

PUBLIC COMMENTS AND RESPONSES

The following comments on the draft Interim Eastern Mountains and Piedmont regional supplement to the 1987 Corps of Engineers wetland delineation manual were received by the Corps in response to a public notice issued by the affected districts in July of 2009. Only two letters were received and these contained nearly identical sets of comments. Responses to each comment are given below in blue italic font and were developed by the U.S. Army Engineer Research and Development Center with help from the Eastern Mountains and Piedmont regional working group. The Corps of Engineers thanks all who provided comments on the supplement.

The following comments were submitted by the National Association of Home Builders (Susan Asmus, letter dated 15 September 2009) and the Maryland-National Capital Building Industry Association (Dusty Rood, letter dated 17 September 2009):

NEW INDICATORS:

The number of hydrophytic vegetation indicators has increased from 1 in the *1987 Corps of Engineers Wetland Delineation Manual (1987 Manual)* to 4 in the *Piedmont Supplement*.

Response: Actually, there are six hydrophytic vegetation indicators in the 1987 Manual; however, the first is most commonly used.

Indicators of wetland hydrology have increased from 10 in the *1987 Manual* to 29 in the *Piedmont Supplement*. Hydric soils indicators have increased from 10 in the *1987 Manual* to 23 in the *Piedmont Supplement* (27 if you include the hydric soil indicators for use in problem areas). On an empirical basis, each of these new indicators provides an opportunity to qualify an area as a wetland in an instance where, prior to the creation of the new indicator, the wetland would not have qualified. Although the definition of a wetland has remained constant in the *Piedmont Supplement*, the methodology for determining the area of a wetland appears to be designed to include more areas as wetlands.

Response: It is true that the raw number of indicators has increased, but this does not mean that more wetland area will necessarily be identified. In many cases, the new indicators are more narrowly defined than the old ones, and should result in fewer false-positive wetland determinations. Some indicators that were problematic in the past (e.g., local soil survey data) have been dropped in favor of more technically accurate indicators. Furthermore, field testing of this regional supplement at 31 sites across the region, and more expansive testing of all regional supplements at more than 250 sites across the country, have shown that the new supplements produced the same wetland boundary as the old 1987 Manual at approximately 85% of test sites. At 5% of test sites, the new

supplements actually identified less wetland area. At 10% of test sites, the supplements identified additional wetland area not recognized under the 1987 Manual unless investigators used their best professional judgment. The latter result was expected because the new supplements were intended to capture certain hard-to-identify wetland types that were sometimes missed under the 1987 Manual.

CONSISTENCY:

Many NAHB members have projects that are located in areas that straddle both the Coastal Plain and the Piedmont. There are some significant differences between the *Piedmont Supplement* and the recently implemented, *Atlantic and Gulf Coastal Plain Interim Regional Supplement to the 1987 Wetland Delineation Manual (Coastal Plain Supplement)* that will make it difficult to comply with both processes. Furthermore, because these differences do not appear to be related to the differences in the regions, the inconsistencies are suspect. They are as follows:

- 1) The *Coastal Plain Supplement* describes 5 vegetative strata for use in quantifying hydrophytic vegetation while the *Piedmont Supplement* defines only 4 (combining the sapling and shrub layers).

Response: Vegetation sampling has a long history in the scientific literature. As a result, there is a great variety of approaches to sampling. Vegetation-sampling guidance given in regional supplements is based largely on the preferences of regional working-group members and sampling traditions in the region. Studies have shown that the details of the sampling method do not have any appreciable effect on the outcome of a hydrophytic vegetation determination. As pointed out in the comment, consistency in sampling approach can sometimes be important for users or projects that overlap two or more regions. That is why the draft Interim Eastern Mountains and Piedmont supplement provides data forms for two different approaches: (1) a 4-stratum design like that used in most of the adjoining regions and (2) a 5-stratum design like that used in the adjoining Atlantic and Gulf Coastal Plain region. If consistency is an issue for a particular user or project, the user may choose to sample the same number of vegetation strata in two adjoining regions.

