ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNFICIANT IMPACT FOR THE ARID WEST REGIONAL SUPPLEMENT TO THE 1987 WETLAND DELINEATION MANUAL

Purpose and Need

The purpose and need for this supplement to the 1987 Manual is to use the best available scientific and technical information for improving precision in delineating upland/wetland boundaries in the Arid West for purposes of Section 404 of the Clean Water Act and provide a procedure for continual future updates as more data are gathered and analyzed.

Background

The U.S. Army Corps of Engineers Wetland Delineation Manual was published in 1987 (Environmental Laboratory, 1987) and identified a three-parameter approach to delineating wetlands – hydric soils, wetland hydrology and hydrophytic plants. Use of this manual for wetland delineation by Corps Districts has been mandatory since 1991.

Since the manual was first published, the U.S. Fish & Wildlife Service (FWS) proposed updating the 1988 National Plant List and the Natural Resources Conservation Service (NRCS) has published newer versions of the "Hydric Soils of the United States". In addition, wetland science has advanced the understanding of the processes (e.g., biochemical) in these systems.

In 1993, the U.S. Congress requested that the Environmental Protection Agency (EPA) ask the National Academy of Sciences, National Research Council (NRC) to create a committee to study the scientific basis for the characterization of wetlands. The committee was asked to review and evaluate the consequences of alternative methods for wetland delineation and to summarize the scientific understanding of wetland functions (National Research Council, 1995). One of the recommendations of this committee was to develop regional supplements to the 1987 Manual and that the regions should be defined on the basis of physiography, climate, vegetation and prevailing land use and should be used by all agencies for wetland characteristics.

The Corps Engineer Research and Development Center (ERDC) was asked to identify and discuss the technical issues relevant to regionalization of the manual (Wakeley, 2002). The Corps, as the lead Federal agency and author of the 1987 Manual, invited the other three Federal agencies that assess wetlands (EPA, NRCS and FWS) to participate in the development of regional supplements, as recommended by the NRC. A National Advisory Team consisting of representatives of all four Federal agencies was created to oversee the regional supplements to provide quality control, consistency on national issues and decisions regarding the timing and defining of "regions". This regional supplement was developed by a Regional Working Group consisting of experts from Federal/state/local agencies and academia. The availability of the draft supplement was announced through the Corps public notice process for public comment and field-testing, and underwent an independent peer review as discussed below. When

finalized, the interim supplement will be implemented with additional field-testing for one year before a final version of the supplement is published by ERDC.

This document discusses the factors considered by the Corps during the development process for the Arid West Regional Supplement. 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) creation of an independent peer review, their report and the Corps response to their comments as required by the Office of Management and Budget (2004).

Alternatives

We considered three alternative methods with respect to the 1987 Manual. The No Action Alternative would result in the continued use of 1987 Manual without scientific or technical changes. The preferred alternative would be to develop regional supplements that identify a regionally tailored list of indicators appropriate for that ecological region, include more helpful local photographs and descriptions and more detailed guidance on problem areas. The third alternative considered was to update and republish the 1987 Manual.

Affected Environment

This supplement is applicable to the Arid West Region, which consists of all or significant portions of eleven states: Arizona, California, Colorado, Idaho, Nevada, New Mexico, Oregon, Texas, Utah, Washington and Wyoming. The region encompasses a wide variety of landforms and ecosystems, but is differentiated from surrounding areas by its predominantly dry climate and long summer dry season. Annual evapotranspiration generally exceeds precipitation across most of the region (USACE 2006).

The Arid West Regional consists of desert and shrub-steppe ecosystems in the rain shadow of the Cascade and Sierra Nevada Mountain ranges, plus portions of central and southern California that have a Mediterranean climate with mild winters and dry summers. In general, the region is characterized by relatively high average temperatures, low humidity, and often extreme temporal and spatial variability in precipitation amounts. The Arid West is a vast and topographically diverse region containing enclosed basins, broad valleys, plateaus, canyons, arroyos, mesas, buttes, and numerous mountain ranges. Soils are generally dry, poorly developed, low in percentage of organic matter, and high in carbonates (CEC 1997). Native vegetation across much of the region is dominated mainly by grasses and shrubs with relatively few large trees except in the embedded mountain ranges and riparian zones along perennial streams (Bailey 1995; CEC 1997)

Within the Arid West Region, this supplement recognizes three subregions that differ sufficient from each other in climate, landforms, biogeography, and/or wetland characteristics to warrant separate consideration of wetland indicators and delineation guidance. These subregions are the Interior Deserts (Land Resource Region D), the Columbia/Snake River Plateau (Land Resource

Region B), and Mediterranean California (Land Resource Region C) (USACE 2006).

