DECISION DOCUMENT
NATIONWIDE PERMIT 21

This document discusses the factors considered by the Corps of Engineers (Corps) during the issuance process for this Nationwide Permit (NWP). This document contains: (1) the public interest review required by Corps regulations at 33 CFR 320.4(a)(1) and (2); (2) a discussion of the environmental considerations necessary to comply with the National Environmental Policy Act; and (3) the impact analysis specified in Subparts C through F of the 404(b)(1) Guidelines (40 CFR Part 230). This evaluation of the NWP includes a discussion of compliance with applicable laws, consideration of public comments, an alternatives analysis, and a general assessment of individual and cumulative impacts, including the general potential effects on each of the public interest factors specified at 33 CFR 320.4(a).

1.0 Text of the Nationwide Permit

Surface Coal Mining Activities. Discharges of dredged or fill material into waters of the United States associated with surface coal mining and reclamation operations.

(a) Previously Authorized Surface Coal Mining Activities. Surface coal mining activities that were previously authorized by the NWP 21 issued on March 12, 2007 (see 72 FR 11092), are authorized by this NWP, provided the following criteria are met:

(1) The activities are already authorized, or are currently being processed by states with approved programs under Title V of the Surface Mining Control and Reclamation Act of 1977 or as part of an integrated permit processing procedure by the Department of Interior, Office of Surface Mining Reclamation and Enforcement;

(2) The permittee must submit a letter to the district engineer requesting re-verification of the NWP 21 authorization. The letter must describe any changes from the previous NWP 21 verification. The letter must be submitted to the district engineer by February 1, 2013;

(3) The loss of waters of the United States is not greater than the loss of waters of the United States previously verified by the district engineer under the NWP 21 issued on March 12, 2007 (i.e., there are no proposed expansions of surface coal mining activities in waters of the United States);

(4) The district engineer provides written verification that those activities will result in minimal individual and cumulative adverse effects and are authorized by NWP 21, including currently applicable regional conditions and any activity-specific conditions added to the NWP authorization by the district engineer, such as compensatory mitigation requirements; and

(5) If the permittee does not receive a written verification from the district engineer prior to March 18, 2013, the permittee must cease all activities until such verification is received. The district engineer may extend the February 1, 2013, deadline by so notifying the permittee in writing, but the permittee must still cease all activities if he or she has not received written verification from the Corps by March 18, 2013, until such verification is received.

(b) Other Surface Coal Mining Activities. Surface coal mining activities that were not previously authorized by the NWP 21 issued on March 12, 2007, are authorized by this NWP, provided the following criteria are met:

(1) The activities are already authorized, or are currently being processed by states with approved programs under Title V of the Surface Mining Control and Reclamation Act of 1977 or as part of an integrated permit processing procedure by the Department of Interior, Office of Surface Mining Reclamation and Enforcement;

(2) The discharge must not cause the loss of greater than 1/2-acre of non-tidal waters of the United States, including the loss of no more than 300 linear feet of stream bed, unless for intermittent and ephemeral stream beds the district engineer waives the 300 linear foot limit by making a written determination concluding that the discharge will result in minimal individual and cumulative adverse effects. This NWP does not authorize discharges into tidal waters or non-tidal wetlands adjacent to tidal waters; and

(3) The discharge is not associated with the construction of valley fills. A "valley fill" is a fill structure that is typically constructed within valleys associated with steep, mountainous terrain, associated with surface coal mining activities.

Notification: For activities under paragraph (b) of this NWP, the permittee must submit a pre-construction notification to the district engineer and receive written authorization prior to commencing the activity. (See general condition 31.) (Sections 10 and 404)

1.1 Requirements

General conditions of the NWPs are in the Federal Register notice announcing the issuance of this NWP. Pre-construction notification requirements, additional conditions, limitations, and restrictions are in 33 CFR part 330.

1.2 Statutory Authority

- Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403)
- Section 404 of the Clean Water Act (33 U.S.C. 1344)

1.3 Compliance with Related Laws (33 CFR 320.3)

1.3.1 General

NWPs are a type of general permit designed to authorize certain activities that have minimal individual and cumulative adverse effects on the aquatic environment and generally comply with the related laws cited in 33 CFR 320.3. Activities that result in more than minimal individual and cumulative adverse effects on the aquatic environment cannot be authorized by NWPs. Individual review of each activity authorized by an NWP will not normally be performed, except when preconstruction notification to the Corps is required or when an applicant requests verification that an activity complies with an NWP. Potential adverse impacts and compliance with the laws cited in 33 CFR 320.3 are controlled by the terms and conditions of each NWP, regional and case-specific conditions, and the review process that is undertaken prior to the issuance of NWPs.

The evaluation of this NWP, and related documentation, considers compliance with each of the following laws, where applicable: Sections 401, 402, and 404 of the Clean Water Act; Section 307(c) of the Coastal Zone Management Act of 1972, as amended; Section 302 of the Marine Protection, Research and Sanctuaries Act of 1972, as amended; the National Environmental Policy Act of 1969; the Fish and Wildlife Act of 1956; the Migratory Marine Game-Fish Act; the Fish and Wildlife Coordination Act, the Federal Power Act of 1920, as amended; the National Historic Preservation Act of 1966; the Interstate Land Sales Full Disclosure Act; the Endangered Species Act; the Deepwater Port Act of 1974; the Marine Mammal Protection Act of 1972; Section 7(a) of the Wild and Scenic Rivers Act; the Ocean Thermal Energy Act of 1980; the National Fishing Enhancement Act of 1984; the Magnuson-Stevens Fishery and Conservation and Management Act, the Bald and Golden Eagle Protection Act; and the Migratory Bird Treaty Act. In addition, compliance of the NWP with other Federal requirements, such as Executive Orders and Federal regulations addressing issues such as floodplains, essential fish habitat, and critical resource waters is considered.

1.3.2 Terms and Conditions

Many NWPs have pre-construction notification requirements that trigger case-by-case review of certain activities. Two NWP general conditions require case-by-case review of all activities that may adversely affect Federally-listed endangered or threatened species or historic properties (i.e., general conditions 18 and 20). General condition 16 restricts the use of NWPs for activities that are located in Federally-designated wild and scenic rivers. None of the NWPs authorize the construction of artificial reefs. General condition 28 prohibits the use of an NWP with other NWPs, except when the acreage loss of waters of the United States does not exceed the highest specified acreage limit of the NWPs used to authorize the single and complete project.

In some cases, activities authorized by an NWP may require other federal, state, or local authorizations. Examples of such cases include, but are not limited to: activities that are in

marine sanctuaries or affect marine sanctuaries or marine mammals; the ownership, construction, location, and operation of ocean thermal conversion facilities or deep water ports beyond the territorial seas; activities that result in discharges of dredged or fill material into waters of the United States and require Clean Water Act Section 401 water quality certification; or activities in a state operating under a coastal zone management program approved by the Secretary of Commerce under the Coastal Zone Management Act. In such cases, a provision of the NWPs states that an NWP does not obviate the need to obtain other authorizations required by law. [33 CFR 330.4(b)(2)]

Additional safeguards include provisions that allow the Chief of Engineers, division engineers, and/or district engineers to: assert discretionary authority and require an individual permit for a specific activity; modify NWPs for specific activities by adding special conditions on a case-by-case basis; add conditions on a regional or nationwide basis to certain NWPs; or take action to suspend or revoke an NWP or NWP authorization for activities within a region or state. Regional conditions are imposed to protect important regional concerns and resources. [33 CFR 330.4(e) and 330.5]

1.3.3 Review Process

The analyses in this document and the coordination that was undertaken prior to the issuance of the NWP fulfill the requirements of the National Environmental Policy Act (NEPA), the Fish and Wildlife Coordination Act, and other acts promulgated to protect the quality of the environment.

All NWPs that authorize activities that may result in discharges into waters of the United States require water quality certification. NWPs that authorize activities within, or affecting land or water uses within a state that has a Federally-approved coastal zone management program, must also be certified as consistent with the state's program. The procedures to ensure that the NWPs comply with these laws are described in 33 CFR 330.4(c) and (d), respectively.

1.4 Public Comment and Response

For a summary of the public comments received in response to the February 16, 2011, Federal Register notice, refer to the preamble in the Federal Register notice announcing the reissuance of this NWP. The substantive comments received in response to the February 16, 2011, Federal Register notice were used to improve the NWP by changing NWP terms and limits, pre-construction notification requirements, and/or NWP general conditions, as necessary.

The Corps proposed three options concerning this NWP. The first option was not to reissue NWP 21 and to let it expire on March 18, 2012. The other two options consisted of reissuing the NWP with modifications. Option 2 was to reissue NWP 21 with a 1/2-acre limit, including a 300 linear foot limit for the loss of stream bed. Under Option 2, NWP 21 would not authorize discharges of dredged or fill material into waters of the United States to

construct valley fills. Option 3 was similar to Option 2, but under Option 3 NWP 21 could authorize discharges of dredged or fill material into waters of the United States to construct valley fills. In the February 16, 2011, proposal, Option 2 was identified as the Corps preferred option. Both Options 2 and 3 require a pre-construction notification for activities authorized by NWP 21, and permittees would have to receive written authorization from the district engineer prior to commencing the activity.

A large majority of commenters supported Option 1 and opposed the reissuance of NWP 21, including any modification of that NWP. Over 26,000 of those comments were form letters. Several commenters recommended adopting Option 2. Two commenters supported Option 3. Many commenters stated that NWP 21 should be reissued without change from the NWP issued in 2007.