- 2) In the *Coastal Plain Supplement*, woody vines are excluded from the herbaceous layer, yet in the *Piedmont Supplement*, woody vines are included in the herbaceous layer.

Response: Again, this difference is a matter of sampling preference and rarely affects the outcome of a hydrophytic vegetation determination. The draft Interim Eastern Mountains and Piedmont supplement allows users who work across region boundaries to adopt the same approach as in the adjacent region, if desired.

- 3) In the *Coastal Plain Supplement* the vegetation sampling plot for a routine determination is a 30' diameter circle. In the *Piedmont Supplement*, three different

plot sizes are offered: a. a graduated series of plots, with a different plot size for each stratum (tree stratum at 30'; sapling/shrub stratum at 15'; herb stratum at 5'; and woody vines at 30')

- b. 1-m plots for the herbaceous layer, nested within a 30' diameter circle for remaining strata.
- c. sample all strata with a 30' diameter plot

Response: Again, the draft Interim Eastern Mountains and Piedmont supplement allows the user the flexibility, if desired, to use the same plot size (30-ft radius for all strata) as recommended in the adjoining Atlantic and Gulf Coastal Plain Region.

- 4) The *Coastal Plain Supplement* has only two indicators of hydrophytic vegetation (the dominance test and the prevalence test), but the *Piedmont Supplement* has 4 (the rapid fire [sic] test, the dominance test, the prevalence test, and the morphological adaptations test).
- 5) There are four hydrologic indicators that appear in one supplement but not the other:
 - a. B-14, true aquatic plants (in *Piedmont Supplement* / not in *Coastal Plain Supplement*);
 - b. B-15, moss trim lines (in *Piedmont Supplement* / not in *Coastal Plain Supplement*);
 - c. D-1, stunted or stressed plants (in *Coastal Plain Supplement* / not in *Piedmont Supplement*);
 - d. D-4, microtopographic relief (in *Piedmont Supplement* / not in *Coastal Plain Supplement*).

Because these indicators can be observed in both regions, it is uncertain why they are listed in one supplement but not the other.

Consistency between the supplements (to the extent practicable) should be strongly pursued to diminish the capacity for errors and confusion, especially in areas that will be subject to more than one supplement. The methodology in these supplements will be followed by individuals with different educational and professional backgrounds. Providing simplicity and consistency within and between the supplements will benefit both delineators and reviewers of delineations, alike.

Response: We agree with the idea that regional supplements should be as consistent in content and organization as possible across region boundaries. However, the purpose of "regionalization" of wetland-delineation methods is to identify wetland indicators and methods that are most accurate in a particular region, given its unique combination of climate, landforms, geology, soils, hydrology, vegetation, human land use, etc. Regional supplements differ because particular indicators or methods may be more reliable in one region than another. To gloss over this regional variability defeats the purpose of regionalization. The supplement is a technical manual and cannot provide a full explanation for the differences in indicators and methods between regions.

HYDROPHYTIC VEGETATION:

In the *1987 Manual*, the test for hydrophytic vegetation was the dominance test. If nonhydrophytic dominant plant species within a sample plot outnumbered hydrophytic dominant plant species, the sample plot was considered to be an upland plot, even if hydric soils and wetland hydrology were present.

With the *Piedmont Supplement*, the scenario just presented inappropriately may still be deemed a wetland. If the sample plot is located within an area that exhibits hydric soils and wetland hydrology and it “fails” the dominance test, then the prevalence index must be calculated. The prevalence index includes evaluation of the non-dominant plants within the plot. If the plant community “fails” the prevalence index, the delineator must evaluate the FACU plant species present for morphological adaptations that indicate hydrophytic function, and if the adaptation is present on a sufficient percentage of individuals of that species, its facultative status must be changed to FAC and the dominance and prevalence tests recalculated. If the vegetative community still fails to qualify as hydrophytic, the area is to be evaluated for “problematic hydrophytic vegetation.”

