COMMONWEALTH OF VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER DIVISION

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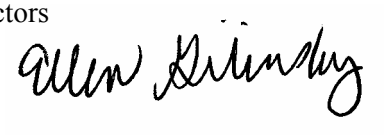
SUBJECT: Guidance Memo No. 08-2009
Use of Preservation for Compensatory Mitigation in VWP Permits

TO: Regional Directors

FROM: Ellen Gilinsky 

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COPIES: Deputy Regional Directors, Regional VWP Managers, Regional Water Permit Managers, James Golden, Rick Weeks, Central Office VWPP Staff

Summary:

The purpose of this guidance document is to assist VWP Permit Program staff in assessing whether preservation is an appropriate component of a compensatory mitigation plan and to provide a basis for consistent mitigation crediting of approved preservation proposals. This guidance is intended to supplement DEQ Guidance Memorandum 00-2003, "Wetland Compensation Ratios".

Electronic Copy:

An electronic copy of this guidance in PDF format is available for staff internally on DEQNET and for the general public on DEQ's website at: http://www.deq.virginia.gov

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Please contact David Davis, Office of Wetlands and Water Protection, (804) 698-4105 or dldavis@deq.virginia.gov if there are any questions about this guidance.

Disclaimer:

This document is provided as guidance and, as such, sets forth standard operating procedures for the agency. However, it does not mandate any particular method nor does it prohibit any particular method. If alternative proposals are made, such proposals should be reviewed and accepted or denied based on their technical adequacy and compliance with appropriate laws and regulations.

I. Purpose

The purpose of this guidance document is to assist staff in assessing under what circumstances preservation is an appropriate component of a compensatory mitigation plan for mitigating adverse impacts to aquatic resources and to provide a basis for consistent mitigation crediting of approved preservation proposals.

II. Authority

State Water Control Law (§62.1-44.15 *et seq.*) and the Virginia Water Protection (VWP) Permit Regulation (9 VAC 25-210 *et seq.*) require that VWP permits contain requirements for compensating permitted surface water impacts, including wetlands. Specifically, State Water Control Law (§62.1-44.15:21.B.) and VWP Permit Regulation (9 VAC 25-210-116) recognizes preservation of upland buffers adjacent to wetlands or other state waters and preservation of wetlands as an acceptable form of compensatory mitigation, when utilized in conjunction with [wetland] creation, restoration, or mitigation bank credits *and* when consistent with the no net loss for wetland acreage and function statutory and regulatory requirement. For streams, VWP Permit Regulation (9 VAC 25-210-116.C.3) recognizes preservation of riparian buffer as an option for stream compensation, when it is consistent with the regulatory requirement for no net loss of stream function (9 VAC 25-210-116.A).

III. Definitions

"Adjacent" means bordering, contiguous or neighboring; wetlands separated from other surface water by man-made dikes or barriers, natural river berms, sand dunes and the like are adjacent wetlands (9 VAC25-210-0).

"Avoidance" means not taking or modifying a proposed action or parts of an action so that there is no adverse impact to the aquatic environment (9 VAC25-210-0).

"Compensation" or "compensatory mitigation" means actions taken that provide some form of substitute aquatic resource for the impacted aquatic resource (9 VAC25-210-0).

"Creation" means the establishment of a wetland or other aquatic resource where one did not formerly exist (9 VAC25-210-0).

"Ecologically preferable" means capable of providing a higher likelihood of replacing existing wetland or stream functions and values, water quality and fish and wildlife resources than alternative proposals (9 VAC25-210-0).

“Enhancement" means activities conducted in existing wetlands or other portions of the aquatic environment that increase one or more aquatic functions or values (9 VAC25-210-0).

“Function” means the physical, chemical, and biological processes that occur in ecosystems (33 CFR 322.2).

"Impacts" means results caused by human-induced activities conducted in surface waters, as specified in §62.1-44.15:20 A of the Code of Virginia (9 VAC25-210-0).

"Impairment" means the damage, loss or degradation of the functions and values of state waters (9 VAC25-210-0).

"In-lieu fee fund" means a monetary fund operated by a nonprofit organization or governmental agency which receives financial contributions from persons impacting wetlands or streams pursuant to an authorized permitted activity and which expends the moneys received to provide consolidated compensatory mitigation for permitted wetland or stream impacts (9 VAC25-210-0).