While some commenters expressed support for Option 1, they also said that if NWP 21 is to be reissued, Option 2 should be selected and modified to remove the provision allowing district engineers to waive the 300 linear foot limit for the loss of intermittent or ephemeral stream bed. Another commenter stated that if NWP 21 is reissued, it should not authorize any losses of intermittent or perennial streams.

We believe that district engineers should have the ability to waive the 300 linear foot limit for the loss of ephemeral or intermittent stream bed if they make a case-specific determination that the proposed activity will result in minimal individual and cumulative adverse effects on the aquatic environment. For proposed activities under paragraph (b) of NWP 21 that would result in the loss of greater than 300 linear feet of intermittent or ephemeral stream bed, district engineers will coordinate the pre-construction notifications with the resource agencies, to solicit their comments (see paragraph (d) of general condition 31). Those comments will be used by the district engineer in making his or her minimal adverse effects determination. The loss of intermittent or perennial streams caused by NWP 21 activities may still result in minimal individual and cumulative adverse effects on the aquatic environment, and in such cases authorization by NWP is appropriate. Note that the 300 linear foot limit may not be waived for perennial streams. Activities authorized under paragraph (a) of NWP 21 do not require agency coordination because paragraph (a) does not authorize any expansion of surface coal mining activities in waters of the United States and the district engineer previously determined, and must again confirm in writing, that those activities will result in minimal individual and cumulative adverse effects and qualify for NWP authorization. Many of the surface coal mining activities authorized under the 2007 NWP 21 already had agency coordination because they resulted in the loss of greater than 1/2-acre of waters of the United States.

Many commenters stated their preference for Option 2 because it would not allow valley fills for surface coal mining activities, which they believe substantially alter watersheds and associated headwater streams, and generally are alleged to cause more than minimal adverse effects on the aquatic environment. One commenter suggested adding a provision that would prohibit the use of NWP 21 for activities associated with mountain-top removal mining.

We have selected Option 2 for the reissuance of NWP 21, and have made some additional modifications to reduce hardships on permittees who previously obtained authorization under the NWP 21 issued on March 12, 2007, and invested substantial resources in reliance on that NWP authorization. These modifications are discussed in greater detail below. In addition, we have added a definition of "valley fill" to the NWP to clarify the activities to which the valley fill prohibition applies. For the purposes of this NWP, a "hollow fill" is considered a valley fill. This NWP authorizes discharges of dredged or fill material into waters of the United States when those discharges are associated with surface coal mining activities. The Corps review is focused on the individual and cumulative adverse effects to the aquatic environment, and determining appropriate mitigation that may be needed to ensure that the adverse effects on the aquatic environment are minimal, individually and cumulatively. It does not extend to the mining operation as a whole. The Surface Mining Control and Reclamation Act of 1977 (SMCRA), 30 U.S.C. § 1201 *et seq.*, and its implementing regulations address the environmental impacts of proposed surface coal mining operations as a whole, including adverse effects to uplands and changes in land use. SMCRA is administered by the Office of Surface Mining Reclamation and Enforcement and states with approved regulatory programs under SMCRA.

Two commenters supported Option 3, and they said the production of energy from all sources, including surface-mined coal, is vitally important to the short-term economic recovery of the United States and the long-term energy independence and economic prosperity of our country. Another commenter said there is no need to limit NWP 21 to 1/2-acre and 300 linear feet and prohibit valley fills, because district engineers review every pre-construction notification and can require an individual permit if necessary.

We have adopted Option 2 because it provides greater assurance that NWP 21 will authorize only those discharges of dredged or fill material into waters of the United States that have minimal individual and cumulative adverse effects on the aquatic environment. Surface coal mining activities that involve discharges of dredged or fill material that require section 404 permits but do not qualify for NWP 21 may be authorized by other forms of Department of the Army authorization, such as individual permits or regional general permits. We have added the 1/2-acre limit, and the 300 linear foot limit for the loss of stream bed, to make this NWP consistent with many of the other NWPs (e.g., NWPs 29, 39, 40, 42, 43, 44, and 51). We have also added a prohibition against using this NWP to authorize discharges of dredged or fill material into waters of the United States to construct valley fills. Such limits are necessary to constrain the adverse effects to the aquatic environment, to ensure compliance with the statutory requirement that general permits, including NWPs, may only authorize those activities that have minimal individual and cumulative adverse effects on the aquatic environment. We do not believe it is efficient to rely on the pre-construction notification process alone to ensure minimal adverse environmental effects. Many other NWPs use a combination of acreage and/or linear foot limits and pre-construction notification requirements to ensure compliance with Section 404(e) of the Clean Water Act, as well as 33 CFR 322.2(f) and 33 CFR 323.2(h).

Previous versions of NWP 21 did not have any acreage or linear foot limits, and relied solely on the pre-construction notification review process and permit conditions to reduce adverse effects on the aquatic environment to satisfy the minimal adverse environmental effects requirement for general permits. We believe that approach is no longer appropriate because of the inconsistency with other NWPs, the possibility that larger losses of waters of the United States might be authorized, and the difficulty of documenting minimal adverse effect determinations for losses of aquatic resource area and functions that exceed those allowed in other NWPs. We note that part of the basis for the earlier approach was the environmental review that occurs in connection with obtaining a SMCRA permit, and that the SMCRA regulations related to stream protection have changed since the previous NWP 21 was issued. The new acreage and linear foot limits will ensure that this NWP contributes no more than minimal individual and cumulative adverse effects to the aquatic environment, by limiting the amount of waters of the United States that can be filled by each NWP 21 activity.

Many commenters said the Corps should fulfill its June 2009 determination to prohibit the use of NWP 21 to authorize surface coal mining activities in six states in Appalachia because these activities result in more than minimal adverse effects to the aquatic environment, individually and cumulatively. Some commenters said the proposed reissuance of NWP 21 is contrary to the Corps June 18, 2010, decision to suspend NWP in the Appalachian region of Kentucky, Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia, which stated that continued use of this NWP may result in more than minimal adverse effects to aquatic resources. Many commenters stated that surface coal mining activities in Appalachia have resulted in the loss of a couple of thousand miles of streams, substantially degraded water quality, and are harmful to the health and drinking water of Appalachian citizens. They also said the Corps should follow science and stop issuing permits, including individual permits, for surface coal mining activities in these six Appalachian states because those activities cause significant degradation of waters of the United States, and this region cannot afford to lose more of its vital natural resources.

In accordance with the June 11, 2009, memorandum of agreement implementing the interagency action plan on Appalachian Surface Coal Mining, which was signed by the Department of the Army, the Department of Interior, and the U.S. Environmental Protection Agency, the Corps issued a proposal in the Federal Register on July 15, 2009, to modify NWP 21 so that it would not authorize discharges of dredged or fill material into waters of the United States in the Appalachian region of Kentucky, Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia (see 74 FR 34311). In the June 18, 2010, issue of the Federal Register (75 FR 34711), the Corps announced the suspension of NWP 21 in the Appalachian region of six states (i.e., Kentucky, Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia) and said that it would consider modifying NWP 21.

As a result of our review of the comments received in response to the February 16, 2011, proposal we have determined that it would be appropriate to adopt Option 2 and substantially modify NWP 21 by imposing acreage and linear foot limits, as well as prohibiting its use to authorize discharges of dredged or fill material into waters of the

United States to construct valley fills associated with surface coal mining activities, to ensure that the NWP authorizes only those activities that result in minimal individual and cumulative adverse effects on the aquatic environment. The 1/2-acre and 300 linear foot limits will substantially reduce the amount of stream bed and other waters lost as a result of activities authorized by this NWP, and limit this NWP to minor fills associated with surface coal mining activities, such as the construction of sediment ponds. Issues relating to the use of individual permits to authorize discharges of dredged or fill material into waters of the United States associated with surface coal mining activities are outside the scope of the NWP reissuance process and are not addressed in this rule.

The proposed reissuance of NWP 21, as well as the selection of Option 2 to reissue the NWP with 1/2-acre and 300 linear foot limits and a prohibition against authorizing discharges of dredged or fill material into waters of the United States to construct valley fills, is not contrary to the suspension of NWP 21 in the Appalachian region of these six states. The NWP reissued today has been substantially modified from the 2007 version of NWP 21, with paragraph (a) authorizing Corps district engineers to re-authorize activities that were previously verified under the 2007 NWP 21 authorization where that would be appropriate, and paragraph (b) imposing the acreage and linear foot limits stated above, as well as the condition prohibiting its use for the construction of valley fills in waters of the United States, on new NWP 21 activities. The substantial changes in the terms and conditions of the reissued NWP 21 will ensure that the activities authorized by this NWP result in minimal individual and cumulative adverse effects on the aquatic environment. District engineers will review pre-construction notifications for activities authorized under paragraph (b) of this NWP and may require compensatory mitigation to offset losses of waters of the United States and ensure the adverse effects on the aquatic environment are minimal, individually and cumulatively. Compensatory mitigation required for activities verified under the 2007 NWP 21 will continue to be required, and may be augmented if the district engineer determines that they do not adequately compensate for losses of aquatic resource function and ensure minimal adverse effects. Suspension of an NWP is an interim measure to be taken if there are substantive concerns that an NWP activity is potentially causing more than minimal adverse environmental effects, while the Corps collects additional information and considers modifications to that NWP to satisfy statutory or regulatory requirements for general permits, such as compliance with Section 404(e) of the Clean Water Act. We fully considered the comments received in response to the July 15, 2009, proposal to suspend NWP 21 and used those comments to develop the three options presented in the February 16, 2011, proposal to reissue NWP 21. We have now determined that adopting Option 2 addresses the concern that led to our previous suspension of NWP 21 in the six Appalachian states, but in a more effective and equitable way. It is not the geographic location of activities, but rather the nature of these activities and their associated discharges that may lead to more than minimal adverse effects. By prohibiting the use of NWP 21 for discharges associated with valley fills and activities exceeding appropriate thresholds, which are consistent with the thresholds used for many other NWPs, we can ensure that activities that may result in more than minimal individual and cumulative adverse effects obtain individual permits, and those activities that will not result in more than minimal adverse effects can be authorized by an NWP, regardless of the region of the country in which they occur.