This change in methodology is premised on the “try, try again” philosophy that seems to assert that if you ask enough questions, one of the answers will eventually be “yes.” Such an approach is wrong, as it ignores basic scientific principles and blatantly pushes regulators to include more areas as wetlands.

Response: This comment reflects a misunderstanding of current practice under the 1987 Manual as well as under the draft supplement. First, under the 1987 Manual, a plant community is deemed to be hydrophytic if any of the six indicators given in the Manual are satisfied. The six indicators are: (1) more than 50% of dominant species are OBL, FACW, or FAC, excluding FAC- (now known as the “dominance test”), (2) visual observation of plant species growing in areas of prolonged inundation or soil saturation, (3) morphological adaptations, (4) technical literature, (5) physiological adaptations, and (6) reproductive adaptations. Therefore, it is wrong to claim that there is only one indicator of hydrophytic vegetation in the 1987 Manual. The draft regional supplement retains two of these indicators (the dominance test and a more narrowly defined version of morphological adaptations) and adds two more indicators (a rapid version of the dominance test for obvious wetland situations and the prevalence index). As in the 1987 Manual, vegetation is hydrophytic if any of these four indicators are met. In addition, the supplement provides a step-by-step procedure for using these indicators that is intended to reduce the field investigator’s workload by reducing the number of indicators that must be considered at each sampling point. This is not a “try, try again philosophy” but a deliberate effort to reduce sampling time, effort, and cost. Thus, the supplement requires that only two indicators (the rapid test and/or the dominance test) be evaluated at every sampling point. The remaining indicators (prevalence index and morphological adaptations) are only required at points where the first two

indicators have failed but there is other evidence (i.e., presence of hydric-soil and wetland-hydrology indicators) that the site may be a wetland. However, if these points also fail the prevalence index and morphological adaptations, then the site is non-wetland.

FACULTATIVE STATUS:

Because plants with a status of FAC are equally likely to be found in wetlands as in uplands, and since FAC+ and FAC plants are already counted toward hydrophytic vegetation in spite of this likelihood, the scale is already weighted in favor of a hydrophytic vegetation determination. The decision to exclude qualifiers on facultative statuses, in this document and the *Coastal Plain Supplement*, will move all plants with a status of FAC- from counting towards an upland vegetation determination to counting toward a hydrophytic vegetation determination. With such common plants as *Lonicera japonica* (Japanese honeysuckle) and *Pinus taeda* (loblolly pine) included in this shift, the change cannot help but incorporate more areas as wetlands that did not previously qualify.

Equally problematic is that there appears to be no scientific basis for this decision. Indeed, when contemplating changing the wetlands indicator status for certain species while updating the National Plant List, which has been ongoing in different forms since 1997, the U.S. Fish and Wildlife Service (FWS) indicated in a meeting in 2004 with NAHB and others that they were changing the indicator status of Loblolly Pine and American Holly “because some experts told us to.” This response, which indicates of the level of technical review that was considered, fails to acknowledge that several of the “experts” that were consulted opposed the changes. Unable to overcome this shortfall, FWS has yet to finalize any such changes. Despite the fact that the agency designated to maintain the National Plant List has been unable to justify these status changes, the Corps inappropriately is now making a backdoor attempt to reach the same end point. Such action is a bad idea and bad policy. Not only does it undermine the rulemaking process, changing the status of these plants will significantly expand the geographic reach of the Clean Water Act. Planners for Maryland’s Dorchester County Planning and Zoning Office, for example, estimate that there will be at least a 30% increase in land designated as wetlands due to the addition of loblolly pine, American beech and American holly to the National Plant List because these plants, especially loblolly pine, are ubiquitous throughout the Eastern U.S. The trickledown effect is that these new changes in the supplement will make more people have to obtain permits than previously required. If the Corps wants to revise the status of any plant, it must work collaboratively with the FWS to do so via revisions to the National Plant List.

