

ENVIRONMENTAL ASSESSMENT AND  
FINDING OF NO SIGNIFICANT IMPACT  
FOR THE FINALIZATION OF THE  
NATIONAL WETLAND PLANT LIST

Purpose and Need

The purpose of this effort is to use the best available scientific and technical information specific to the vegetation factor for improving precision in delineating upland/wetland boundaries for purposes of Section 404 of the Clean Water Act (CWA). A second purpose is to develop a procedure for continual future scientific updates and public input as more data are gathered and analyzed. The National Wetland Plant List has not been updated since 1988; therefore a comprehensive and transparent interagency effort is needed to ensure the best available science is used to inform government decisions.

Background

In 1987, the U.S. Army Corps of Engineers published the *Corps of Engineers Wetlands Delineation Manual* (Manual), which identified a three-parameter approach to delineating wetlands: hydric soils, wetland hydrology, and hydrophytic plants (Environmental Laboratory 1987). The use of this manual for CWA wetland delineation, by the Corps Districts has been mandatory since 1991.

The Manual included a list of wetland plants, which was superseded by the May 1988 version of the "National List of Plant Species that Occur in Wetlands" published by the U.S. Fish & Wildlife Service (FWS). Since then, the FWS proposed updating the 1988 National Plant List. The current 1988 plant list is used by Federal agencies in assessing the vegetation factor for wetland delineation purposes. Forty-five states also use the Corps 1987 wetland delineation manual for various CWA purposes including storm water management, in CWA Section 401 and 402 programs, as well as state law enforcement. States also use the list to determine wetland boundaries used in their wetland regulatory programs. The NWPL is used for other purposes by the Corps, other agencies, and the public for planning and monitoring wetland mitigation and restoration sites. The Corps however, does not specify the use of the list for these purposes.

The 1988 National Wetland Plant List (NWPL) contains a list of wetland plants and their assigned indicator statuses (ratings). An indicator status reflects the likelihood that a particular plant occurs in a wetland or upland. In December 2006, responsibility for updating the scientific nomenclature and the indicator statuses of this list was transferred from the FWS to the Corps through a Memorandum of Agreement signed by the Corps, the FWS, the NRCS, and U.S. Environmental Protection Agency. Since that time, the Corps, as part of an interagency effort with the signatory agencies of the MOA, contracted with an outside source to update the numerous changes to the scientific nomenclature.

This document discusses the factors considered by the Corps during the development process for updating the "National Wetland Plant List" (the List). This Environmental Assessment/Finding

of No Significant Impact contains: (1) a discussion of the environmental consequences necessary to comply with the National Environmental Policy Act, and (2) a description of the creation of an independent peer review panel, their report, and the Corps response to their comments as required by the Office of Management and Budget (2004).

### Alternatives

We considered three alternatives with respect to the National Wetland Plant List:

1. No Action - Continued use of 1988 FWS “National List of Plant Species that Occur in Wetlands” without scientific or technical changes.
2. Stop using the NWPL - Cease using a national list as part of Clean Water Act wetland delineations and Food Security Act.
3. Update the NWPL – (Preferred alternative) Update the scientific nomenclature of the plants and, through a peer review process, use interagency national and regional committees and public input to update the indicator statuses, using the new names.

### Affected Environment

The List is applicable across the United States and its territories; it is subregionalized along the ecosystem boundaries based on the NRCS Land Resource Regions (LRR) (USDA 2006). The LRRs are also the basis for the regional supplements to the 1987 Corps Manual, as well as the NRCS Hydric Soils indicators.

### Environmental Consequences

#### No Action

The No Action alternative would not achieve one of the goals of the Corps, which is to use the best available scientific and technical information in the Clean Water Act Section 404 program. The No Action alternative would result in the continued use of outdated scientific nomenclature and would not allow updated scientific names to be used in future studies or to generate public input. The field of plant taxonomy is changing rapidly, driven by recent advances in genetics, causing the renaming of species and reshuffling of families and genera. The continued use of outdated names and information opens the Corps and other agencies to criticism from the scientific and academic community and is inconsistent with the policies of recent Administrations. Current regulatory practices are based on the 1988 plant list. Over 15% of the nomenclature in that list is outdated, and none of the recent taxonomic re-alignments are included. Also, the regions in the 1988 plant list were derived by grouping states and, thus, are based on political rather than ecological boundaries. The 1988 regions are also very large and incorporate a great deal of internal variability in climate, geology, landforms, and responses of plants to wetness conditions.