Only those surface coal mining activities involving discharges into waters of the United States that received written authorization under the 2007 NWP 21 may be eligible for authorization under paragraph (a) of this NWP. Activities that were subject to the June 18, 2010, suspension of NWP 21 in the Appalachian region of the six states may be eligible for NWP 21 authorization under paragraph (b) if they do not result in the loss of greater than 1/2-acre of waters of the United States, do not result in the loss of greater than 300 linear feet of stream bed (unless that 300 linear foot limit for intermittent and ephemeral streams is waived by the district engineer after agency coordination and making a written determination that the activity will result in minimal individual and cumulative adverse effects on the aquatic environment), and do not involve discharges of dredged or fill material into waters of the United States to construct valley fills.

One commenter objected to the proposed reissuance of NWP 21, stating that it authorizes impacts for activities that are not similar in nature, such as mining operations, impoundments, processing plants, and road crossings. The commenter said that that the Corps decision documents do not recognize that impoundments can cause massive spills or contaminate well water.

We do not agree that this NWP authorizes activities that are not similar in nature. This NWP authorizes surface coal mining activities, a broad category that includes a variety of features that may be constructed by discharging dredged or fill material into waters of the United States, the activities regulated by the Corps under Section 404 of the Clean Water Act. Discharges of dredged or fill material into waters of the United States may be used to construct sediment ponds, road crossings, etc. that are necessary to conduct surface coal mining activities, or they may occur while coal is being mined (e.g., mine-throughs). Impoundments constructed in waters of the United States should be properly maintained (see general condition 14, proper maintenance). District engineers may also require non-Federal permittees to demonstrate that those impoundment structures comply with applicable dam safety criteria (see general condition 24, safety of impoundment structures).

One commenter said that if NWP 21 was reissued and could be used to authorize valley fills, the Corps would violate the requirement in the 404(b)(1) Guidelines that no discharge of dredged or fill material shall be permitted which will cause or contribute to significant degradation of waters of the United States. This commenter also stated that the proposed 300 linear foot limit for the loss of stream bed would not prevent significant degradation of streams, and objected to the proposed waiver of that limit for intermittent and ephemeral streams, if the district engineer determined that such a loss would result in minimal adverse effects on the aquatic environment.

The NWP 21 reissued today does not authorize discharges of dredged or fill material into waters of the United States to construct valley fills, unless under paragraph (a) the activity was previously verified under the 2007 NWP 21 and the district engineer has determined that those activities still qualify for NWP 21 authorization under the 2012 NWP general conditions, applicable regional conditions, and any activity-specific conditions such as

compensatory mitigation requirements. For those previously authorized surface coal mining activities, the district engineer determined that the adverse effects on the aquatic environment are minimal, individually and cumulatively. To re-verify the NWP authorization under the 2012 NWP 21, the district engineer must determine that the activity continues to result in minimal individual and cumulative adverse effects on the aquatic environment. Surface coal mining activities that involve discharges of dredged or fill material into waters of the United States for the construction of valley fills that were not previously verified under the 2007 NWP 21 are subject to paragraph (b) of the 2012 NWP 21 and cannot be authorized by NWP 21. Discharges of dredged or fill material into waters of the United States authorized by NWP 21 require water quality certification. If water quality certification is not obtained or waived, that activity is not authorized by NWP 21. The water quality certifications issued by states are to be considered by district engineers to be conclusive regarding water quality issues, unless the Regional Administrator of the U.S. Environmental Protection Agency advises the district engineer of other water quality concerns that need to be taken into consideration. The construction of impoundments authorized by NWP 21 is generally a minor cause of changes to water quality. Most of the changes to water quality are due to the overall surface coal mining activity and the change in land use (including uplands) that occurs as a result of those mining activities. The discharges of dredged or fill material into waters of the United States authorized by NWP 21 constitute a small proportion of the overall fill placed in a watershed to dispose of the rock, soil, and other materials that are produced by the surface coal mining activity. As water percolates through the larger overall fill that has been placed in uplands and streams, the water chemistry changes. The effluent discharged from impoundments constructed to trap sediments and other materials to reduce their transport to downstream waters is regulated under Section 402 of the Clean Water Act, and requires a National Pollutant Discharge Elimination System (NPDES) permit. The NPDES permit is issued by states that have approved programs or the U.S. EPA.

One commenter said the Corps has ignored cumulative impacts from discharges of dredged or fill material previously authorized by NWP 21 in proposing Option 2 as a preferred alternative. The commenter also stated that the draft decision documents fail to provide any evidence that would support a minimal effects determination and that the Corps only considers cumulative effects during the five year period the NWP is in effect and this ignores the fact that valley fills bury streams permanently, whether authorized by past nationwide or individual permits, or in the future. The commenter also said that Option 2 ignores the cumulative amount of stream loss or acreage in a watershed from multiple permits.

We have taken into account cumulative impacts from discharges of dredged or fill material previously authorized by NWP 21, and cumulative effects of discharges of dredged or fill material previously authorized by individual permits, when developing the proposal to reissue NWP 21, including Option 2. For NWP 21 activities that were not previously authorized by the 2007 NWP 21, paragraph (b) of NWP 21 imposes a 1/2-acre limit on NWP 21, as well as a 300 linear foot limit for losses of stream bed, and does not authorize discharges of dredged or fill material into waters of the United States to construct valley fills. These changes will reduce the number of surface coal mining activities authorized by

NWP 21, when compared to previous versions of NWP 21, which had no acreage or linear foot limits, and could be used to authorize discharges of dredged or fill material into waters of the United States to construct valley fills. We determined that these limits will ensure that the adverse effects of discharges authorized by NWP 21 are minimal, both individually and cumulatively. Under the National Environmental Policy Act, an assessment of cumulative effects has to consider the past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-federal) or person undertakes such actions (see 40 CFR 1508.7). In addition, the 404(b)(1) Guidelines require a different approach to cumulative effects analysis for the issuance of a general permit, such as NWP 21. The 404(b)(1) Guidelines require the Corps or other permitting authority to predict cumulative effects by evaluating the number of individual discharges of dredged or fill material into waters of the United States expected to be authorized by that general permit until it expires (see 40 CFR 230.7(b)(3)).

The decision document for this NWP includes evaluations of cumulative effects under both approaches, and concludes that the reissuance of this NWP, including the imposition of the 1/2-acre limit, 300 linear foot limit, and prohibition against authorizing valley fills on activities that were not previously authorized under the 2007 NWP 21, as well as the pre-construction notification requirements and other procedural safeguards, will authorize only those activities with minimal individual and cumulative adverse effects on the aquatic environment. Activities authorized under the 2007 NWP 21 were already determined by district engineers to result in minimal individual and cumulative adverse effects on the aquatic environment. The other procedural safeguards include the authority for division engineers to modify, suspend, or revoke NWP 21 authorizations on a regional basis, and the authority for district engineers to modify NWP 21 authorizations by adding conditions, such as compensatory mitigation requirements, to ensure minimal individual and cumulative adverse effects on the aquatic environment. District engineers may also assert discretionary authority to require individual permits in cases where the adverse effects will be more than minimal.

Under the National Environmental Policy Act approach to assessing cumulative effects, the decision document discusses, in general terms, the various activities (Federal, non-Federal, and private actions) that may adversely affect the quantity and quality of aquatic resources in a watershed or other geographic region used for cumulative effects analysis, regardless of whether those activities occurred in the past or are expected to occur in the present or reasonably foreseeable future. Under the 404(b)(1) Guidelines approach for assessing cumulative effects of the issuance of a general permit such as NWP 21, the decision document evaluates the number of discharges of dredged or fill material into waters of the United States expected to occur during the five year period the NWP would be in effect, as well as the estimated loss of waters of the United States and compensatory mitigation. District and division engineers are to supplement these analyses when they prepare supplemental decision documents for this NWP, and these supplemental decision documents are to include cumulative effects analyses at a regional level. which can be highly informative regarding impacts at a local watershed level. The appropriate geographic scope of those cumulative effects analyses are at the discretion of the division or district engineers.

The Corps considers and addresses cumulative environmental effects of NWP 21 (and other NWPs) in two distinct ways. First, when Corps Headquarters evaluates and proposes to issue or re-issue a NWP (such as NWP 21), we evaluate cumulative effects at the national level, using available national information on aquatic resource status and trends and the general effects human activities have on aquatic resources. The cumulative effects analyses presented in the Headquarters decision documents reflect these national-scale evaluations and conclusions supporting the promulgation of the NWP from Corps Headquarters.

Second, division and district engineers monitor the use of the NWPs on a regional level, and will modify, suspend, or revoke applicable NWPs when necessary if the use of those NWPs is likely to result in more than minimal individual and cumulative adverse effects on the aquatic environment within a particular watershed, ecoregion, state, county, or other appropriate geographic area. To address regional and site-specific environmental considerations, we rely on the Corps district offices that receive pre-construction notifications required by the terms and conditions of the NWP to evaluate the relevant regional and site-specific environmental considerations. The Corps district may add conditions to the NWP authorization, including compensatory mitigation requirements, to ensure that the individual and cumulative adverse effects on the aquatic environment caused by the NWP activity are minimal, and therefore qualify for NWP authorization. If conditions cannot be added to the NWP authorization to ensure that minimal individual and cumulative adverse effects on the aquatic environment occur, the district engineer will exercise discretionary authority and notify the applicant that an individual permit is required.

