

Enhancement Crediting Alternatives for Wetland Mitigation Banks in the Santa Rosa Plain for permits authorized under Section 404 of the Clean Water Act (33 U.S.C. Section 1344)

Purpose

This proposal re-examines crediting of enhanced wetland area for proposed mitigation banks. This proposal reflects an ongoing effort and incorporates comments from the May 18, October 19, 2004 and February 15, 2005 Mitigation Bank Review Team (MBRT) meetings.

Rationale

Current crediting for enhancing wetland does not reflect the Corps' December 24, 2004 regulatory guidance policy (RGL 02-2) that wetland restoration and enhancement are favored over wetland creation. Furthermore, current crediting does not take into account the U.S. Fish and Wildlife Service's listing of California Tiger Salamander, *Ambystoma californiense*.

The long term outcome of attributing creation credits for enhancing wetlands is a net loss of wetland area. However, it is assumed that the wetland area loss will be offset by a gain in wetland functions and values. Therefore, explicit in the process of assigning percent creation credit for enhancing wetlands is the premise that low quality wetlands are being enhanced to high quality wetlands. Furthermore, the percent credit should be commensurate with the increase in quality. The following is an analysis of alternative methods for assessing the quality of enhanced wetlands and calculating creation credits.

Background

According to the December 24, 2004 Regulatory Guidance Letter, a net gain in wetland acres can be achieved either by creation (establishing wetlands that did not previously exist) or by restoration (re-establishing a former wetland). The crediting alternatives discussed below apply to enhancement or rehabilitation that does not result in a gain in wetland area but results in a gain in the functions and values of existing wetland area.

Functional Assessment

The objective of mitigation is to offset environmental losses resulting from authorized activities. RGL 02-2 directs Corps districts to use functional assessment to determine impacts and compensatory mitigation requirement. The Training Manual to Evaluate Habitat Quality of Vernal Pool Ecosystem Sites in Santa Rosa Plain (December 1998) or "HQE" is a functional assessment tool used to evaluate the quality of current and proposed enhanced wetland area. The original purpose of the HQE was to provide a "uniform assessment for ranking the relative quality of vernal pool ecosystem sites within the Santa Rosa Plain." The MBRT has adopted the HQE as method for assessing and quantifying the increase in functions and values of enhanced or rehabilitated wetlands.

The HQE has thirteen criteria grouped into three categories, Biological Resources, Land Use, and Acquisition Feasibility. Each criterion is ranked on a scale of 1 to 5 based on site characteristics and that rank is multiplied by a weight. The weight of each criterion is assigned a number between 1 and 10 based upon the importance of the criteria.

The following are the six Biological Resources criteria with their corresponding number from the HQE manual:

- (8) Listed Plant Species
- (9) Plant Species of Special Concern
- (10) Wildlife Species of Special Concern (including Listed Species; Wetlands only)
- (11) Habitat Quality of Vernal Pool Wetlands and Other Seasonal Wetlands
- (12) Other Habitat Types (Other Wetland) or Terrestrial Species of Concern
- (13) Habitat size, Shape, Degree of Connectivity or Isolation from other Off-Site Resources

At the present, mitigation bank credit evaluations use the first four biological resources criteria: (8) Listed Plant Species, (9) Plant Species of Special Concern, (10) Wildlife Species of Special Concern and (11) Habitat Quality of Vernal Pool Wetlands and Other Seasonal Wetlands. These four criteria are ranked, weighted and summed for the pre-existing condition and for the post-enhancement condition and then used in the following equation:

$$\text{Percent Credit} = \frac{\text{Post-Enhancement Condition} - \text{Pre-enhancement condition}}{\text{Post-enhancement Condition}} * 100$$

The MBRT has used and will continue to use the above equation to quantify percent change in habitat quality. The following proposal explores: 1) recommendations for applying the HQE; and 2) alternatives applications of the HQE that will increase the number and weight of the biological criteria.

Requirements on applying the HQE:

A review of recent mitigation banks and bank proposals has revealed a high degree of variability in application of the HQE. One source of this variability is the ranking of pre-existing and post conditions. The following requirements may aid reducing the variability in application of the HQE:

Requirement 1: The MBRT reviews and concurs with the pre-existing and post-condition ranks of the proposed mitigation bank.