### No National List

The second alternative—to eliminate the use of a national plant list as part of the Corps wetland delineation procedure—would result in inconsistent delineations across the country. Subsequent plant lists could be developed by Corps Districts, EPA for CWA purposes, or FWS regions for classification purposes for the National Wetland Inventory, or NRCS for Food Security Act purposes, or by states, and/or local governments on an ad hoc basis. Any scientific name changes would be inconsistently applied without a standardized database, and indicator statuses could change from one city or county to the next, making wetland delineation difficult for the public as well as for government agencies.

### Update the NWPL – Preferred Alternative

The preferred alternative focuses on (1) updating the scientific nomenclature and keeping it updated on an annual or biannual basis, (2) developing a new system of regions that are based on natural ecological, rather than political, boundaries, and (3) assigning a wetland indicator status to each plant species in a region or subregion based purely on technical considerations. To be efficient for wetland delineation practitioners, plant lists and lists of hydric soil and wetland hydrology field indicators must use the same system of regions and subregions. This alternative also includes a change from quantitative to qualitative definitions of indicator statuses and the removal of their + and – modifiers. This change provides a more accurate categorization of plant species, as scientific data did not support the use of quantitative definitions or modifiers.

### Coordination with Others

The review process for updating the List began in 2008 and concluded with twelve rounds of review by Regional and National Panels and external botanical experts voting on the wetland indicator statuses and nomenclature changes of over 8,200 plants. Over 130,000 comments and votes were received and reviewed and a final list has been compiled. In response to the January 6, 2011, *Federal Register* 75 CFR 777, the Corps received 35 written comments [(6 percent supported the update process, 11 percent offered no objections or no comments on the update process, 35 percent expressed opposition to the update process, and 48 percent raised technical issues)]. In addition, 16,642 votes on 5,315 species were made by 377 people and recorded on the NWPL website. These 377 people also placed 1,159 technical comments on the website. These represent about 15% of the total comments and votes received during the entire review process.

The response to the technical comments can be found at <https://rsgis.crrel.usace.army.mil/apex/f?p=703>. Policy-level comments are summarized below.

Many of the written comments received related to the effects that changing plant indicator statuses would have on jurisdictional determinations and wetland delineations. Several commenters raised the concern that changing all FAC– plants to FAC, coupled with the Regional

Supplements to the 1987 Manual changes, would statistically swing the vegetation criterion to a wetter regime.

The reason for dropping +/- suffixes from the wetland ratings for the List relates to the accuracy of the wetland ratings for all species. Historically the plant list has not been based on real frequency data (except recently for a few species), making it difficult to adequately place species into one of the five wetland indicator status groups with any certainty. Adding finer-scale +/- ratings implies there are data to support their assignments, which is not the case. Therefore, to improve the accuracy of the overall list, the National Panel decided to drop the +/- suffixes. The indicator statuses of 431 former FAC- species nationally were reviewed by external botanists in the third round of voting. The new draft ratings for these species are almost equally split between the FAC and the FACU categories (Lichvar and Gillrich 2011).

A number of commenters suggested using frequency results from wetland delineation forms and/or point intercept data when applying plant indicator status(es). As defined by the FWS in the 1988 list, the indicator status rating was assigned to represent a plant species' occurrence in wetlands throughout its range, including all occurrences in both uplands and wetlands. However, delineation data represent only a single landscape position (the wetland boundary), so wetland boundary delineation data would not be adequate for assessing a species' frequency in wetlands across its range or in all its landscape occurrences. Without frequency data for assessing wetland ratings, general field observations are not scientifically repeatable nor are they the best method for assigning frequency categories. See Lichvar and Gillrich (2011) for a discussion of wetland ratings that can occur in the absence of properly collected frequency data.

