preservation will not achieve this goal. In order to meet the goal of no net loss of wetland functions, the Corps expects mitigation comprised solely of preservation to be acceptable in very rare circumstances. While preservation does not replace wetland functions, it reduces future impacts and degradation to existing wetland functions. For this reason, appropriate preservation may be a suitable means of compensatory mitigation in situations where meaningful wetland restoration, creation, and/or enhancement opportunities have been exhaustively explored and do not exist. The geographic area of consideration is expected to be broad. Due to such a lack of additional mitigation opportunities, an applicant may work with the Corps and other agencies to develop a suitable preservation package.

In its discussion of preservation, Regulatory Guidance Letter (RGL) 02-2 (<http://www.usace.army.mil/cw/cecwo/reg/rgls/RGL2-02.pdf>) states that (emphasis added):

“Districts **may give** compensatory mitigation credit when existing wetlands, or other aquatic resources are preserved in conjunction with establishment, restoration, and enhancement activities. However, Districts should only consider credit when the preserved resources will augment the functions of newly established, restored, or enhanced aquatic resources. Such augmentation may be reflected in the amount of credit attributed to the entire mitigation project. **In exceptional circumstances, the preservation of existing wetlands or other aquatic resources may be authorized as the sole basis for generating credits as mitigation projects.** Natural wetlands provide numerous ecological benefits that restored wetlands cannot provide immediately and may provide more practicable long-term ecological benefits. If preservation alone is proposed as mitigation, Districts will consider whether the wetlands or other aquatic resources: 1) perform important physical, chemical, or biological functions, the protection and maintenance of which is important to the region where those aquatic resources are located; and 2) are under demonstrable threat of loss or substantial degradation from human activities that might not otherwise be avoided. **The existence of a demonstrable threat will be based on clear evidence of destructive land use changes that are consistent with local and regional (i.e., watershed) land use trends, and that are not the consequence of actions under the permit applicant’s control.**”

In regard to preservation of upland, RGL 02-2 states:

“Under limited circumstances, Districts may give credit for inclusion of upland areas within a compensatory mitigation project to the degree that the protection and management of such areas is an enhancement of aquatic functions and increases the overall ecological functioning of the mitigation site, or of other aquatic resources within the watershed.”

Following this guidance, suitable preservation as compensatory mitigation should make sense in the watershed context, provide protection of important aquatic resources, be near other protected resources to provide appropriate ecological continuities, and be sustainable in the long-term. Due to wetlands laws in all of the New England states that reduce development pressure on wetlands, New England District encourages upland preservation that protects aquatic functions

over straight wetlands preservation. In most cases, on-site preservation will be considered under the avoidance part of mitigation, rather than as compensatory mitigation.

Preliminary review of the proposed compensatory mitigation guidelines indicates that: 1) no environmental impact statement will be required; 2) implementation will not affect any species listed as threatened or endangered under the Endangered Species Act of 1973 (PL 93-205); and 3) no cultural or historic resources considered eligible or potentially eligible for listing on the National Register of Historic Places will be affected.

We are seeking public comment on the District compensatory mitigation guidelines. Comments post-marked by May 31, 2007, will be considered. The comments will be addressed prior to final issuance. Anyone wishing to comment is encouraged to do so. Any questions or comments regarding the District compensatory mitigation guidelines should be directed to Ruth Ladd at ruth.m.ladd@usace.army.mil, (978) 318-8818, (800) 343-4789, or, if calling from within Massachusetts, (800) 362-4367.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider these guidelines. Requests for a public hearing shall specifically state the reasons for holding a public hearing. The Corps holds public hearings for the purpose of obtaining public comments when that is the best means for understanding a wide variety of concerns from a diverse segment of the public.

The initial determinations made herein will be reviewed in light of facts submitted in response to this notice. All comments will be considered a matter of public record.

FOR THE DISTRICT ENGINEER:



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