The Interior Deserts subregion consists of two distinct parts; the "hot desert" and the "cold desert". Each part contains extensive areas of mountains dominated by chaparral and coniferous forests. The hot desert consists of the combined Mohave, Sonoran, and Chihuahuan Deserts in southeastern California, southern Nevada, Arizona, New Mexico and west Texas. Most of precipitation is in the form of rain and ranges from approximately 2 to 10 inches in the valleys with higher amounts in the mountains (Bailey 1995). Average annual temperatures range from 50 to 75 °F. The vegetation, such as Joshua tree (*Yucca brevifloia*), palo verde (*Cercidium* spp.), mesquite (*Prosopis* spp.), saguaro cactus (*Carnegiea gigantean*) and cholla and prickly pear cacti (*Opuntia* spp.), is derived mainly from the subtropical flora to the south (USACE 2006).

The cold desert lies generally north of the hot desert and east of the Sierra Nevada Mountain range, and includes the basin-and-range province of eastern California, Nevada, southeastern Oregon, and Utah, as well as the Colorado Plateau in Arizona, Utah, and Colorado and New Mexico. Average annual temperatures range from 40 to 55 °F and the areas receives 5 to 20 inches of precipitation each year; winter precipitation is falls mainly as snow. The basin-and-range province is dominated by fault-block mountain ranges and broad valleys, whereas the Colorado Plateua consists mainly of uplifted and high eroded sedimentary rocks. Sagebrush (*Artemesia tridentate*) and rabbitbrush (*Chrysothamnus nauseosus*) dominate much fo the coal desert area, with saltbush (*Atriplex* spp.), iodine bush (*Allenrolfea occidentalis*) and greasewood (*Sarcobatus vermiculatus*) on more alkaline soils. Pinyon-juniper (*Pinus* spp.-*Juniperus* spp.) and ponderosa pine (*P. ponderosa*) woodland occupy large areas of the Colorado Plateau, interspersed with native grasslands and shrub-steppes (USACE 2006).

The Columbia/Snake River Plateau lies east of the Cascade Mountains in Washington, Oregon, and southern Idaho. Much of the subregion is covered by deposits of loess, volcanic ash, and basalt. The climate is semiarid with average annual temperatures of about 50 °F and average annual precipitation in lowland areas ranging from less than 20 inches to approximately 20 inches. Summers are dry. Natural vegetation across much of the area is dominated by sagebrush, saltbush, and short grasses, with greasewood on alkali flats. Willows (*Salix* spp.) and sedges (*Carex* spp.) are common along streams and in wet areas at the bases of the mountains. The Palouse area of southeastern Washington and west-central Idaho once supported extensive prairie ecosystems dominated by perennial bunchgrasses such as bluebunch wheatgrass (*Agropyron spicatum*) and Idaho fescue (*Festuca idahoensis*), however, this area has been largely converted to irrigated agriculture (Bailey 1995).

Mediterranean California is characterized by relatively warm, wet winters and dry summers. Average temperatures range from approximately 50 to 65 °F in the Sierra Nevada Mountains with as little as 6 inches of precipitation in the upper San Joaquin Valley and as much as 40 inches or more in the Sierras. This subregion contains a variety of landscapes including broad valleys, foothills, mountains and coastal areas and supports a diverse mix of plant communities including chaparral, coastal strand, coastal sage scrub, valley grassland, oak woodland, foothill wood, coniferous forest, and alpine meadow (Hickman 1993).

