

Purpose and Need for Guidance Document - *Alternative Method for Determining Wetland Credit Potential for Hydrologic Restorations on Cultivated Fields in Minnesota*

Many wetland restoration opportunities for replacement purposes involve lands that are cultivated. Historic wetlands have been drained (fully or partially) to allow for cultivation and agricultural production. WCA rules and policies for replacement have assigned higher credit potential, typically 100%, for restoring areas that are fully drained (non-wetland) compared to restoring areas that are partially drained wetland (typically 50%). This is based on the assumption that restoring fully drained wetlands provides more functional lift (increase in level of wetland functioning) than restoring partially drained wetlands. WCA has a different standard for areas that are cropped (annually seeded/planted, in a crop rotation or set aside program) at least ten of the past 20 years. Credit potential is determined by the percentage of years in the last 20 that an area proposed for restoration is cropped.

In practice, replacement credit potential determinations in cultivated fields have shortcomings. Restoration areas often do not fit nicely into the categories of fully drained and partially drained, cropped and uncropped. Any one area could include portions that would fall into all four of those categories. Additionally, the categories do not necessarily correlate with functional impairment (and hence functional lift in a restoration context) with any degree of precision. A restoration area that is partially drained, but highly manipulated (vegetation removed or replaced with invasives for example) may provide more functional lift when restored as compared to a fully drained wetland where vegetation is not significantly altered. Cropped areas that are partially drained may actually be more detrimental to certain wetland functions such as maintenance of downstream water quality compared to fully drained areas because water tables are closer to the surface allowing for more direct contamination from herbicides and fertilizers.

In addition, the standardized methods used for making wetland determinations in altered landscapes (particularly cropped areas) are coarse estimates at best. However, there is a big incentive to be precise about categorizing every square foot of a restored wetland as the difference between 50 and 100 percent credit potential can significantly influence credit yield on a project. This combination of coarse estimates and large consequences leads to complex crediting tables, extended analyses and debate over small areas and implied precision regarding functional lift when it is not justified.

While using cropping history as a surrogate for functional impairment of a wetland makes sense at a broad level, the concept is weak when considering the type of crop at a smaller, more precise scale. Hydrologic alterations and wetland functional impairment are often extensive when wetlands are used to produce row crops such as corn and soybeans. In contrast, hay crops and legumes in rotations with hay crops generally require less hydrologic alteration and tend to result in less wetland functional impairment. These differences are not taken into account when basing functional lift and hence credit potential solely on cropping as currently defined in WCA.

The procedures and criteria in this document were developed in part to address some of the shortcomings identified above as they apply to restorations in cultivated fields. The intent is to simplify credit potential determinations in certain situations and allow for a broader assessment of functional degradation associated with a restoration area. This is accomplished by utilizing multiple indicators of functional impairment, decreasing the importance of pre-project wetland determinations, establishing cutoffs and criteria for each restoration area as a whole and eliminating the incentive to parse apart restoration areas into precise categories for maximizing credit potential.

This method specifically considers the effects of frequent cultivation activities on the function and value of existing and former wetlands proposed for restoration. However, it does not comprehensively address all circumstances where cultivation is associated with a wetland proposed for restoration. BWSR recognizes that there may be certain situations where the cultivation frequency thresholds established for using this method are not met, yet those activities may have similar or even more detrimental effects on proposed restoration areas. In those instances, existing crediting methods can be used which may sometimes result in the same or a similar credit potential. Alternative methodologies for other cultivation frequencies and situations that are not eligible to use this particular method may be developed in the future.