One commenter said there is insufficient support for the Corps position that the required compensatory mitigation will attenuate cumulative impacts on the Nation's aquatic resources by providing aquatic resource functions and services, so the net effects will be minimal. Another commenter stated that the Corps relies heavily on mitigation, such as stream creation, restoration, and enhancement, but there is no evidence that stream creation works. The commenter also indicated that the 404(b)(1) Guidelines provide that no permit may rely on mitigation techniques unless they have been demonstrated to be effective in circumstances similar to those under consideration, and that the 2008 compensatory mitigation rule requires that the district engineer assess the likelihood for ecological success. The commenter said the Corps cannot issue an NWP without assessing mitigation effectiveness and success in the specific context in which the mitigation technique would be used. The commenter concluded that the Corps mitigation analysis fails to contain any discussion of stream functions that would be lost from potential NWP activities and whether compensatory mitigation can replace those functions.

Compensatory mitigation can be an effective means of offsetting losses of aquatic resource functions caused by activities authorized by Department of the Army permits, including NWP 21 activities, if it is thoughtfully planned, implemented, and monitored. Compensatory mitigation projects must be carefully sited, planned, and designed to be ecologically successful in providing stream or wetland functions. Site selection is a critical step in developing and implementing an ecologically successful compensatory mitigation project.

With the promulgation of 33 CFR part 332 on April 10, 2008 (73 FR 19594), the Corps Regulatory Program adopted requirements and standards to improve compensatory mitigation practices for offsetting losses of aquatic resource functions. Under the 2008 rule, a watershed approach should be used for establishing compensatory mitigation requirements that will successfully provide aquatic resource functions to offset losses of those functions caused by permitted activities.

The 2008 rule identifies streams as "difficult-to-replace" resources and states that if further avoidance and minimization of stream impacts is not practicable, the required compensatory mitigation should be provided through stream rehabilitation, enhancement, or preservation since those techniques have a greater certainty of success (see 33 CFR 332.3(e)(3)). The preamble to the 2008 rule includes a detailed discussion of the scientific status of stream restoration and concludes that there has been success with stream rehabilitation, enhancement, and preservation activities (see 73 FR 19596 – 19598). In accordance with the 2008 rule, the Corps is not relying on stream creation as a mechanism to provide compensatory mitigation for NWP 21 activities. In cases where compensatory mitigation is required for NWP 21 activities, those compensatory mitigation requirements will be specified as activity-specific conditions of NWP 21 authorizations. The required components of a compensatory mitigation plan are specified at 33 CFR 332.4(c)(2) – (14), and the district engineer will evaluate each compensatory mitigation proposal to assess its potential for ecological success, and consider the relevant factors provided in 33 CFR 332.3. The compensatory mitigation plan must be approved by the district engineer and monitoring will be required to assess whether the compensatory mitigation project is meeting its objectives and is successfully meeting its ecological performance standards. The district engineer will review monitoring reports, and if the compensatory mitigation project is not meeting its ecological performance standards, he or she will require the responsible party to identify and implement adaptive management measures to make changes to provide a successful mitigation project. If adaptive management is not likely to result in an ecologically successful compensatory mitigation project that will be sufficient for offsetting lost aquatic resource functions that result from the permitted activity, alternative compensatory mitigation may be required. Financial assurances may also be required to help ensure the success of the required compensatory mitigation.

The 404(b)(1) Guidelines, which address habitat development and restoration as a means of minimizing adverse effects to plant and animal populations (40 CFR 230.75(d)), recommend the use of techniques that have been demonstrated to be effective. That provision is consistent with the section on difficult-to-replace resources (33 CFR 332.3(e)(3)/40 CFR 230.93(e)(3)), which states that rehabilitation, enhancement, and preservation should be used to provide the required compensatory mitigation to offset permitted impacts to such resources because there is greater certainty that such stream rehabilitation, enhancement, and preservation will be ecologically successful and offset those permitted impacts. The decision document for this NWP contains a general discussion of the functions provided by streams, as well as general citations supporting our position that stream rehabilitation and enhancement can provide stream functions to offset functions lost as a result of permitted activities. It is not necessary for the decision document to provide a comprehensive analysis

of the state of stream restoration success. The approach discussed above, and in 33 CFR part 332, is consistent with the Council on Environmental Quality's January 14, 2011, guidance on the "Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact." That guidance advocates the use of adaptive management to take corrective actions if the required mitigation fails to achieve projected environmental outcomes, which is also required by the Corps compensatory mitigation regulations in 33 CFR part 332.

One commenter said that the Corps has failed to analyze whether surface coal mining activities authorized by NWP 21 will cause significant degradation to "special aquatic sites," such as riffle and pool complexes. This commenter asserted that valley fills and mining through streams frequently buries riffle and pool complexes, and these special aquatic sites are protected by stringent restrictions on discharges of fill material into such sites. The commenter also stated that practicable alternatives that do not involve burying riffles and pools are presumed to be available unless clearly demonstrated otherwise and such alternatives are presumed to have less adverse impacts on the aquatic ecosystem. This commenter said the Corps should deny a permit if it lacks sufficient information to determine whether the proposed discharge complies with the Guidelines.

The activities authorized by this NWP comply with the 404(b)(1) Guidelines, even though it authorizes discharges of dredged or fill material into waters of the United States that may be classified as special aquatic sites such as riffle and pool complexes. Each activity authorized by an NWP does not require a project-specific 404(b)(1) Guidelines analysis – that analysis is done before the NWP or any other type of general permit is issued (see 40 CFR 230.7). The 404(b)(1) Guidelines do not prohibit the use of general permits to authorize discharges of dredged or fill material into special aquatic sites. A determination of significant degradation does not focus simply on the loss of a special aquatic site caused by the discharge of dredged or fill material. It requires a broader analysis. The process for determining whether significant degradation occurs consists of applying the provisions of the 404(b)(1) Guidelines holistically, and assessing the effects of the proposed discharge of pollutants on human health and welfare; aquatic life and wildlife; aquatic ecosystem diversity, productivity, and stability; and recreational, aesthetic, and economic values. For activities authorized by general permits, the evaluation of alternatives in accordance with 40 CFR 230.10(a) does not directly apply (see 40 CFR 230.7(b)(1)). Paragraph (a) of general condition 23, mitigation, requires project proponents to design and construct NWP activities to avoid and minimize adverse effects to the aquatic environment to the maximum extent practicable on the project site.

Several commenters stated that surface coal mines are already heavily regulated under SMCRA, which includes a variety of requirements to protect waters of the United States, so additional requirements are not needed to ensure that adverse effects to the aquatic environment are minimal. Two of these commenters stated NWP 21 should be reissued without change because of SMCRA requirements. One commenter said the authority to authorize stream and wetland impacts caused by mining activities should rest solely with the SMCRA regulatory authority.

There is often more than one Federal law that regulates surface coal mining activities, especially in cases where those activities involve discharges of dredged or fill material into waters of the United States. While most aspects of surface coal mining are regulated under SMCRA, surface coal mining and reclamation activities involving discharges of dredged or fill material into waters of the United States also require permits issued under Section 404 of the Clean Water Act. The statutory and regulatory standards established under SMCRA are different than those established under Section 404 of the Clean Water Act, including section 404(e) which authorizes the Corps to issue general permits. One of the objectives of SMCRA is to ensure that surface coal mining activities are conducted in an environmentally responsible manner and that the land disturbed by mining is adequately reclaimed. One of the objectives of the Clean Water Act is to "restore and maintain the physical, chemical, and biological integrity of the Nation's waters." Under the regulations implementing SMCRA, surface coal mining and reclamation activities must be conducted in a manner that will "minimize the disturbance of the hydrologic balance within the permit and adjacent areas" and that will "prevent material damage to the hydrologic balance outside the permit area." As part of the SMCRA permitting process, potential changes to the quality and quantity of surface and groundwater are evaluated to ensure that material damage to the hydrologic balance outside the permit area will not occur. Other factors considered under SMCRA include: pre- and post-mining land uses, backfilling and grading activities, disposal of excess spoil, and the protection or replacement of water supplies.

Under Section 404 of the Clean Water Act, the 404(b)(1) Guidelines provide the substantive criteria for evaluating the environmental effects of proposed discharges of dredged or fill material into waters of the United States. The 404(b)(1) Guidelines are not focused on considering effects to water quality and quantity. The 404(b)(1) Guidelines also require examination of the effects that discharges of dredged or fill material will have on physical, chemical, and biological attributes of waters of the United States. The 404(b)(1) Guidelines at 40 CFR part 230 require the Corps to evaluate the effects of discharges of dredged or fill material, including general permits that authorize such discharges, on the applicable criteria listed in subparts C through F. Examples of criteria in those subparts are: substrate; suspended particulates/turbidity; water; current patterns and water circulation; normal water fluctuations; threatened and endangered species; fish, crustaceans, mollusks, and other aquatic organisms in the food web; other wildlife; wetlands; riffle and pool complexes; municipal and private water supplies; recreational and commercial fisheries; water-related recreation; and aesthetics. The threshold for issuance of general permits such as NWP 21 is a determination that the authorized activities would result in no more than minimal individual or cumulative adverse environmental effects.