While the Arid West is characterized by limited amounts of water, the varied landscapes included in this region support many different wetland types. Overall, wetlands and other shallow aquatic habitats occupy only about 1-5% of the land surface in the region (Dahl 1990). Detailed information on the extent of wetlands is available for selected parts of the Arid West Region. Nevada, for example, considered one of the drier states in the country, contains approximately 1.7 million acres of wetlands (Peters 2005) or about 2% of the land surface. It is estimated that just under 1% of Arizona's land surface is wetland (Dahl 1990). Wetlands currently occupy approximately 4.6% of the Central Valley of California; this is much less than the 30% wetland coverage that is estimated to have been present in the 1950s (Frayer, Peters, and Pywell 1989). Most of the reduction was due to wetland conversion for agricultural purposes in the early 1900s. For the Arid West Region as a whole, 30-90% of the wetland acreage that existed in the late 1700s has been converted to other uses (Dahl 1990).

In many parts of the Arid West, ribbons of wetland are concentrated along rivers and streams that flow through patches landscapes. Non-wetland woody riparian areas are often interspersed with temporarily or seasonally flooded wetlands. The Mahlheur and Klamath marshes in the high desert of Oregon, the Salton Sea in southern California and the Lahontan Valley wetlands in northern Nevada are examples of large emergent marsh complexes found in basins that are often remnants of ancient lakes. The Arid West Region includes approximately 450 miles of coastline in central and southern California where scattered salt marshes have developed along the shores of protected estuarine bays, river mouths and lagoons. Fresh tidal marshes are very limited in this coast stretch due to the relatively steep gradient of most rivers entering the Pacific Ocean. Many types of wetlands and shallow aquatic habitats are unique to the Arid West Region. In desert areas, springs and seeps often support small marshes (cienegas), oases and other wetland types (U.S. Geological Survey 1996). Dessert playas are intermittent shallow lakes that develop in the flat, lower portions of arid bases during the wet season (Lichvar et al. 2006). They are mostly unvegetated and may not contain water every year. Salt lakes (e.g., Great Salt Lake) and their associated salt flats, as well as inland slat marshes, are also characteristic of the Great Basin.

The channeled scablands or eastern Washington contain a mosaic of depressional marshes, old flood changes, and ephemeral ponds. The pock-marked surface was formed when the volcanic rock in the area was deeply scoured by massive flooding thought to have occurred 12,000 to 20,000 years ago during and following the last Pleistocene glaciation (Houston and Vial 1995). Small, temporary and seasonally ponded depressions called vernal pools occur in scattered areas from San Diego County, California to the Modoc Plateau in southern Oregon. These wetlands are found in a variety of landscapes where they are usually underlain by an impermeable layer such as a hardpan, claypan or basalt. Vernal pools often fill and empty several times during the rainy season. Other wetland types in the Arid West include seeps near the bases of slopes, wet meadows, wetlands associated with the fringes of reservoirs, the wetter portions of riparian forests, and man-made depressions in mined areas, agricultural lands, suburban areas (e.g., golf courses), and wetland restoration sites.

The identification of the upland/wetland boundary can be difficult since this is, by definition, a transition area between land and water. When completing a wetland delineation, the collection of hydrology, hydric soils and hydrophytic plant data may not always occur at the optimal time of the year to identify clear indicators. Local conditions (wet or dry climate cycles, fire, grazing, heavy or light snow packs) must be considered. Once an upland/wetland boundary has been identified, the question of Section 404 jurisdiction based on hydrologic connections to other waters of the U.S. must be determined and is a separate policy issue not addressed in this supplement

Environmental Consequences

The No Action alternative would not achieve one of the goals of the Corps, which is to use the best scientific/technical information available in the Clean Water Act Section 404 program or the purpose and need of this project. The No Action alternative would result in continued heavy use of the "problem areas" section of the manual without additional science-based guidance. Although the 1987 Manual is updated to incorporate some other technical information such as use of updated National Plant Lists and the Natural Resources Conservation Service Field Indicators of Hydric Soils, newer information such as alternative procedures for calculating plant dominance may not be used consistently. Use of the 1987 Manual with no changes would result in continued confusion and lack of clarity, predictability, precision and consistency in the region. No changes to wetland delineation methods or boundary lines would occur with this alternative.

The preferred alternative, to develop regional supplements to the 1987 Manual using the best available scientific data, is expected to result in more consistent, science-based upland/wetland boundary determinations by Federal, tribal, state and local government delineators as well as private parties. Region-specific issues such as new hydric soils indicators, if they were developed for specific technical problems, would be included in the appropriate regional supplement. Also, region-specific technical problems such as plant cover of halophytes or morphological adaptations of certain plant species can be described and photographs and guidance will be included in each regional supplement. This results in a more user friendly and region-specific document. Also, if changes in a particular region of the country need to be made, then the entire country does not need to change versions.