"Minimization" means lessening impacts by reducing the degree or magnitude of the proposed action and its implementation (9 VAC25-210-0).

"Mitigation" means sequentially avoiding and minimizing impacts to the maximum extent practicable, and then compensating for remaining unavoidable impacts of a proposed action (9 VAC25-210-0).

"Mitigation bank" means a site providing off-site, consolidated compensatory mitigation that is developed and approved in accordance with all applicable federal and state laws or regulations for the establishment, use and operation of mitigation banks, and is operating under a signed banking agreement (9 VAC25-210-0).

"Out-of-kind mitigation" means compensatory mitigation that does not replace the same type of wetland or surface water as was impacted, but does replace lost wetland or surface water functions, values, or beneficial uses (9 VAC25-210-0).

"Practicable" means available and capable of being done after taking into consideration cost, existing technology and logistics in light of overall project purposes (9 VAC25-210-0).

"Preservation" means the protection of resources in perpetuity through the implementation of appropriate legal and physical mechanisms (9 VAC25-210-0).

"Restoration" means the reestablishment of a wetland or other aquatic resource in an area where it previously existed. Wetland restoration means the reestablishment of wetland hydrology and vegetation in an area where a wetland previously existed. Stream restoration means the process of converting an unstable, altered or degraded stream

corridor, including adjacent areas and floodplains, to its natural conditions (9 VAC25-210-0).

"Significant alteration or degradation of existing wetland acreage or function" means human-induced activities that cause either a diminution of the areal extent of the existing wetland or cause a change in wetland community type resulting in the loss or more than minimal degradation of its existing ecological functions (9 VAC25-210-0).

"State waters" means all water, on the surface and under the ground, wholly or partially within or bordering the Commonwealth or within its jurisdiction, including wetlands (9 VAC25-210-0).

"Surface water" means all state waters that are not ground water as defined in §62.1-255 of the Code of Virginia (9 VAC25-210-0).

"USM (Unified Stream Method)" is a method to rapidly assess what the stream compensation requirements would be for permitted stream impacts and the amount of "credits" obtainable through implementation of various stream compensation practices (Source: USM Manual).[1]

"Wetlands" means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (9 VAC25-210-0).

IV. Use of Preservation as Compensatory Mitigation

A. Under what circumstances is preservation appropriate to use as compensatory mitigation for permitted impacts?

DEQ staff shall evaluate the suitability of preservation as part of a compensatory mitigation plan on a case by case basis when determining whether other practicable and ecologically preferable compensations alternatives exist. Prior to determining how much mitigation credit should be given for any proposed preservation, the first consideration must be whether the proposed preservation is appropriate for compensatory mitigation.

In order to be an appropriate component of a compensatory mitigation plan for **wetland impacts**, the proposed preservation first must:

[1] The Unified Stream Methodology (USM) is a collaborative effort between the U.S. Army Corps of Engineers, Norfolk District (COE) and the Virginia Department of Environmental Quality (DEQ). The most recent version of the USM Manural may be viewed on the Department of Environmental Quality Webpage at: http://www.deq.virginia.gov/wetlands/mitigate.html

1) be utilized in conjunction with creation, restoration or mitigation bank credits as appropriate to prevent a net loss of wetland acreage; (See §62.1-44:15.21 and 9 VAC 25-210-116); and

2) be sufficient to achieve no net loss of wetland functions (See §62.1-44:15.21 and 9 VAC 25-210-116).

State Water Control Law and the VWP Permit Regulation indicate that preservation as mitigation for wetland impacts must be utilized in conjunction with creation, restoration or the purchase of mitigation bank credits. Any proposed compensatory mitigation package must be sufficient to ensure no net loss of wetland acreage; therefore wetlands must first be compensated at a minimum of a 1:1 ratio using creation, restoration or the purchase of mitigation bank credits before preservation can be considered. Preservation may then be used to provide additional mitigation to bring the total mitigation package to the overall ratio required to mitigate adverse impacts to aquatic resource functions and acreage (i.e., 2:1, 1.5:1, etc.).

In order to be an appropriate component of a compensatory mitigation plan for **stream impacts**, the proposed preservation must achieve no net loss of stream function (see 9 VAC 25-210-116.A). The USM should be used to determine the stream compensation requirement for the permitted stream impact and the amount of "credits" obtainable through implementation of various stream compensation practices. DEQ staff should employ the USM data, combined with best professional judgment, to assure that the compensation plan that includes stream preservation achieves no net loss of stream function. In addition to quantifying stream compensation requirements through the USM, the evaluation criteria in Table 1 below should be considered to determine if preservation is justified. In most cases, preservation of avoided streams is not acceptable unless it meets most of the criteria described in Table 1.