There is no corresponding threshold under SMCRA and its implementing regulations, which do not require that permit applications be evaluated in terms of the 404(b)(1) Guidelines. Instead, section 507(b)(11) of SMCRA requires that the permit applicant prepare a determination of the probable hydrologic consequences of the proposed operation with respect to the hydrologic regime and the quantity and quality of water in surface and ground water systems. Section 510(b)(3) of SMCRA requires that the regulatory authority use this

determination and other available information to prepare an assessment of the probable cumulative impact of all anticipated mining in the area on the hydrologic balance. The SMCRA regulatory authority may not issue a permit unless it first finds that the operation has been designed to prevent material damage to the hydrologic balance outside the permit area. While there is some overlap, the thresholds for permit issuance under SMCRA are not the same as the thresholds under Section 404 of the Clean Water Act. Given the different permit issuance thresholds of SMCRA and Section 404 of the Clean Water Act, NWP 21 authorizations cannot only rely on the environmental reviews conducted under SMCRA to satisfy the minimal effects requirement.

Section 404 of the Clean Water Act applies to all discharges of dredged or fill material into waters of the United States, unless those activities qualify for an exemption under Section 404(f) of the Clean Water Act. Section 404(f) does not specifically exempt surface coal mining activities. For those activities that do not qualify for an exemption from the permit requirements of the CWA, the Corps must evaluate applications for Department of the Army permits, including general permits, and either apply the 404(b)(1) Guidelines (if an individual permit is required) or determine whether the proposed activity qualifies for NWP authorization. This NWP provides an efficient means of authorizing discharges of dredged or fill material into waters of the United States that result in minimal individual and cumulative adverse effects on the aquatic environment. Corps districts work with SMCRA regulatory authorities to reduce duplication, but each agency must still ensure that proposed activities comply with their respective statutes and implementing regulations.

Two commenters stated the primary effect of adopting any of the three options proposed for NWP 21 in the February 16, 2011, Federal Register notice would be to require proposed surface coal mining activities involving discharges of dredged or fill material into waters of the United States to be evaluated under the individual permit process. This would cause an unnecessary additional delay and expense to mine operators and require the Corps to get additional personnel and funding to process additional individual permit applications in a timely manner. One commenter suggested that NWP 21 should be reissued as it was in 2007, and that regional conditions should be used in Appalachia to ensure those activities result in minimal adverse effects on the aquatic environment. This commenter said this approach would allow western coal producers to continue their operations without negative consequences.

We acknowledge that reissuing NWP 21 with a 1/2-acre limit, a 300 linear foot limit for the loss of stream bed, and not authorizing discharges of dredged or fill material into waters of the United States to construct valley fills, will result in more surface coal mining activities requiring Clean Water Act Section 404 individual permits. To provide an equitable and less burdensome transition to the new limits to NWP 21, under paragraph (a) NWP 21 continues to authorize surface coal mining activities that were previously authorized under the 2007 NWP 21 without those new limits. Under paragraph (b), the 1/2-acre and 300 linear foot limits, as well as the prohibition against authorizing discharges of dredged or fill material into waters of the United States to construct valley fills, apply to surface coal mining

activities that were not authorized by the 2007 NWP 21. Expansions of activities that were previously verified under the 2007 NWP 21 do not qualify for paragraph (a) of NWP 21.

Continuing to authorize surface coal mining activities that were verified under the 2007 NWP 21 will reduce burdens on the regulated public while protecting the aquatic environment in accordance with the requirements of Section 404(e) of the Clean Water Act. These project proponents who received verifications under the 2007 NWP 21 expended substantial resources to obtain their authorizations. If they cannot comply with the new limits imposed on NWP 21 it would impose a significant hardship to require those operators to cease surface coal mining activities in waters of the United States while they apply for individual permits and wait for a decision. We estimate that there are approximately 70 surface coal mining activities across the country that were authorized by the 2007 NWP 21 that may qualify for authorization under paragraph (a) of NWP 21 when it goes into effect on March 19, 2012. To obtain authorization under paragraph (a) of the 2012 NWP 21, these project proponents do not need to submit a pre-construction notification since they already did so under the 2007 NWP 21 and that notification will be on file at the district office. Instead, those project proponents only need submit a letter to the district engineer requesting verification under the 2012 NWP 21. That letter should be sent to the district engineer by February 1, 2013, although that deadline may be extended in writing by the district engineer. This date allows the district engineer approximately 45 days for review of the letter before the expiration of the one-year period that is allowed for completion of activities authorized under the 2007 NWP 21. Any changes to the previously authorized surface coal mining activity must also be described in that letter, so that the district engineer can determine whether the activity still results in minimal individual and cumulative adverse effects on the aquatic environment and is eligible for authorization under paragraph (a) of NWP 21. The district engineer will review such requests and notify the permittee whether the activity is authorized by the 2012 NWP 21. There will be no agency coordination of these previously authorized NWP 21 activities. Any currently applicable regional conditions and any activity-specific conditions, such as compensatory mitigation requirements, would apply to the NWP authorization. The district engineer may also revise such conditions and requirements if the existing ones are determined not to be adequate to ensure minimal adverse effects. If the permittee does not receive a written verification from the district engineer prior to the expiration of the one-year period provided in 33 CFR 330.6(b), the permittee must cease all activities until such verification is received because that one-year period cannot be extended. The surface coal mine activity must be authorized under the 2012 NWP 21 or another form of Department of the Army authorization to discharge dredged or fill material into waters of the United States after the one-year period ends on March 18, 2013. The district engineer may also extend the February 1, 2013, deadline by notifying the permittee in writing, if he or she needs less than 45 days to make a decision on the 2012 NWP 21 authorization. The Corps encourages operators who received a 2007 NWP 21 verification and plan to operate past March 18, 2013, to submit their letter as soon as possible to allow for uninterrupted NWP 21 permit coverage. Expansions of previously verified NWP 21 activities that result in greater losses of waters of the United States are not authorized under paragraph (a) will require a different form of Department of the Army authorization if they do not qualify for authorization under paragraph (b) of NWP 21. If the surface coal mining activity involving

discharges of dredged or fill material into waters of the United States authorized under paragraph (a) cannot be completed by the time the 2012 NWP 21 expires, then the project proponent will have to obtain an individual permit or regional general permit, if the activity does not qualify for an applicable NWP issued in 2017. The Corps recommends that any projects that will extend beyond March 18, 2017, that do not meet the new limits in NWP 21 apply for an individual permit and allow sufficient time for the Corps to process their application to allow uninterrupted coverage when the new NWP 21 expires in 2017.

The limits added to paragraph (b) of NWP 21 will ensure that this NWP authorizes only those activities that have minimal adverse effects on the aquatic environment, individually and cumulatively. These limits will also result in more new projects needing to obtain individual permits. The Corps has the resources necessary to process those individual permit applications in a timely manner. It is important for coal mine operators to consider the advantages of obtaining individual permits for surface coal mining activities. In accordance with Section 404(e) of the Clean Water Act, general permits, including NWPs, can be issued for a period of no more than five years. Individual permits can be issued for longer periods of time – the expiration date for an individual permit is at the discretion of the district engineer, who will take into account the characteristics of the proposed activity and the amount of time expected to be needed to complete the regulated activities. Therefore, it would often be advantageous for a surface coal mine operator to obtain an individual permit that would authorize discharges of dredged or fill material into waters of the United States for the expected operational timeframe for that particular coal mine. Under NWP 21, no authorization could be issued for a time period of more than five years. If the NWP 21 activity is not completed by the expiration date of the NWP authorization then the project proponent would have to notify the district engineer and obtain another NWP verification.

Nationwide permit NWP 21 pre-construction notifications require substantial resources to evaluate proposed activities and determine whether they result in minimal individual and cumulative adverse effects on the aquatic environment, and whether compensatory mitigation is needed to comply with the minimal adverse environmental effects requirement for general permits. Under the 2007 NWP 21, the project proponent could not proceed until he or she obtained an NWP 21 verification. The substantial amount of review required for both NWP 21 pre-construction notifications and individual permit applications both involve considerable amounts of resources from the Corps, so we do not expect a significant increase in workload or processing times to occur through the implementation of Option 2 and the modifications we made to that option for the final NWP.

In response to the NWP 21 proposal, one commenter said the Corps was attempting to decide on behalf of the United States government how much coal mining should take place, or what scale of mining operations is appropriate. The commenter suggested that the Corps only concern should be the scale of the regulated activity and not the scale of the mining operation. The commenter stated that the Corps evaluation of surface coal mining activities should be focused on impacts to aquatic resources. One commenter said the proposed changes to NWP 21 would have a significant effect on energy supply, since the ability to

obtain permits in a timely manner is essential to the production of coal, which provides over 30 percent of America's electric power.

The three options provided in the February 16, 2011, Federal Register notice were intended to solicit comment to assist the Corps in identifying an option for the reissuance of NWP 21 that would comply with the statutory and regulatory requirements for general permits. Those options were developed to determine which terms and conditions (if any) should be established to ensure that NWP 21 authorizes only those activities that result in minimal adverse effects on the aquatic environment. The proposal does not affect how much coal mining may take place, nor does it have a significant effect on energy supply, because those surface coal mining activities that do not qualify for NWP 21 authorization may be authorized by individual permits or general permits, if such general permits are available. The Corps review is focused on adverse effects to aquatic resources, as well as other public interest review factors. The limits on the use of NWP 21 are expressed in terms of impacts to the aquatic environment, not the scale of the mining operation. Other aspects of surface coal mining activities are regulated by OSMRE or delegated states under SMCRA.

One commenter said that NWP 21 should not apply to ephemeral waters because they are not jurisdictional waters of the United States. Several commenters stated that NWP 21 encourages operators to design their projects within the scope of the NWP rather than seek an individual permit, thereby reducing impacts. These commenters said that there may be a net gain of wetland acreages because of reclamation practices at surface coal mines.