Changes to this supplement would be much easier that continuous changes to a national manual. There will be some training requirements for both agency personnel and private companies as this supplement is finalized. A transition period of one year will occur when the interim document is published and additional data will be collected on perceived changes to upland/wetland boundaries based on the new supplement. Additional needed changes will be made prior to publishing a final document. It is not expected that the regional supplement will have the net effect of increasing or decreasing the total amount of wetlands in the Arid West Region, although site-specific boundary changes may occur. These changes may occur due to more refined plant indicators or the use of new soils or hydrology indicators. The testing period using the interim document will allow for further identification of the types and reasons that changes to wetland boundaries occur, prior to finalization of the document. If significant

changes to wetland boundaries of specific types or in specific geographic locations occur, an analysis would be completed to determine the acreage of wetland affected and the indicator(s) responsible for the change. However, all areas must continue have all three parameters – wetland hydrology, hydric soils and hydrophytic vegetation – in order to be determined to be a wetland that may be regulated under Section 404 of the Clean Water Act.

The third alternative would be to update and republish the 1987 Manual. Some overlap in supplements is expected as they are developed from west to east and common themes may eventually develop, resulting in changes and republication of the 1987 Manual for national issues such as changes to procedures for plant dominance calculations that may be identified. However, without identifying specific technical problems by developing regional supplements, it is difficult to articulate national issues. There would be a difficulty in answering problem area questions across the country without a systematic approach to identifying technical problems and solutions. This alternative would likely take an addition 5-6 years to identify all of the national technical problems and result in continued difficulty updating a single document.

Coordination with Others

Copies of the comments received during the public comment period are attached to this document. A 60-day comment period was announced by public notice by the Arid West Districts on June 28, 2005. A second notice was issued to extend the comment period to December 5, 2005. Comments were received from the following individuals:

Four letters, from the National Mining Association, the American Farm Bureau Federation, Sheppard Mullin Richter & Hampton LLP and Hunton & Williams, requested an extension of the original 60 day comment period ending November 3, 2005, which was granted. In addition, the National Mining Association and the American Farm Bureau Federation requested the manual not be published until a decision was made by the Supreme Court in the *Carabell v. U.S. Army Corps of Engineers* and *Rapanos v. U.S. Army Corps of Engineers* combined case. However, that issue is not relevant to the publication of the supplement and this request was not granted.

American Farm Bureau Federation: In addition to the above discussed comment, this organization objected to the draft supplement because 1) they believe it expands Federal jurisdiction on agricultural lands and 2) ignores Congressional intent because the Corps has been directed by Congress to use the 1987 Manual.

The supplement was field-tested in 2005 to determine if the proposed clarifications significantly change the wetland/upland boundary line. We disagree with those commenters who stated that the supplement violates legal requirements established by the Energy and Water Development Appropriations Act of 1992 (EWDAA of 1992). The following is the language from the EWDAA of 1992 relevant to this subject:

"None of the funds in this Act shall be used to identify or delineate any land as a 'water of the United States' under the Federal Manual for Identifying and Delineating Jurisdictional Wetlands

that was adopted in January 1989 (1989 Manual) or any subsequent manual not adopted in accordance with the requirements for notice and public comment of the rule-making process of the Administrative Procedure Act."

The first thing to note about that statutory language is that it applied only to the funds appropriated in that specific Appropriations Act. Consequently, however one might interpret the quoted statutory provision, its mandate expired at the end of Fiscal Year 1992. Moreover, that statutory language effectively prohibited the Corps from using the 1989 Federal Manual for Identifying and Delineating Wetlands, and placed limitations on the use of "any subsequent" Wetland Delineations Manual, but did not restrict the Corps from using the Corps wetlands Delineation Manual of 1987. In fact, when Congress enacted the provision of the EWDAA of 1992 quoted above, Congress fully realized and intended that the Corps should continue to use the 1987 Manual. Nothing in the EWDAA of 1992, its legislative history, or any other law has ever required that the 1987 Manual to go through the rulemaking procedures of the Administrative Procedure Act (APA). To implement the intent of Congress and to effectively administer its regulatory program, during the early 1990's the Corps committed to using the 1987 Manual and directed Corps districts not previously using this methodology to make all future wetland jurisdictional calls by using and complying with the 1987 Manual.

