



## Planning and Land Services DEPARTMENT-WIDE POLICY

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**Policy Number:** 2017-01  
**Title:** Use of Alpha-Alpha-Dipyridyl in Wetland Assessments  
**Date:** March 1, 2017  
**Director Approval:** Dennis Hanberg

A handwritten signature in black ink, appearing to be "Dennis Hanberg", written over the printed name.

**Related Documents:**

- USDA Natural Resources Conservation Service Soils Hydric Soils Technical Note 8  
[https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/use/hydric/?cid=nrcs142p2\\_053983](https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/use/hydric/?cid=nrcs142p2_053983)
  - Regional Supplement to the Corps of Engineers, Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0). Pages 88-89.  
[http://www.ecy.wa.gov/programs/sea/wetlands/pdf/WestMt\\_May2010.pdf](http://www.ecy.wa.gov/programs/sea/wetlands/pdf/WestMt_May2010.pdf)
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**Purpose:**

Planning and Land Services is adopting the following policy for the use of Alpha-alpha-Dipyridyl (AAD) in wetland assessments.

Technical guidance indicates that the intended use of the Alpha-alpha-Dipyridyl test is to confirm hydrology indicators. Therefore, PALS has determined that a negative Alpha-alpha-Dipyridyl test may not be used to conclude that wetland hydrology is absent, except in limited circumstances, described below.

**Discussion:**

A positive reaction to the application of Alpha-alpha-Dipyridyl (AAD) solution is used to confirm the presence of ferrous iron in soils. It is used to indicate reducing conditions and therefore the possible presence of saturated soils during the growing season.

A negative reaction to the application of AAD solution is not evidence that reducing conditions never occur. There are numerous reasons for this, some are as follows:

- Some soils may not have adequate levels of iron to react with the AAD solution.
- The soils in the test area are aerobic at the time of sampling and reducing conditions are not occurring. However, reducing conditions may occur at other times.
- Reducing conditions may not occur in the test area at the time of sampling, but may occur in other areas within the soil layer or unit in question.
- The soil conditions (e.g. low temperature, low organic material) may be unfavorable for micro-organism activity at the time of sampling.
- The AAD solution can be unstable if not stored properly and may not produce positive results.
- Very dark or organic soils may mask a positive result.

For these reasons the AAD test will only be accepted to confirm the presence of reducing conditions and therefore an indicator of long term saturation or inundation of soils.

Refer to Hydric soils Technical Note 8 by the Natural Resources Conservation Service and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0) for more information on the use of the AAD test.

**Exception:**

In limited circumstances, the Manager of the Resource Management Division of PALS, can approve the use of the AAD test to show the absence of hydrology as long as the protocols found in Technical Note 8, and the Corps Wetland Delineation Manual are followed. Additional factors for determining absence shall also be used; the AAD test shall not be the sole determinate.