Ephemeral streams are waters of the United States if they meet the definition of "waters of the United States" at 33 CFR part 328 and applicable guidance on Clean Water Act jurisdiction, such as the guidance issued in 2008 entitled "Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States and Carabell v. United States." The NWP 21 issued in 2007 did not have any acreage or linear foot limits, which are the primary tools used to encourage avoidance and minimization to qualify for NWP authorization. Except for those previously verified 2007 NWP 21 activities authorized under paragraph (a), the NWP 21 reissued today has a 1/2-acre limit and a 300-linear foot limit for losses of stream bed, which will be more effective in encouraging project proponents to avoid and minimize losses of waters of the United States to quality for NWP 21 authorization. We acknowledge that there may be net gains in wetland acreage at some surface coal mining reclamation sites, but we have imposed limits on NWP 21 because of concerns about losses of stream bed and the potential for surface coal mining activities to have more than minimal adverse effects on the aquatic environment, individually and cumulatively.

One commenter disagreed with the Corps assertion that valley fills substantially alter watersheds and result in adverse impacts on the aquatic environment. This commenter also said that Options 2 and 3 do not allow the Corps the flexibility to increase the amount of stream bed loss above the 300 linear foot limit. The commenter also objected to the proposed interagency coordination for activities resulting in a loss of greater than 1,000

linear feet of intermittent and ephemeral stream beds, and said the Corps has not suggested any reasons for this restrictive provision.

Surface coal mining activities involving the construction of valley fills result in substantial changes to the watersheds of the headwater streams that are primarily impacted by these activities. Those watersheds are changed by the large amounts of land clearing and earthmoving that occur during the mining activity. The construction of the valley fill itself causes changes to the geomorphology of the watershed, which affects water quality and watershed hydrologic functions, such as water collection, transport, and storage. It is well documented in the scientific literature that changes in land use affect the quantity and quality of streams, wetlands, and other aquatic resources. Examples of such scientific studies are cited in the decision document for this NWP. The 300 linear foot limit for losses of stream bed is generally necessary to ensure that NWP 21 authorizes only those activities that result in minimal adverse effects on the aquatic environment. However, that 300 linear foot limit may be waived by the district engineer if the proposed activity involves filling or excavating intermittent or ephemeral stream beds and the district engineer determines, in writing, that that activity will result in minimal individual and cumulative adverse effects on the aquatic environment. Agency coordination for proposed losses of greater than 300 linear feet of intermittent or ephemeral stream bed is intended to provide information that will assist the district engineer in making his or her minimal adverse effects determination.

One commenter said all Corps divisions and districts should add regional modification alternatives to address differences in aquatic resources functions. This commenter also stated that the proposal provides that the cumulative impact analysis for an NWP 21 is not limited to assessing impacts of the use of the NWP 21 on a national basis and is not limited to activities authorized by NWPs or other Department of Army permits. The commenter acknowledged that the Corps considers activities not regulated by the Corps, including private actions and those resulting in changes in the use of uplands next to or near wetlands, streams, or other aquatic resources during the cumulative effects analysis.

It is at the division engineer's discretion whether to add regional conditions to an NWP to ensure that the NWP authorizes only those activities that have minimal individual and cumulative adverse effects on the aquatic environment. In addition, district engineers may modify NWP authorizations by adding activity-specific conditions to minimize adverse environmental effects. The decision documents comply with the two relevant approaches for conducting cumulative effects analyses: (1) the approach provided in the Council on Environmental Quality's definition of "cumulative impact" provided in their National Environmental Policy Act regulations at 40 CFR 1508.7, and (2) the approach indicated in the 404(b)(1) Guidelines at 40 CFR 230.7(b).

One commenter said the proposed changes to NWP 21 will actually increase impacts because mining operators will need to increase the size of their mining sites to make the individual permit process cost effective. The commenter said operators will no longer be able to afford to mine the smaller reserve areas, so larger mine areas would need to be permitted.

The changes to NWP 21 are appropriate to help ensure that this NWP complies with the statutory requirements for general permits, in that it may only authorize activities that have minimal individual and cumulative adverse environmental effects. Surface coal mining activities involving discharges of dredged or fill material into waters of the United States that do not qualify for NWP authorization will be evaluated as individual permits if applicable regional general permits are not available. Activities authorized by individual permits must comply with the 404(b)(1) Guidelines and undergo an alternatives analysis. A public interest review will also be conducted during the individual permit review process. Mining companies will have to make their own decisions on whether it is economically viable to mine smaller reserve areas, and apply for Department of the Army authorization if proposed activities involve discharges of dredged or fill material into waters of the United States.

One commenter said that if Option 2 is adopted, it should include a definition of valley fill. A commenter stated that the utility of NWP 21 would be substantially reduced because losses of waters of the United States caused by the construction of attendant features such as ponds and roads would be counted towards the 1/2-acre and 300 linear foot limits. Another commenter indicated that the 1/2-acre limit would only authorize small sediment ponds. This commenter stated that small sediment ponds would not be able to effectively service a typical mine site. One commenter requested clarification on whether the amount of stream that is impounded for sediment ponds will be counted as a loss of waters of the United States and whether these ponds will have to be removed upon completion of the mining.

We have added a definition of the term "valley fill" to the text of this NWP. While fewer surface coal mining activities involving discharges of dredged or fill material into waters of the United States would be authorized by NWP 21 when compared to previous issued versions of this NWP, the new terms and conditions of this NWP, including the 1/2-acre and 300 linear foot limits, are necessary to ensure that this NWP authorizes only those activities that have minimal individual and cumulative adverse effects on the aquatic environment. If the construction of larger sediment ponds does not qualify for NWP 21 authorization, activities may be authorized by individual permits or applicable regional general permits. In the definition of "loss of waters of the United States" the loss of stream bed is determined by the amount of linear feet of stream bed that is filled or excavated. As to whether sediment ponds would have to be removed upon completion of the mining operation, that would be a case-specific determination made by the district engineer after taking into account requirements of the SMCRA authority.

One commenter asked how many surface coal mining activities may be authorized each year with NWP 21 if Option 2 is selected. One commenter said the proposed changes to NWP 21 would be costly to small businesses and disagreed with the Corps statement that the revised NWPs will not impose substantially higher costs on small entities than those of existing permits. Another commenter indicated that the proposed changes to NWP 21 would result in more environmental impact statements being required because of the amount of wetlands in their area.

In section 6.2.2 of the decision document for this NWP, we provide estimates of the number of times we predict NWP 21 will be used each year. Under paragraph (b), we estimate that NWP 21 will be used approximately 11 times per year, although more activities may qualify for NWP 21 authorization if project proponents do additional avoidance and minimization to reduce losses of waters of the United States to satisfy the acreage and linear foot limits. As discussed above, we estimate that, across the country, approximately 70 NWP 21 activities verified under the 2007 NWP 21 might be re-verified under paragraph (a) of the 2012 NWP 21. The estimate provided in the decision document was based on an analysis of past use of NWP 21, and it is a rough estimate because NWP 21 did not have an acreage or linear foot limit and we cannot predict how many activities can be modified to comply with the new limits. Therefore, it is difficult to accurately predict how often project proponents will qualify for authorization under the NWP 21 issued today. Since fewer surface coal mining activities are likely to qualify for NWP 21 authorization, and more will require individual permits, we acknowledge that there will be greater compliance costs for small businesses. In the preamble to the proposal, where we discuss compliance with the Regulatory Flexibility Act, we state that the proposed NWPs would not result in a significant impact on a substantial number of small entities. That statement was made in the context of considering all of the 48 NWPs proposed to be reissued and the two proposed new NWPs. Some NWPs, such as NWP 48, will require fewer pre-construction notifications and other requirements on small entities while other NWPs, such as NWP 21, will have more stringent requirements to satisfy the minimal adverse environmental effects standard and will authorize fewer activities. We do not agree that these changes to NWP 21 will result in significantly more environmental impact statements. The threshold for NWP authorization, as well as for other general permits, is minimal adverse environmental effects. The threshold for preparing an environmental impact statement is that the activity constitutes a major Federal action significantly affecting the quality of the human environment. Since the threshold that triggers the requirement to prepare an environmental impact statement is greater than the minimal adverse environmental effects threshold for NWP activities, activities that were previously authorized by NWP should generally not require an environmental impact statement if they are instead evaluated through the individual permit process. Environmental assessments should suffice to provide National Environmental Policy Act compliance for most, if not all, of those activities. If the adverse effects on the aquatic environment for a proposed NWP activity are determined by the district engineer to be more than minimal individually and cumulatively, then discretionary authority should be exercised and the proposed activity evaluated through the individual permit process.

Many commenters said that that it would be more appropriate to establish different NWP terms and conditions for different areas of the United States, because of vast differences in geological, topographical, climatologically and ecological regimes in areas where coal resources are located across the country. One of these commenters recommended focusing on the use of regional conditions to address regional differences in coal mining techniques and issues, instead of modifying NWP 21.

An NWP is developed to authorize specific categories of activities across the country that have minimal individual and cumulative adverse effects on the aquatic environment and is issued by Corps Headquarters. There must be a national decision document for each NWP, and to issue that NWP, there must be a finding that the NWP will authorize only those activities that have minimal individual and cumulative adverse effects on the aquatic environment. Division and districts prepare supplemental decision documents to explain whether regional conditions are needed to satisfy the minimal adverse effects requirement. Regional conditions are added to an NWP at a division engineer's discretion and Corps Headquarters cannot mandate the adoption of regional conditions.