Requirement 2: The mitigation bank proponent must identify the wetlands to be enhanced and the success criteria measuring their functions and quality enhancement.

Requirement 3: The release of credits associated with enhancement should be tied to compliance site inspections.

Alternative Applications of the HQE:

The Corps has given careful consideration whether to include HQE criteria (12) and (13) in the percent credit calculations as well as increases in the weight of the HQE criteria (10) and (13).

Alternative not Recommended: Including HQE criteria (12) Other Habitat Types (Other Wetland) or Terrestrial Species of Concern

After careful consideration, the Corps has decided not to include biological criteria (12) because it relates solely to upland habitat. The Corps recognizes that uplands are an important, integral component of wetland watersheds. However, calculating percent credit is only for enhanced wetlands. In addition, because the HQE is a weighted model, the overall weight of each criterion diminishes with each additional criterion. Therefore, incorporating upland criteria would diminish the overall weight of all the wetland criteria.

Alternative based on HQE criteria (10) Biological Resources of Wildlife Species of Special Concern and (13) Habitat size, Shape, Degree of Connectivity. The San Francisco District is proposing to include the following changes:

1. Increase weight of HQE criterion (10) Biological Resources of Wildlife Species of Special Concern from 6 to 10 to reflect the F&WS listing of CTS as threatened.

This increase is consistent with the weighting of listing plants. During the October 2003 MBRT meeting, members decided to incorporate this alternative. Therefore, this change in ranking has been incorporated in the subsequent proposed alternatives.

2. Add HQE criterion (13) Habitat size, Shape, Degree of Connectivity.

One of the anticipated positive effects of mitigation banking was the increase in consolidated, higher quality wetlands. It was recognized that many previous mitigation efforts were resulting in scattered “postage stamp” sized, low quality wetlands. Mitigation banks could therefore provide an opportunity to consolidate mitigation within a larger watershed perspective. Including these criteria should allow the Corps to increase percent crediting for larger and more connected mitigation banks.

The Corps is proposing assigning a pre-condition rank of zero for HQE criterion(13) Habitat size, Shape, Degree of Connectivity for all banks. The rationale for assigning a pre-existing condition of zero is that this corresponds to the development condition or no wetland mitigation bank condition. Assigning a default pre-condition value allows for a post condition comparison that is consistent among all mitigation banks.

The Corps is expanding the rank definitions of HQE criterion (13) (see pages 4-20 of the HQE manual) and proposes the following guidelines for small (< 40 acres), moderate (40-80 acres) and large (>80 acres) sized mitigation banks. We have set

this guideline after considering the range of sizes of current and proposed wetland creation/preservation mitigation banks.

Table 1. Current and proposed mitigation banks in the Santa Rosa Plain.

Mitigation Bank	Acres
Hazel	103
Carinalli Todd	67
Desmond	62
Morrison	61
River Road	45
Hale	78
Horn	37
Laguna Phase I	28
Laguna Phase II	33
D'Angelis	21
SACMA I	14.5
SACMA II	10
Slippery Rock	38
Wikiup	12

Based on the above size guidelines and the characteristics outlined in the HQE for this biological criterion we have assigned the following post condition rank for the banks. Slippery Rock has a rank of 3 - small bank (38 acres) and adjacent to a high quality preserve. Hale has a rank of 4 – moderately to large bank (78 acres), adjacent to high quality preserve site. Carinalli-Todd has a rank of 4 – moderate to large (67 acres) site, adding connectivity to preserved sites. Hazel has a rank of 3, large site (103) but is long, linear feature without providing adjacency or connectivity to other sites.

- 3. Increase weight of HQE criterion (13) Habitat size, Shape, Degree of Connectivity would increase from 7 to 10.*

The Corps proposes to increase the weight to 10 to correspond with the increase awareness of the importance of this criterion.

- 4. Add 0.5 bonus to the rank of criterion (13) for adjacency to a preserved site.*

The Corps realizes that there is an added value of mitigation banks that are adjacent or provide a connective corridor to an already preserved area. Therefore, the Corps is proposing an added bonus of 0.5 to the post-condition rank of HQE criterion (13) Habitat size, Shape, Degree of Connectivity if the proposed bank is adjacent to an existing, secured, conserved in perpetuity property. The rank for HQE criterion (13) cannot exceed 5.