

**Norfolk District****US Army****Corps of Engineers**

March 3, 2010

Wetland Hydrology Determinations for the 2010 Monitoring Season

The Norfolk District believes it beneficial to the public to provide seasonal notices regarding preceding precipitation conditions for shallow ground water well monitoring associated with wetland determinations. The purpose of this notice is to inform the public of relevant parts of our process, and our interpretation and findings regarding current precipitation conditions for the 2010 monitoring season.

From 2006-2009, due to drier-than-typical precipitation leading into the growing season, we concluded that groundwater well data alone were unreliable for wetland determinations. For this monitoring season, precipitation for most of Virginia has been within or above the normal ranges. Given the current and antecedent conditions at this time, the public has the option to submit well data to the Corps for consideration in its wetland determinations, provided it complies with the guidance and standards noted herein.

Wetlands are defined as "those areas that are inundated or saturated by surface or ground water 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" (33 CFR 328.3(b)). Wetland determinations typically entail observation of field indicators of wetland vegetation, hydric (wetland) soils, and wetland hydrology.

Occasionally, property owners or their agents may elect to install and monitor shallow groundwater wells for the late winter and spring seasons to gather data about the levels and duration of ground water (i.e. soil saturation) for particular areas to attempt to clarify the limits of wetlands. There is no requirement that well data be submitted to obtain wetland delineations. However, the Corps does consider groundwater well data in its determinations if such data are collected in accordance with proper well installation and monitoring standards and during periods consistent with "normal circumstances" prior to and during the monitoring period.

When reviewing shallow ground water well data in order to determine whether normal circumstances for wetland hydrology are present, we consider the amount and distribution of precipitation prior to the start of the growing season (after leaf drop in the fall) and during the early growing season. The U.S. Department of Agriculture-Natural Resource Conservation Service National Water and Climate Center calculates normal precipitation ranges for each month (defined as between the 30th and 70th percentiles of monthly precipitation totals) for National Weather Service stations throughout the United States. The information is published in WETS tables available on the Internet at <http://www.wcc.nrcs.usda.gov/climate/wetlands.html>.

Short-term water-table monitoring data (i.e., <10 years) must be evaluated with consideration of the amount and distribution of precipitation that fell prior to the beginning of the growing season. Although we analyze all months after leaf fall, this timeframe is generally at least 3 months prior to the beginning of the growing season each year. Precipitation for the 3 months preceding this notice for most of Virginia has been within or above the 30th to 70th percentiles. As with Public Notices on this topic issued for previous years, this assessment only analyzes whether precipitation amounts for this season fall within a "typical" range for the start of the growing season. As the growing season progresses, rainfall conditions will be similarly analyzed until full leaf-out. Dry wells in a drier-than-typical rainfall period and wet wells in a wetter-than-typical rainfall period are of limited value in making definitive determinations regarding wetland hydrology.

Regardless of precipitation conditions, we will continue to make wetland determinations based on the field indicators of vegetation, soils, and wetland hydrology described in the [Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region \(October 2008\)](#) (Regional Supplement) for the Virginia Coastal Plain and the [Corps of Engineers Wetlands Delineation Manual \(1987\)](#) (1987 Manual) and appropriate regional supplements for the remainder of the state.

The publication entitled [Technical Standard/or Water-Table Monitoring of Potential Wetland Sites \(USACE 2005\)](#) notes: "For many wetlands, water tables in a given year may be affected by precipitation that occurred in previous years, especially if monitoring occurs after an extended period of drought or precipitation excess.

After a series of dry years, for example, it may take several years of normal or above-normal rainfall to recharge groundwater and return water tables to normal levels. Therefore, in evaluating wetland hydrology based on short-term monitoring, it is necessary to consider the normality of rainfall over a period of years prior to the groundwater study. ...". The previous years (2006-2009) were determined by Norfolk District to have drier-than-typical early growing seasons based on similar analyses. The precipitation that occurred in the late fall and winter of this season most likely have recharged groundwater levels which decreased during the drier-than-typical conditions of 2006-2009.

Any monitoring wells used to facilitate wetland hydrology determinations should be installed in accordance with the guidelines in Technical Standard for Water-Table Monitoring of Potential Wetland Sites, ERDC-TN-WRAP-05-2, U.S. Army Research and Development Center, Vicksburg, MS (available from <http://el.erdc.usace.army.mil/elpubs/pdf/tnwrap05-2.pdf>).

Before we will consider well data for a specified site, we require submittal and approval of a well monitoring plan, which includes a review of the location and installation of the monitoring wells. In addition, during the monitoring season (typically late February through April), the Corps must be allowed reasonable periodic checks without notice to provide proper quality assurance.

This notice does not relieve those that have constructed wetland mitigation projects from monitoring hydrologic conditions. Monitoring should be conducted in accordance with the associated permit, approved plan, or mitigation banking instrument. Credits will be released from mitigation banks for those areas meeting all applicable performance standards, including hydrologic criteria.

Beginning and ending dates of the growing season are needed in the event water-table monitoring data must be analyzed for wetland hydrology determinations. The Regional Supplement states that the growing season has begun and is ongoing in a given year when two or more different non-evergreen vascular plant species growing in the wetland or surrounding areas exhibit certain indicators of biological activity or when soil temperature measured at the 12-in. (30-cm) depth is 41 °F (5 °C) or higher. Observations of soil temperatures and plant biological activity consistent with the Regional Supplement at several sites in the Hampton Roads area indicate that the growing season for this region of the state began this year during the last week of February.

J. Robert Hume, III
Chief, Regulatory Office