The national decision documents acknowledge that regional conditions approved by division engineers and activity-specific conditions added to NWP authorizations are procedures to be relied upon to satisfy the minimal adverse environmental effects requirement. In those areas of the country where surface coal mining activities result in minimal individual and cumulative adverse effects on the aquatic environment but exceed the limits of NWP 21, division and district engineers may issue regional general permits that have different terms and conditions than NWP 21, including larger acreage or linear foot limits. Those regional general permits are a more appropriate mechanism for considering local geologic, topographic, climatologic, and ecological characteristics.

Some commenters stated that Executive Order 13563, "Improving Regulation and Regulatory Review" asks federal agencies to tailor regulations to impose the least burden on society, including individuals, businesses of differing sizes, and other entities. These commenters said that adding additional redundant review by Federal agencies violates this Executive Order and threatens energy supplies. One of these commenters said the proposal to reissue NWP 21 with modifications is contrary to the objectives of Executive Order 13563 because it fails to use the best, most innovative and least burdensome tools for achieving regulatory ends and that the proposed limits in NWP 21 are redundant, inconsistent, or overlapping with other regulations.

As explicitly recognized in Executive Order 13563 itself, an Executive Order does not supersede Federal laws, such as the requirements in the Clean Water Act, the Rivers and Harbors Act of 1899, the Endangered Species Act, and the National Historic Preservation Act. Section 404(e) of the Clean Water Act states that general permits (including NWPs) authorize categories of activities that are similar in nature and result only in minimal individual and cumulative adverse environmental effects. The Corps complied with Section 2 of Executive Order 13563 by seeking public comment on the proposal to reissue NWP 21 with modifications, for a 60-day comment period. The Corps has determined that the changes to NWP 21 are necessary to comply with the requirements of Section 404(e) of the Clean Water Act. We have modified Option 2 by authorizing activities verified under the 2007 NWP 21 (see paragraph (a) of NWP 21), to provide an equitable transition to the new limits in NWP 21 and reduce burdens on the regulated public. The authority for the district engineer to waive the linear foot limit for losses of intermittent and ephemeral streams if the impacts are not more than minimal is also intended to minimize regulatory burden. As discussed earlier in this section, the terms and conditions of NWP 21 are not duplicative

with the requirements of other Federal agencies. While surface coal mining activities are more broadly regulated under the Surface Mining Control and Reclamation Act by the Office of Surface Mining Reclamation and Enforcement or approved states, the Corps regulates discharges of dredged or fill material into waters of the United States, and focuses its evaluation on the effects those discharges have on the aquatic environment or its other public interest review factors (see 33 CFR 330.1(d) and (e)(2)). Those activities that do not qualify for NWP authorization may be authorized by other forms of Department of the Army authorization, such as individual permits or regional general permits. The standards the Corps uses to ensure compliance with the Clean Water Act differ from the standards used by the Office of Surface Mining Reclamation and Enforcement or approved states to ensure compliance with the Surface Mining Control and Reclamation Act, and those standards are not redundant.

A commenter disagreed with the Corps statement that the proposed NWPs are not a significant energy action as defined by Executive Order 13211 because of the proposed changes to NWP 21. The commenter said the Corps must prepare a Statement of Energy Effects as required by the Executive Order, including a description of the adverse impacts expected to the production of coal, the nation's primary electrical generation fuel supply. One commenter said that the time frames for evaluating NWP 21 pre-construction notifications should be similar to those of other NWPS, and NWP 21 should not require the project proponent to wait until he or she receives a written NWP verification even if the 45-day review period has passed.

The changes to NWP 21 are appropriate and help to ensure that the NWP authorizes only those discharges of dredged or fill materials into waters of the United States that have minimal adverse effects on the aquatic environment, individually and cumulatively. Surface coal mining activities that involve discharges of dredged or fill material into waters of the United States that do not qualify for NWP authorization may be authorized by individual permits or, if available, applicable regional general permits, which would still support the production of coal to supply the nation's energy needs. Given the adverse environmental effects associated with surface coal mining activities involving discharges of dredged or fill material into waters of the United States, which are discussed in the decision document for this NWP, we believe it is necessary to retain the existing requirement that the project proponent may not proceed with the NWP 21 activity until after he or she has obtained a written NWP 21 verification. Project proponents are already accustomed to complying with this requirement and plan accordingly.

One commenter suggested establishing a grandfathering period for surface coal mining activities authorized by the NWP 21 issued in 2007, to allow permittees to complete their currently approved mitigation plans without an added burden of updating permits. Another commenter asked how project proponents are expected to transition from the current 2007 NWP 21 to one of the selected options for reissuing NWP 21, if NWP 21 is reissued under either Option 2 or 3.

As discussed above, we have revised NWP 21 to continue the NWP authorization for surface coal mining activities that were verified under the 2007 NWP 21, to provide project proponents until March 18, 2017, to complete those activities under NWP 21. The acreage limits, linear foot limits, and prohibition against discharges of dredged or fill material into waters of the United States to construct valley fills apply to those surface coal mining activities that were not previously authorized by the 2007 NWP 21. We believe this approach for transitioning to the new NWP 21 limits provides both protection to the aquatic environment and is equitable to those members of the regulated public who made substantial investments in reliance on a previously verified NWP 21 authorization.

One commenter said that a pre-construction notification should be required for all NWP 21 activities, so plans and permit conditions could be reviewed to ensure that contaminated water being generated during these activities is not later reaching open water and impacting state-owned lands. One commenter expressed concern that historic resources impacts are not considered under SMCRA in cases where the program has been delegated to states.

To be authorized by this NWP, the project proponent must submit a pre-construction notification, so that the district engineer can evaluate the proposed activity and ensure that it qualifies for NWP authorization. Activities authorized by this NWP must comply with general condition 20, historic properties. If the proposed activity has the potential to cause effects to historic properties, consultation under Section 106 of the National Historic Preservation Act will be conducted before the district engineer determines whether the activity is authorized by NWP.

2.0 Alternatives

This evaluation includes an analysis of alternatives based on the requirements of NEPA, which requires a more expansive review than the Clean Water Act Section 404(b)(1) Guidelines. The alternatives discussed below are based on an analysis of the potential environmental impacts and impacts to the Corps, Federal, Tribal, and state resource agencies, general public, and prospective permittees. Since the consideration of off-site alternatives under the 404(b)(1) Guidelines does not apply to specific projects authorized by general permits, the alternatives analysis discussed below consists of a general NEPA alternatives analysis for the NWP.

2.1 No Action Alternative (No Nationwide Permit)

The no action alternative would not achieve one of the goals of the Corps Nationwide Permit Program, which is to reduce the regulatory burden on applicants for activities that result in minimal individual and cumulative adverse effects on the aquatic environment. The no action alternative would also reduce the Corps ability to pursue the current level of review for other activities that have greater adverse effects on the aquatic environment, including activities that require individual permits as a result of the Corps exercising its discretionary authority under the NWP program. The no action alternative would also reduce the Corps

ability to conduct compliance actions.

If this NWP is not available, substantial additional resources would be required for the Corps to evaluate these minor activities through the individual permit process, and for the public and Federal, Tribal, and state resource agencies to review and comment on the large number of public notices for these activities. In a considerable majority of cases, when the Corps publishes public notices for proposed activities that result in minimal adverse effects on the aquatic environment, the Corps typically does not receive responses to these public notices from either the public or Federal, Tribal, and state resource agencies. Another important benefit of the NWP program that would not be achieved through the no action alternative is the incentive for project proponents to design their projects so that those activities meet the terms and conditions of an NWP. The Corps believes the NWPs have significantly reduced adverse effects to the aquatic environment because most applicants modify their projects to comply with the NWPs and avoid the delays and costs typically associated with the individual permit process.

In the absence of this NWP, Department of the Army (DA) authorization in the form of another general permit (i.e., regional or programmatic general permits, where available) or individual permits would be required. Corps district offices may develop regional general permits if an NWP is not available, but this is an impractical and inefficient method for activities with minimal individual and cumulative adverse effects on the aquatic environment that are conducted across the Nation. Not all districts would develop these regional general permits for a variety of reasons. The regulated public, especially those companies that conduct activities in more than one Corps district, would be adversely affected by the widespread use of regional general permits because of the greater potential for lack of consistency and predictability in the authorization of similar activities with minimal adverse effects on the aquatic environment. These companies would incur greater costs in their efforts to comply with different regional general permit requirements between Corps districts. Nevertheless, in some states Corps districts have issued programmatic general permits to take the place of this and other NWPs. However, this approach only works in states with regulatory programs comparable to the Corps Regulatory Program.

2.2 National Modification Alternatives

Since the Corps Nationwide Permit program began in 1977, the Corps has continuously strived to develop NWPs that authorize activities that result only in minimal individual and cumulative adverse effects on the aquatic environment. Every five years the Corps reevaluates the NWPs during the reissuance process, and may modify an NWP to address concerns for the aquatic environment. Utilizing collected data and institutional knowledge concerning activities authorized by the Corps regulatory program, the Corps reevaluates the potential impacts of activities authorized by NWPs. The Corps also uses substantive public comments on proposed NWPs to assess the expected impacts. This NWP was developed to authorize discharges of dredged or fill material into waters of the United States associated with surface coal mining and reclamation activities authorized by the Department of the Interior's Office of Surface Mining or states with approved programs under Title V of the

Surface Mining Control and Reclamation Act of 1977, provided those activities have minimal individual and cumulative adverse effects on the aquatic environment. This NWP also authorizes surface coal mining activities being processed under integrated permit processing procedures. The Corps has considered three options for the reissuance of this NWP, suggested changes to the terms and conditions of this NWP, as well as modifying or adding NWP general conditions, as discussed in the preamble of the Federal Register notice announcing the reissuance of this NWP.