So far as we know, the leading decision of the Federal Courts relevant to the question of whether the APA mandates that the Federal Wetland Delineation Manual of 1987 (or any other Federal Wetland Delineation Manual) go through the rulemaking process of the APA is Hobbs v. United States, 947 F. 2d 941 (4th. Cir. 1991), in which the U.S. Court of Appeals for the Fourth Circuit held that the APA does not require that the Federal Wetland Delineation Manual go through the APA rulemaking process.

It is our determination that publication and use of these supplements, which update and regionalize the 1987 Manual by incorporating existing scientific data, results in more predictable, consistent upland/wetland boundary lines. It does not change the basic three parameter approach needed to make a wetland determination. However, we have solicited public comment on the draft documents by announcing them through the Corps normal public notice process and we have conducted field testing of the draft supplement. Comments received during the public comment period were evaluated and are included in the administrative record for the interim documents and addressed in this environmental assessment. This supplement will continue to evolve and be updated as the science of wetland delineation continues to better understood, after the appropriate public notice and field testing.

Withey-Anderson & Morris, PLC: The Corps should clarify how the supplement will and will not be used and clearly state the 1987 manual must be used for purposes of Section 404 of the Clean Water Act. The supplement should address man-created wetlands in more detail

As stated in the responses to the Peer-Review Team's report, a revision to Chapter 1 will clarify those limited parts of the 1987 Manual (e.g., lists of indicators, growing season definition) that will be replaced by this supplement. All other portions of the 1987 Manual will remain in effect.

The supplement does not address "man-created wetlands" in any detail because this portion of the 1987 Manual will not change.

Sheppard Mullen Richter & Hampton LLP: Besides the above request for extension of the comment period, this commenter included the following comments: new hydrology indicators have been added without scientific references or quantitative analyses to substantiate why these indicators were selected; currently policy precludes using indicators from the NRCS Hydric Soils Manual other than as collaborative information; the peer review report should be provided to the public during the public comment period; the Corps should hold regional public hearings. In addition, this commenter provided a lengthy report with specific comments by page.

We appreciate the comments of developers and home builders who are affected by Clean Water Act regulatory programs. One goal of the regional supplement is to improve the consistency and timeliness of wetland determinations by clarifying some of the many "problem" wetland situations in the Arid West that currently require judgment calls on the part of wetland consultants and regulators, and potentially lead to costly delays and disagreements. We think the supplement will make wetland delineations more clear and defensible and will reduce disagreements between landowners and the Corps, helping to expedite permit decisions.

The basic wetland definition used in the 1987 Manual will not change. The goal of the supplement is to improve the accuracy, consistency, and timeliness of wetland determinations without changing the overall jurisdictional reach of the 1987 Manual and current guidance. In most of the Arid West, wetlands occupy less than 1% of the landscape (according to the National Wetlands Inventory) and not all of these areas are regulated under the Federal Clean Water Act. It is important that these valuable environments are identified accurately, that no genuine wetlands are overlooked, and no nonwetland areas are mistaken for wetlands. It is also important to update the 20-year-old science on which the 1987 Manual is based.

The comments mis-interpreted a number of sections of the draft supplement including the use of the 14 day hydroperiod for highly impacted sites, use of the map to show the area for use of this supplement, need for guidance on regulatory jurisdiction in light of court decisions, use of old guidance (e.g., 1992 Studt memo) that will be rescinded with issuance of the interim and final supplements.

Many of the comments were valid and were useful in revising the draft supplement. Most of these issues were identified in the peer-review report and have been addressed in the Corps' previous responses. The primary concern of the comments seems to be the potential for expanded wetland jurisdiction under the Arid West Regional Supplement. We believe that this concern is unfounded. The comments contain a number of false premises and erroneous conclusions. The reviewers apparently do not understand that all three factors (vegetation, soil, and hydrology) must be considered in making a wetland determination. One can't draw valid conclusions about the jurisdictional reach of the supplement by trying to second-guess individual indicators and labeling them as "biased." The Corps of Engineers and the Arid West Regional Working Group expect that the overall jurisdictional effect of this supplement will be neutral, but only field

testing and a period of interim use can verify this. To date, field testing at 24 sites in the Arid West region has resulted in no change in wetland boundaries at 18 sites (75%), expanded wetland area at 4 sites (17%), and reduced wetland area at 2 sites (8%). Three of the sites having expanded wetland area contained problematic alkaline hydric soils not addressed in the 1987 Manual. Thus, the evidence suggests that the Arid West Regional Supplement will help clarify certain problematic wetland situations but will not result in increased jurisdictional reach. The Corps will continue to accept comments on the Arid West supplement during the one-year period of interim use.