Response: There are many aspects to this comment and many ways that the project to develop regional supplements and the simultaneous effort to update the wetland plant list are addressing them. In summary, (1) the use of ‘+’ and ‘-’ modifiers on wetland indicator status is bad science and has been rejected by almost every regional working group, (2) dropping these modifiers does not necessarily result in larger areas being identified as wetlands, and (3) changes are occurring in the National Wetland Plant List that will make the assignment of

wetland indicator statuses more transparent and scientifically accurate. The use of '+' and '-' modifiers is bad science because there are insufficient data for even the best-known plant species to accurately assign them to one of the eleven indicator-status categories (OBL, FACW+, FACW, FACW-, FAC+, FAC, FAC-, FACU+, FACU, FACU-, and UPL) currently used on the plant list. In reality, these modifiers were often used by plant list panels to break ties in voting; they were not based on actual data concerning the wetland affinities of plant species. By dropping the modifiers, working groups are simply acknowledging that the assignment of a species to one of five categories (OBL, FACW, FAC, FACU, and UPL) can be done far more accurately than to one of eleven categories. Field testing of the draft Interim Eastern Mountains and Piedmont supplement (and other regional supplements nationwide) has demonstrated that the change in interpretation of plants currently rated FAC- has no significant effect on the amount of wetland identified. On 31 test sites in the Eastern Mountains and Piedmont Region, none showed any expansion of wetland boundaries due to dropping of '+' and '-' modifiers. Finally, responsibility for the wetland plant list has been formally transferred from the U.S. Fish and Wildlife Service to the Corps of Engineers. All scientific nomenclature used on the 1988 lists has been updated, the indicator statuses of all species are being reviewed by interagency plant-list panels at the regional and national levels (with special emphasis on species formerly designated as FAC-), and new procedures have been established to address tied votes, including the use of independent review teams of university-based botanists in each region. In addition, a new public web site will allow anyone to provide input into the panels' decisions by public voting and by submitting any additional technical information in support of a particular indicator-status assignment. Thus, the assignment of indicator statuses will be more scientifically based, transparent, and open to everyone.

SOIL INDICATORS:

Overall, the new supplements are heavily weighted with soil science and require significantly more scrutiny, data gathering, and multiple tiers of evaluation for processing that data. In several instances a professional soil scientist may be needed to make an appropriate determination, which may prove to be a significant limitation because licensed soils scientists are not as plentiful as other professionals. This added level of complexity may be technically sound, but may not be practical for application by the private sector. New science and methods should be balanced with practicality of implementation to avoid onerous regulation that unnecessarily adds to the already escalating cost of development.

Response: Working groups across the country have chosen to adopt the National Technical Committee for Hydric Soils (NTCHS) field indicators of hydric soils in place of those published in the 1987 Manual. This is simply a recognition that soil science has advanced in the last 20 years and the indicators in the 1987 Manual are outdated. The NTCHS indicators are technically more accurate and avoid many of the false-positive and false-negative hydric-soil determinations known to occur with the indicators in the 1987 Manual. With proper training and

experience, any qualified wetland delineator can apply the NTCHS indicators reliably; the services of a soil scientist are not required except under unusual circumstances. The use of the NTCHS indicators does require a more thorough description of the soil profile than was required under the 1987 Manual. However, the added effort results in a more accurate hydric soil determination and allows other people (regulators, other wetland delineators, soil scientists, etc.) to check the field investigator's conclusions.

PROBLEMATIC HYDROPHYTIC VEGETATION:

The *1987 Manual* defines a wetland 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 soils conditions.” Under the section on problematic hydrophytic vegetation, the *Piedmont* lists “certain FACU species that commonly dominate wetlands.” This list of species includes plants commonly found on many delineation sites such as *Parthenocissus quinquefolia* (Virginia Creeper), *Rosa multiflora* (multiflora rose), *Lonicera tatarica* (tatarian honeysuckle), and *Lonicera morrowii* (Morrow's honeysuckle). The *Supplement* states that if hydric soils and wetland hydrology are present, and the area lacks hydrophytic vegetation indicators due to the presence of one or more of the FACU species on the list, drop the listed FACU species from the vegetation data and reevaluate the remaining species with each of the vegetation indicators. If the vegetation now scores as hydrophytic, the area is a wetland. This procedure directly contrasts with the definition of a wetland, which must support a “prevalence of vegetation *typically* adapted for life in saturated conditions.”