Stream preservation as a sole source of mitigation should only be used for exemplary systems under documentable threat of loss or degradation and when preservation of an exemplary system offsets impacted functions**.** Typically, if a system meets all the criteria described in Table 1, it may be considered exemplary**.** A system that is not considered exemplary may be a good candidate for enhancement or restoration.

In the evaluation of both wetland and stream compensatory mitigation plans that include preservation, DEQ staff should consider the functions and quality of the impact area(s) relative to those of the proposed preservation area(s). Preservation of similarly functioning or ecologically preferable wetlands or streams and/or buffers should be encouraged. When considering a compensatory mitigation plan that includes a preservation component, impact areas and proposed preservation areas should be compared based on the criteria presented in Table 1.

Table 1. Criteria describing best candidates for preservation. Typically, exemplary systems meet all the criteria.

Preservation Proposed	Evaluation Criteria
Wetlands or streams	• documented presence of Threatened or Endangered species, Species of Greatest Conservation Need (classified as Tier 1 or 2, or assemblages of Tier 3 and/or 4 species See http://bewildvirginia.org/species/) or areas listed as a Natural Heritage Resource • invasive species absent • system at or near maturity • favorable water quality within the system • the system has an important, positive effect on downstream water quality • documented threat of loss or degradation, such as from development, agriculture, silviculture • preservation requirements are not already in place (such as Resource Protection Areas (RPAs) or other local ordinances) • the preservation plan protects the aquatic system, to the extent possible, against present and potential future adverse effects, such as fill, fragmentation, erosion or sedimentation, litter, stormwater inputs, hydrologic changes, lack of buffer • resources on the subject property are buffered and geographically apart from project development; self-sustaining; buffered from development; and preferably, connected to wetlands off-site • preservation will protect the system from potential future degradation from upstream activities to the extent possible • the preserved site can be legally protected through the recordation of DEQ-approved restrictive instrument in the property's chain of title or a conservation easement held by a state, local, or non-governmental conservation agency, including land trust, and are shown on the associated surveyed property plat • the preserved areas are not within subdivided lots
Upland Buffers	• because of high soil erodibility or steep slopes, the resultant threat to a protected aquatic resource is high if the area were cleared

	• protects the aquatic resource from physical encroachment, erosion • protects water quality appropriately considering the upslope land use • provides wildlife habitat (300 foot is ideal for a wildlife corridor) and connectivity to other protected corridors • threatened by development or other impacts in the present or foreseeable future • preservation requirements are not already in place (such as RPAs or other local ordinances) • width of proposed buffer adequately protects water quality, based on the up-slope land uses, degree of slope, and soil erodibility *For example, where wetlands are associated with flat terrain, large lots, and deed restrictions to limit impervious area, a narrow forested buffer may be acceptable. A wetland associated with a steeper slope, intense development, highly erodible soil, cattle, and/or no restrictions on impervious surface would require a forested buffer of 100 to 200 feet or to the top of the slope.* The value of buffers to water quality decreases as the distance from the resource increases. The applicant is required to demonstrate that any buffer preservation *outside* of 100 feet provides additional protection or enhancements to water quality, fish & wildlife resources or habitat before DEQ gives mitigation credit for these areas or assigns ratios.
Preservation of areas already protected by local ordinances or other laws, regulations, easements, or other types of protective instruments.	Preservation of such areas may be appropriate under certain circumstances if the applicant can successfully demonstrate that the preservation would add new or additional protection or enhancement to water quality, fish and wildlife resources or habitat. Such additional protection or enhancement may include prohibition of the following: silviculture, new utility easements, storm water management facilities, or other activities allowed under current protections. Awarding credit for the preservation of such areas is solely at the discretion of DEQ.
Out-of-kind preservation	DEQ discourages the use of out-of-kind preservation unless the applicant can successfully demonstrate ecological preferability. For example, preservation of high quality palustrine forested wetlands for impacts to low quality palustrine emergent wetlands may be justified due to ecological preferability.

B) When is preservation not appropriate for compensatory mitigation?