Phil Scoles, Terra Science, Inc. This commenter included the following points: comment period should be extended to allow for field testing during spring and summer; NRCS should compile field data showing the time after inception of the growing season to show when anaerobic conditions develop in the upper part of the soil; use of the prevalence index and plant morphological adaptations will require additional training; proposed wetland hydrology indicators should be extensively field tested and further refined before implementation; various indicators need additional user notes to avoid misuse.

We appreciate the comment about the "positive step that the regional supplement represents." Most of the specific comments of this commenter were addressed in the peer-review report and will result in a number of changes to the supplement. The request for added time for field testing and evaluation of the supplement will be satisfied by the planned one-year "interim" implementation period, during which the Corps will continue to accept comments. The concern that certain wetland hydrology indicators can also be found in nonwetlands reflects a misunderstanding of the role of wetland hydrology indicators. For the most part, hydrology indicators give no information about the seasonal timing, duration, or frequency of wet periods. They only indicate a recent episode of inundation or soil saturation. The role of hydric soils and hydrophytic vegetation is to verify that the frequency, timing, and duration of inundation or saturation have been sufficient to create and maintain wetlands. Hydrology indicators provide added information that the site continues to exhibit wetland hydrology and has not been effectively drained. The three-factor approach ensures that areas that are only briefly or infrequently wet will not be identified as wetlands. Comments on individual indicators were addressed in the peer-review report.

U.S. Fish & Wildlife Service, Phoenix, Arizona. This commenter's primary concern was whether or not the supplement will delineate riparian ecosystems as jurisdictional wetlands. They requested the manual be field tested in Arizona and modified if necessary to ensure that it captures cottonwood-willow galleries, mesquite bosques and other similar ecosystems.

The Service concerns centered on the need for thorough testing, particularly in regard to riparian ecosystems in the southwestern U.S. We agree. As described previously in this document, interagency field teams have tested the draft supplement at 24 sites in the Arid West. More testing and evaluation will be done during the planned one-year interim implementation period. However, the supplement does not change the basic wetland definition or concepts given in the 1987 Manual. The supplement is not intended to expand Clean Water Act regulatory

jurisdiction. Some riparian areas do not qualify as wetlands under the 1987 Manual and will not qualify under the supplement.

State of Washington Department of Ecology. Vegetation stratum is defined as greater than or equal to 5% which should be determined during the peak of the growing season. Observable and measure criteria for water table depth is better that allowing for "best professional judgment".

This letter contained only two technical comments that were addressed in the peer-review report.

Valley Environmental Consultant. This commenter suggested a number of edits and clarifications.

The commenter found the regional supplement to be "a major improvement to the 1987 Manual," and suggested a number of minor clarifications and wording changes, most of which were incorporated into the supplement.

State of New Mexico Department of Game and Fish. This agency suggested the use of aquatic invertebrates as a diagnostic tool in the Arid West and expressed concerns about the affect of global warming on wetlands.

We appreciate the information provided in the letter concerning the use of invertebrates and their remains as a wetland hydrology indicator. The expressed concerns about identifying wetlands in the future in light of global climate change is beyond the current scope of the regional supplement but may become necessary to address in future revisions.

Environmental Protection Agency, Region VI. EPA recommended that the supplements update only the Problem Area part of the 1987 Manual. In addition, they were concerned that having numerous supplements within that region's boundaries would create confusion and recommended that the Corps publish only one national supplement for "problem wetland areas" within the contiguous United States.