Response: In this region, there are well-known examples of obvious wetlands that can fail the dominance test and prevalence index due to the dominance of certain FACU plant species. Probably the best-known example is certain eastern hemlock stands that occur in depressions on obvious hydric soils (often Histosols) and are saturated to the surface much of the year. Due to shading and allelopathic effects, the stands are often pure hemlock (a FACU plant). Under the 1987 Manual, investigators had to invoke best professional judgment to identify these stands as wetlands. For these and other unusual FACU-dominated wetlands, the supplement simply makes the determination explicit. The comment expresses some concern about four species mentioned in the supplement: Parthenocissus quinquefolia, Rosa multiflora, Lonicera tatarica, and Lonicera morrowii. These species were identified by the working group as problematic in the region. No changes in the list were suggested by the independent peer-review team. We will retain these species in the interim supplement so that they can be evaluated further during its 1-year trial implementation period in the regulatory program.

Another procedure under the *Supplement's* category of “Problematic Hydrophytic Vegetation” is “direct hydrologic observation.” This procedure states that if hydric soils are present and hydrology is directly observed for 14 consecutive days during the growing season (water table located at or within 12” of the surface), during a period when

antecedent precipitation has been normal or drier than normal, hydrophytic vegetation is considered present, and the site is a wetland (regardless of the plant community that is present). This procedure also directly contrasts with the wetland definition's requirement that a wetland must support a "prevalence of vegetation *typically* adapted for life in saturated conditions."

Response: Actually, this basic approach was included as one of the six hydrophytic vegetation indicators in the 1987 Manual and has been used for more than 20 years. It is a revision of the indicator "Visual observation of plant species growing in areas of prolonged inundation and/or soil saturation" in the 1987 Manual. The only change is the hydrologic standard used to evaluate the vegetation (14 days versus 10% of the growing season). Any community that can persist under these wetness conditions is "typically adapted for life in saturated soil conditions."

The 149-page supplement presents a technically complex revision to the existing and established methodology. The reasoning behind the need for the new supplements is to recognize the significant differences in ecosystems between physiographic regions, and supplement the existing methodology for delineation of wetlands to accommodate those differences. After reviewing the *Piedmont Supplement*, it seems readily apparent that the *Supplement* also includes a significant push to expand areas qualifying as wetlands. This has been accomplished, not by changing the definition of a wetland, but by changing the methodology used to interpret that definition. The federal wetlands program needs to be based on sound science yet no technical basis has been provided to justify these new changes to the wetlands methodology as detailed in the new supplement.

Response: Field testing has demonstrated that the supplement will not affect the amount of wetland identified at the majority of sites (see previous responses).

The supplement also represents a significant increase in the complexity of methods used in the delineation process. This complexity will translate to additional costs to private industry, which will ultimately be borne by the consumer.

Response: One goal of the supplement is to increase the quality and reliability of wetland determinations submitted to the Corps of Engineers, so that permit decisions can be made quickly without the need to contact applicants and consultants repeatedly for clarification or additional data. An expedited permitting process saves everyone time and money.

Whenever and wherever possible during the evaluation of the supplement in its draft form, consistency and simplicity should be vigorously pursued to produce a document that is practical and easily implemented. As an association of members that will be directly and negatively impacted by a loss of developable land, and new mandates for permits where they formerly were not required, NAHB respectfully requests that this methodology be reexamined in light of these comments, and that consideration be given to the potential impacts that this supplement generates for businesses and consumers.

Response: To be reliable, wetland determinations must incorporate the best available science. Simplicity is an important goal, but should not override accuracy. The regional supplement will increase the accuracy of wetland determinations and the quality of documentation submitted to the Corps with only a moderate increase in field effort for trained and experienced personnel. The advantage is in expedited permit processing.