Preservation is not appropriate for compensatory mitigation credit when:

1) for wetlands, it is not proposed in conjunction with creation, restoration or mitigation bank credits

2) for wetlands, there will be a net loss of wetland acreage or functions ;

3) for streams, it does not provide no net loss of stream functions;

4) the proposed preservation areas have the potential to significantly degrade over time;

5) the proposed preservation areas were avoided during project design, and thus were counted toward meeting the DEQ mitigation requirement to first avoid and minimize impacts to the maximum extent practicable[2]; or

6) the applicant fails to demonstrate that the proposal meets a majority of the criteria specified in Table 1, above.

While certain types of preservation may not receive compensatory mitigation credit, the permit writer should attempt to work with the applicant to preserve resources through a restrictive instrument to avoid or minimize indirect impacts.

C) How should preservation be credited?

Once DEQ has determined that the proposed preservation is an acceptable form of compensatory mitigation for project impacts, the permit writer must determine the amount of mitigation credit assigned to the proposed preservation. If preservation is proposed to mitigate for any unavoidable adverse stream impacts, crediting should follow the current stream mitigation crediting protocol that has been adopted by DEQ, such as the Unified Stream Methodology. The USM differentiates high quality and low quality streams based on the Reach Condition Index (RCI) determined using the methodology. The USM allows the following preservation ratios for riparian areas:

High Quality Streams: approximately 7:1 for inner 100 feet of buffer
Low Quality Streams: approximately 14:1 for inner 100 feet of buffer.

Wetland mitigation credit should be consistent with the recommendations presented in Table 2.

[2] At its discretion DEQ may approve an avoided preservation area for compensation if the area is buffered, geographically apart from the project development; self-sustaining; and preferably, connected to wetlands off-site.

Table 2. Determining wetland mitigation ratios where preservation is part of the overall compensatory mitigation package.[3]

Preserved Area	Credit Ratio
Wetlands	Typically 10:1 to 15:1, depending on the value of the wetland area being preserved. In special circumstances, credit as high as 5:1 may be given, for example, when documented threatened and endangered species or heritage resources exist.
Upland buffers	15:1 to 20:1, with the greater credit being given for areas where there is an additional benefit, such as the documented presence of Threatened or Endangered species, or Species of Greatest Conservation Need.[4]
Areas under existing legal protection	These areas should only be considered appropriate if the preservation would add additional, new protection or enhancement to water quality, fish & wildlife resources or habitat. Since the areas are already protected, credit should be less than that allowed for preservation of a similar unprotected resource. Credit given will be dependent upon the additional level of protection or enhancement provided, but generally will be at ratios no less than 15:1. For example, 15 acres or more of wetland preservation would be required for every acre of wetland impacted.
Off-site preservation	Off-site preservation should be evaluated like on-site preservation. An off-site area may be ecologically preferable to an on-site area.
Out-of-kind preservation	DEQ generally discourages out-of-kind preservation. (i.e., palustrine emergent for palustrine forest or palustrine scrub-shrub wetlands for palustrine forest) unless the applicant can successfully demonstrate ecological preferability. In the event out-of-kind preservation is approved, the ratio will be determined on a case-by-case basis.

[3] For all sources of compensatory mitigation, the amount of required compensation must be sufficient to replace lost aquatic resource functions. Other factors to be considered when determining the appropriate amount of compensatory mitigation to offset permitted impacts are: The method of compensatory mitigation (i.e., restoration, establishment, enhancement, preservation), the likelihood of success, differences between the functions lost at the impact site and the functions expected to be produced by the compensatory mitigation project, temporal losses of aquatic resource functions, the difficulty of restoring or establishing the desired aquatic resource type and functions, and/or the distance between the affected aquatic resource and the compensation site.

[4] Be Wild, Virginia. "Species of Greatest Conservation Need". http://bewildvirginia.org/species/.

D) Preservation Instruments

In order for an area to be acceptable as compensation, it must be preserved in perpetuity via recordation of a restrictive instrument or conservation easement in the property's chain of title. The restrictive instrument must contain standard language from the DEQ sample restrictive instrument document. Alternative language may be acceptable but will require review by DEQ Central Office VWP and enforcement staff. Recording the preserved areas on the associated surveyed plat is also recommended.

For properties located on State or Federal lands where encumbering the land is prohibited, alternative methods for meeting the "preservation in perpetuity" requirements can be considered, such as having the entity incorporate the land and associated prohibitions into their Integrated Natural Resources Management Plan (INRMP) or similar instrument