Although EPA has been a partner in the regionalization process and is represented on the Arid West Working Group, they provided additional written comments and concerns. They suggest that the supplement be limited to "problem area wetlands" and not address changes to wetland indicators. This suggestion was rejected by the working group because it would not result in significant "regionalization" or updating of the 1987 Manual. EPA suggested a clear statement that it is not the intent of the supplement to change wetland jurisdiction. This recommendation was accepted and the wording incorporated into Chapter 1. They expressed concerns about the 14-day hydrologic standard in place of the 5% of the growing season used in the 1987 Manual and the 7-day standard for flooded or ponded hydric soils. The Corps is implementing the 14-day standard, if no other region-specific standard has been established, based on the recommendations and technical authority of the National Academy of Sciences. EPA suggested that "Listed on the Hydric Soils List" continue to be used as a hydric soil indicator, but this suggestion had been rejected by the working group in favor of field indicators. EPA suggested

that no changes be made to the "Atypical Situation" section of the 1987 Manual. The supplement does not replace 1987 Manual's treatment of Atypical Situations; it simply provides more regional examples and guidance for dealing with them. EPA also suggested that a procedure be developed for future revisions to the supplement as new scientific information becomes available. The supplement, although not giving details of a procedure, states that the interagency National Advisory Team for Wetland Delineation will be the body charged with receiving and acting upon any proposals for changes to wetland-delineation procedures.

CH2M Hill, Consultants. This commenter liked the additional information in the supplement, but wanted it to include information on ephemeral and intermittent streams in the supplement.

We appreciate the comments that "your product is of high quality" and "Overall, we agree with the document and proposed methodology." In addition, they found "Chapter 5 to be the most useful and innovative part of the document." The primary suggestion for improvement was to include nonwetland "intermittent and ephemeral streams" in Chapter 5 and to expand the overall scope of the supplement to include other regulated, but nonwetland, "waters of the U.S." This concept was discussed initially by the working group and rejected as beyond the scope of the 1987 Manual and, therefore, beyond the realm of the Regional Supplement. However, a separate study to evaluate and improve the consistency of OHW indicators is now in progress.

National Mining Association. This commenter suggested no further work be done on the supplements until the Supreme Court ruled two court cases. In addition, they stated concerns regarding the use of the Prevalence Index and several hydrology indicators.

It is not necessary to wait for a decision from the Supreme Court on pending cases regarding Section 404 jurisdiction. The determination of jurisdiction under the Clean Water Act is a two step process; first whether an area includes the three parameters necessary to define it as a wetland and second, whether or not it is regulated as a matter of policy. These supplements are intended to address only the first step in this process.

NMA was concerned that using the Prevalence Index would expand hydrophytic vegetation indicators. Actually, the PI is a more conservative test for hydrophytic vegetation than the dominance test used in the 1987 Manual. It is used in the supplement to catch a very limited number of wetland situations in which the presence of one or more FACU dominants overwhelms the contributions made by other OBL, FACW, and FAC species present in the community. The PI would only be used in areas that have indicators of hydric soil and wetland hydrology. NMA suggested also that a number of hydrology indicators be reduced to secondary or discarded. These will be re-evaluated by the working group.

Center for Biological Diversity. This commenter believes the supplement is a significant improvement on the 1987 Manual because it provides specific strategies for wetlands in the Arid West. They also indicated a concern that the national plant list needs to be updated.

We appreciate the comment that the supplement "represents a step forward in the delineation of wetlands in arid climates ... ". The Center's concerns about updates to the wetland plant list are beyond the scope of the Regional Supplement. A separate interagency effort is underway to update the taxonomic nomenclature used in the plant lists and to consider any changes that may be required in wetland indicator status assignments. Under the proposed Arid West Regional Supplement, wetland delineators will use the latest approved version of the plant list.

Robert Pierce, Wetland Science Applications. This commenter made numerous technical comments and provided a series of comments addressing a large number of technical and non-technical issues.