One commenter stated that redefining the plant indicator statuses as proposed is technically indefensible and that the new definitions of the categories constitute a double standard. The purpose for redefining the plant indicator statuses was twofold. First, the use of the probability-of-occurrence categories (e.g. <1%, 1-33%, 34-66%, 67-99% and >99%) in wetlands implies that there are data to support the ratings, which is not the case. These categories were based on best professional judgment which, although useful in many circumstances, is not appropriate for determining precise percentages. Second, using written category definitions that are consistent with wetland delineation concepts of the National Technical Committee of Wetland Vegetation (NTCWV) means that the percentage categories can be reserved specifically for field-based statistical studies as part of challenges species' ratings. The new definitions are OBL: plants that always occur in standing water or in saturated soils; FACW: plants that nearly always occur in areas of prolonged flooding or require standing water or saturated soils but may, on rare occasions, occur in nonwetlands; FAC: plants that occur in a variety of habitats, including wetland and mesic to xeric nonwetland habitats but often occur in standing water or saturated soils; FACU: plants that typically occur in xeric or mesic nonwetland habitats but may frequently occur in standing water or saturated soils; UPL: plants that almost never occur in water or saturated soils (Lichvar and Gillrich 2011). The new format of written definitions was developed to allow the plant indicator statuses to be applied equally and consistently in the updating process.

The opportunity to challenge the particular rating of a species will be offered to all once the list is final. This is discussed further in comments below.

## Technical Challenges and Process Concerns

Several commenters expressed concern that the use of an online voting process to solicit input on indicator status ratings raises questions about how “votes” would be used in the update process, and some felt that the process was fatally flawed. “Voting” online was the most efficient way to obtain technical input from wetland professionals about their field observations pertaining to species’ wetland ratings. Online “voting” is essentially the same procedure as was used previously by the FWS when they held week-long in-person Regional Panel meetings where each agency representative voted in person. We disagree that the process for this effort is fatally flawed. Input received during the public comment period was used in several ways. First, if the input matched the draft consensus rating by the Regional Panels, the vote and the commenter’s name were recorded and shown on the website. Second, if the input was different from the draft rating, then those species were sent back to the Regional Panels for further evaluation. Third, in the case of 220 species, the input received during the comment period resulted in a revised wetland rating. The “voting” process helped ensure that the public was afforded an opportunity to provide input during the review process. The voting process during the public notice period required that participants register prior to voting, which entailed providing a name, email address, and institutional affiliation. There were 235 new individuals who made 4,352 comments in the form of votes online. The registration data showed that the largest group of online commenters were environmental consultants (107). There were only 13 commenters for whom we could not determine an affiliation. We feel that it is likely that most of these 13 commenters were also wetland professionals.

Several commenters suggested that the Corps develop scientifically defensible sampling and testing protocols for determining the reliability of a species’ wetland indicator status. One commenter requested that the challenge study protocol be subject to full and open evaluation now, not at some future date. The commenter added that “limited but strategic field data” “can produce any results that the investigators desire, and, as demonstrated by the lack of openness in this notice, will likely not be open to public scrutiny.” The methodology for the “challenge study” is currently being developed by the National Panel in collaboration with the other Federal agencies and the NTCWV. The NTCWV is working closely with the director of the List to design a reasonable, cost-effective, scientifically sound method for landscape studies of frequency. The results of this effort will be published in a peer-reviewed scientific journal, which will allow professional public review of the science. Once testing procedures are in place, any problematic species will be evaluated as needed using the new challenge study protocols.

A number of comments were submitted regarding the 1987 Wetland Delineation Manual and/or one of the regional supplements to the manual and the water table technical standard. These comments were outside the scope of this *Federal Register* notice action and are not discussed further.

Several people indicated that the website was slow and/or difficult to use. The *Federal Register* notice included specific steps for accessing the website. Slow local Internet access may have resulted in difficulties for some individuals. Since this is a Department of Defense website, security protocol designed to safeguard the voting process and prevent fraud may also have

created the perception of a “slow” website. The option of providing written comments was provided and utilized by many interested parties.

Another commenter suggested that the NWPL should address native vs. non-native species as it relates to indicator status ratings. Such a differentiation is unnecessary because the indicator status of a species does not change based on whether the plant is native or non-native.

One commenter suggested that private-sector wetland professionals should be on the Regional or National Panels. This individual also suggested applying the challenge protocol to all species now. The Federal government does not need to have private-sector personnel on the panels as long as the public is provided an opportunity under the Administrative Procedures Act to provide input. The request to have all ratings reviewed and confirmed using field data is not financially or logistically possible, since there are 8,200 plant species under consideration in the updating of the list. As the commenter pointed out, frequency testing is the only real way to generate data that can accurately evaluate the frequency of occurrence in wetlands. However, performing such a study for each plant on the entire list isn't practical. Instead, the National Panel will start with those species that people feel are problematic and will offer a reasonable study design for executing the challenge. The results of these challenge studies will provide insight for the entire list.