Most of the issues discussed in Dr. Pierce's lengthy comments and supplementary materials were addressed in the peer-review report and the responses drafted by the Corps and Arid West Working Group. Some other comments were of a philosophical nature and do not require a response. A number of policy concerns were beyond the scope of the Regional Supplement, which is intended as a technical document, but were considered by Corps Headquarters. The reviewer's suggestion that the supplement abandons the Dominance Test for hydrophytic vegetation and substitute the FAC-neutral test is unworkable. Many wetland plant communities would fail the FAC-neutral test; this is the reason that the FAC-neutral test was dropped as an optional hydrophytic vegetation indicator in a 1992 guidance memo from Headquarters USACE. The reviewer's concerns that hydrogen sulfide might be produced in volcanic fumaroles and other unusual situations does not negate its usefulness as a hydric soil indicator in typical wetland situations. The author's concerns about the source of material comprising fluvial deposits are well taken, but do not invalidate any proposed hydric soil indicators. Furthermore, the three-factor approach involving indicators of hydrophytic vegetation and wetland hydrology, as well as hydric soil, ensures that areas with relict hydric soil indicators are not identified as wetlands. The reviewer's discussion of "sub-irrigation" as a complicating factor in the use of the proposed "dry-season water table" wetland hydrology indicator was well reasoned but ultimately irrelevant to the wetland determination. The three-factor approach ensures that areas where the water table is continually between 12 and 24 inches will not be identified as wetlands due to the lack of a hydrophytic plant community and/or hydric soil indicators. The reviewer provides an interesting alternative analysis of meteorological data for use in evaluating normal rainfall conditions, but it does not invalidate the procedures given in the draft Arid West Regional Supplement. In addition, a number of comments about proposed wetland hydrology indicators were addressed previously in the responses to the peer-review report, and some of the recommended changes in the wording of these indicators will be made. One of the reviewer's final comments that "The general flavor of the Supplement is 'when in doubt, call the area wetland'" is entirely untrue. The default position in the supplement and in the 1987 Manual, which the supplement does not replace, is that an area is <u>nonwetland</u> unless evidence of all three factors is present. The only exceptions are for highly disturbed or problematic sites, and those procedures are described in the 1987 Manual. The Regional Supplement does not expand jurisdiction.

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/omb/inforeg/peer2004/peer_bulletin.pdf . The 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. 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. The peer review report is an evaluation or critique that is used by the authors of draft information that contains important scientific determinations to improve the product. The selection of participants in a peer review is based on expertise, with due consideration of independence and 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 incorporated 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 comments. Agencies prepare a written response to the peer review report explaining: 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 and key concerns or recommendations in the report. A copy of the peer review report, including the responses to the comments, is included as an attachment to this document.

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 rule. The Corps prepares appropriate NEPA documentation, including Environmental Impact Statements when required, for all permit decisions. The environmental review process undertaken for this rule has led me to conclude that the publication of this supplement will not have a significant effect on the human environment, and therefore an Environmental Impact Statement is not required by §102(2)(C) of NEPA or its implementing regulations. A copy of

this Environmental Assessment with attachments 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/inet/functions/cw/cecwo/reg/reg_supp.htm.

Gerald W. Barnes, P.E.
Chief, Operations
Directorate of Civil Works

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US Army Corps
of Engineers
Portland District

SPECIAL PUBLIC NOTICE
FIELD TESTING THE ARID WEST SUPPLEMENT

60 Day Notice

Issue Date: September 2, 2005
Expiration Date: November 3, 2005

The U.S. Army Corps of Engineers, Portland District, announces the availability of the Draft Arid West Regional Supplement to the 1987 Wetland Delineation Manual (Environmental Laboratory 1987). This draft was developed by regional expert delineators with input from state and Federal agencies, academia and other local experts. It is being peer reviewed by a panel of independent scientists, the report from which will be available upon request. This draft is also being field tested by interagency teams of state and Federal agencies to determine the clarity and ease of use of the document and whether its use will result in any spatial changes in wetland jurisdiction for Clean Water Act Section 404 purposes

We are specifically seeking public input, including scientific information/data, on the proposed hydrology, soils and vegetation indicators and data collection procedures in this draft document. Reviewers may wish to field test this manual as part of the public comment procedure. The protocol for this testing is to perform wetland delineations using both the 1987 Wetland Delineation Manual and this draft regional supplement on the same data points. Reviewers should include data sheets from both the manual and draft supplement, maps indicating data collection points (upland and wetland) and a completed questionnaire for each delineation point. The draft, along with the testing protocol and questionnaire, may be located at
ftp://ftp.usace.army.mil/pub/erdc/arid_west/

Comments must be submitted by **November 3, 2005**, to Ms. Katherine Trott (CECW-LRD), U.S. Army Corps of Engineers, 441 G. Street, NW, Washington DC 20314-1000 or by e-mail to 1987Manual@usace.army.mil. Another public notice will be issued by this district announcing the publication of the final supplement and the implementation date of this supplement.