Some commenters could not find specific plant species on the List. The Species Search function allowed all species on the List to be located. Some commenters may have had difficulty because the scientific names of many species have changed since 1988 and they were unaware of how to find them on the website. The List uses nomenclature (scientific names) according to Kartesz (2009). It is estimated that there were 1600 scientific name changes between the 1988 list and the current List (Lichvar and Kartesz 2009). Also, the National Panel removed crop species and obligate epiphytes (defined by Lichvar and Fertig 2011) from the List in Round 4 of the update.

We believe that the Corps has adequately reviewed the comments and has allowed for public and agency input for the proposal. Comments can be viewed at <https://rsgis.crrel.usace.army.mil/apex/f?p=703>.

The updating and maintenance of the List will continue annually. Updates will include changes in nomenclature and taxonomy obtained from Biota of North America (BONAP), newly proposed species, changes as needed based on the results from challenges made to species wetland ratings, dataset analyses for regional and national-scale evaluations of wetland ratings, re-evaluations of wetland ratings based on GIS and floristic province analyses, considerations of any new subregions, and several continuous quality control steps. These types of updates and maintenance steps will follow the same protocols used in the development of the 2012 NWPL update. Coordination will occur between the National and Regional Panels, the public and others, and the National Technical Committee for Wetland Vegetation as needed.

### Independent Peer Review

The purpose of the Office of Management and Budget Information Quality Guidelines (2004) is to enhance the quality and credibility of the government's scientific information, recognizing

that different types of peer review are appropriate for different types of information. A copy may be obtained at <http://www.whitehouse.gov/sites/default/files/omb/memoranda/fy2005/m05-03.pdf>. In this document, it is noted that federal agencies were granted broad discretion to weigh the benefits and costs of using a particular peer review mechanism; however, agencies strive to ensure that their peer review practices are characterized by both scientific and process integrity. Also, that peer review is one of the important procedures used to ensure that the quality of published information meets the standards of the scientific and technical community and involves the review of a draft product for quality by specialists in the field who were not involved in producing the draft. A peer review report is an evaluation or critique that is used by the authors of draft information to improve the product. The selection of participants in a peer review is based on expertise, with due consideration of independence and the potential for conflict of interest. In some cases, reviewers might recommend major changes to the draft, such as refinement of hypotheses, modifications of data collection or analysis methods, or alternative conclusions. However, the peer review does not always lead to specific modifications in the draft product. In some cases, the authors do not concur with changes suggested by one or more reviewers.

A peer review is considered completed once the agency considers and addresses the reviewers' comments and incorporates them where relevant and valid. In cases where there is a public panel, the agency publishes the peer review report(s) and the agency's response to the peer review, including the agency's agreement or disagreement, the actions the agency has undertaken or will undertake in response to the report, and (if applicable) the reasons the agency believes those actions satisfy any key concerns or recommendations in the report.

For the update of the List, Battelle, an independent scientific organization, reviewed the protocols and procedures used during the first half of the process. Their conclusions were positive and pointed out that every possible comment and scientific or public concern was being openly discussed and tracked on the NWPL website.

### Selection of Alternative

The alternative to update the 1988 NWPL was selected. This update provided a scientific and transparent process, including the opportunity for public input for updating status ratings to the plants contained in the NWPL. Additionally, plant nomenclature was updated to reflect current science and practice.

### Finding of No Significant Impact

In compliance with the National Environmental Policy Act (NEPA) and its implementing regulations at 40 CFR Parts 1500 – 1508, an Environmental Assessment has been prepared for this supplement. The Corps prepares appropriate NEPA documentation, including Environmental Impact Statements when required, for all permit decisions. The environmental review process undertaken for the NWPL has led me to conclude that the publication of the NWPL will not have a significant effect on the human environment, and certainly, publication of the NWPL will not have any significant adverse effect on the human environment. Consequently, an Environmental Impact Statement is not required by §102(2)(C) of NEPA or its

implementing regulations. A copy of this Environmental Assessment is available from the U.S. Army Corps of Engineers, HQUSACE, Operations and Regulatory Community of Practice, 441 G Street, NW, Washington, DC, 20314-1000 and on the Regulatory Homepage at <http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits.aspx>

A handwritten signature in black ink, appearing to read "Richard C. Lockwood". The signature is fluid and cursive, with a large initial "R" and "L".

RICHARD C. LOCKWOOD  
Acting Chief, Operations and Regulatory  
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