In the February 16, 2011, Federal Register notice, the Corps requested comments on three options for the proposed reissuance of this NWP:

> Option 1: Do not reissue NWP 21.
>
> Option 2: Reissue NWP 21 with a 1/2 acre limit, a 300 linear foot limit for filling or excavating stream beds, and a prohibition against using NWP 21 to authorize discharges of dredged or fill material into waters of the United States to construct valley fills.
>
> Option 3: Reissue NWP 21 with a 1/2 acre limit and a 300 linear foot limit for filling or excavating stream beds.

After reviewing the comments and as discussed in this document, the Corps selected Option 2, with some modifications, to ensure the NWP authorizes only those surface coal mining activities that have minimal individual and cumulative adverse effects on the aquatic environment and other public interest review factors.

2.3 Regional Modification Alternatives

An important aspect for the NWPs is the emphasis on regional conditions to address differences in aquatic resource functions, services, and values across the nation. All Corps divisions and districts are expected to add regional conditions to the NWPs to enhance protection of the aquatic environment and address local concerns. Division engineers can also revoke an NWP if the use of that NWP results in more than minimal individual and cumulative adverse effects on the aquatic environment, especially in high value or unique wetlands and other waters.

Corps divisions and districts also monitor and analyze the cumulative adverse effects of the NWPs, and if warranted, further restrict or prohibit the use of the NWPs to ensure that the NWPs do not authorize activities that result in more than minimal individual and cumulative adverse effects on the aquatic environment. To the extent practicable, division and district engineers will use regulatory automated information systems and institutional knowledge about the typical adverse effects of activities authorized by NWPs, as well as substantive public comments, to assess the individual and cumulative adverse effects on the aquatic environment resulting from regulated activities.

2.4 Case-specific On-site Alternatives

Although the terms and conditions for this NWP have been established at the national level to authorize most activities that have minimal individual and cumulative adverse effects on the aquatic environment, division and district engineers have the authority to impose case-specific special conditions on an NWP authorization to ensure that the authorized activities will result in minimal individual and cumulative adverse effects.

General condition 23 requires the permittee to minimize and avoid impacts to waters of the United States to the maximum extent practicable on the project site. Off-site alternatives cannot be considered for activities authorized by NWPs. During the evaluation of a pre-construction notification, the district engineer may determine that additional avoidance and minimization is practicable. The district engineer may also condition the NWP authorization to require compensatory mitigation to offset losses of waters of the United States and ensure that the net adverse effects on the aquatic environment are minimal. The compensatory mitigation may be on-site or off-site. Any required compensatory mitigation must comply with the applicable requirements in 33 CFR part 332, including the requirement to have a compensatory mitigation plan approved by the district engineer, conduct monitoring to assess whether the compensatory mitigation project is achieving its objectives, and implement an adaptive management plan or remediation if the compensatory mitigation project is not meeting its ecological performance standards or achieving its objectives. Long-term management may be required to ensure the compensatory mitigation project continues to provide aquatic resource functions to offset those lost as a result of the permitted activity. As another example, the NWP authorization can be conditioned to prohibit the permittee from conducting the activity during specific times of the year to protect spawning fish and shellfish. If the proposed activity will result in more than minimal adverse effects on the aquatic environment, then the district engineer will exercise discretionary authority and require an individual permit. Discretionary authority can be asserted where there are concerns for the aquatic environment, including high value aquatic habitats. The individual permit review process requires a project-specific alternatives analysis, including the consideration of off-site alternatives, and a public interest review.

3.0 Affected Environment

The affected environment consists of terrestrial and aquatic ecosystems. The total land area in the United States is approximately 2,300,000,000 acres, and the total land area in the contiguous United States is approximately 1,894,000,000 acres (Lubowski et al. 2006) . Land uses in 48 states of the contiguous United States as of 2002 is provided in Table 3.1 (Lubowski et al. 2006). In the contiguous United States, approximately 67 percent of the land is privately owned, 31 percent is held by the United States government, and two percent is owned by state or local governments (Dale et al. 2000). Developed non-federal lands comprise 4.4 percent of the total land area of the contiguous United States (Dale et al. 2000).

Table 3.1. Agricultural and non-agricultural land uses in the 48 states (Lubowski et al. 2006).

Land Use	Acres	Percent of Total
Agriculture	1,171,000,000	61.8
Forest land	425,000,000	22.4
Transportation use	27,000,000	1.4
Recreation and wildlife areas	100,000,000	5.3
National defense areas	15,000,000	0.8
Urban land	59,000,000	3.1
Miscellaneous use	97,000,000	5.1
Total land area	1,894,000,000	100.0

The Federal Geographic Data Committee has established the Cowardin system developed by the U.S. Fish and Wildlife Service (USFWS) (Cowardin et al. 1979) as the national standard for wetland mapping, monitoring, and data reporting (Dahl 2011) (see also http://www.fgdc.gov/standards/projects/FGDC-standards-projects/wetlands/fgdc-announce , accessed December 12, 2011). The Cowardin system is a hierarchical system which describes various wetland and deepwater habitats, using structural characteristics such as vegetation, substrate, and water regime as defining characteristics. Wetlands are defined by plant communities, soils, or inundation or flooding frequency. Deepwater habitats are permanently flooded areas located below the wetland boundary. In rivers and lakes, deepwater habitats are usually more than two meters deep.

There are five major systems in the Cowardin classification scheme: marine, estuarine, riverine, lacustrine, and palustrine (Cowardin et al. 1979). The marine system consists of open ocean on the continental shelf and its high energy coastline. The estuarine system consists of tidal deepwater habitats and adjacent tidal wetlands that are usually partially enclosed by land, but may have open connections to open ocean waters. The riverine system generally consists of all wetland and deepwater habitats located within a river channel. The lacustrine system generally consists of wetland and deepwater habitats located within a topographic depression or dammed river channel, with a total area greater than 20 acres. The palustrine system generally includes all non-tidal wetlands and wetlands located in tidal areas with salinities less than 0.5 parts per thousand; it also includes ponds less than 20 acres in size. Approximately 95 percent of wetlands in the conterminous United States are freshwater wetlands, and the remaining 5 percent are estuarine or marine wetlands (Dahl 2011).

The Emergency Wetlands Resources Act of 1986 (Public Law 99-645) requires the USFWS to submit wetland status and trends reports to Congress (Dahl 2011). The latest status and trends report, which covers the period of 2004 to 2009, is summarized in Table 3.2.

Table 3.2. Estimated aquatic resource acreages in the conterminous United States in 2009 (Dahl 2011).

Aquatic Habitat Category	Estimated Area in 2009 (acres)
Marine intertidal	227,800
Estuarine intertidal non-vegetated	1,017,700
Estuarine intertidal vegetated	4,539,700
All intertidal waters and wetlands	5,785,200
Freshwater ponds	6,709,300
Freshwater vegetated	97,565,300
• Freshwater emergent wetlands	27,430,500
• Freshwater shrub wetlands	18,511,500
• Freshwater forested wetlands	51,623,300
All freshwater wetlands	104,274,600
Lacustrine deepwater habitats	16,859,600
Riverine deepwater habitats	7,510,500
Estuarine subtidal habitats	18,776,500
All wetlands and deepwater habitats	153,206,400

The acreage of lacustrine deepwater habitats does not include the open waters of Great Lakes (Dahl 2011).

According to Hall et al. (1994), there are more than 204 million acres of wetlands and deepwater habitats in the State of Alaska, including approximately 174.7 million acres of wetlands. Wetlands and deepwater habitats comprise approximately 50.7 percent of the surface area in Alaska (Hall et al. 1994).

The National Resources Inventory (NRI) is a statistical survey conducted by the Natural Resources Conservation Service (NRCS) (USDA 2009) of natural resources on non-federal land in the United States. The NRCS defines non-federal land as privately owned lands, tribal and trust lands, and lands under the control of local and State governments. The land use determined by 2007 NRI is summarized in Table 3.3. The 2007 NRI estimates that there are 110,671,500 acres of palustrine and estuarine wetlands on non-Federal land and water areas in the United States (USDA 2009). The 2007 NRI estimates that there are 48,471,100 acres of open waters on non-Federal land in the United States, including lacustrine, riverine, and marine habitats, as well as estuarine deepwater habitats.

Table 3.3. The 2007 National Resources Inventory acreages for palustrine and estuarine wetlands on non-federal land, by land cover/use category (USDA 2009).

National Resources Inventory Land Cover/Use Category	Area of Palustrine and Estuarine Wetlands (acres)
cropland, pastureland, and Conservation Reserve Program land	16,790,300
forest land	66,043,100
rangeland	7,940,300
other rural land	14,744,800
developed land	1,571,900
water area	3,581,100
Total	110,671,500

The land cover/use categories used by the 2007 NRI are defined below (USDA 2009). Croplands are areas used to produce crops adapted for harvest. Pastureland is land managed for livestock grazing, through the production of introduced forage plants. Conservation Reserve Program land is under a Conservation Reserve Program contract. Forest land is comprised of at least 10 percent single stem woody plant species that will be at least 13 feet tall at maturity. Rangeland is land on which plant cover consists mostly of native grasses, herbaceous plants, or shrubs suitable for grazing or browsing, and introduced forage plant species. Other rural land consists of farmsteads and other farm structures, field windbreaks, marshland, and barren land. Developed land is comprised of large urban and built-up areas (i.e., urban and built-up areas 10 acres or more in size), small built-up areas (i.e., developed lands 0.25 to 10 acres in size) , and rural transportation land (e.g., roads, railroads, and associated rights-of-way outside urban and built-up areas). Water areas are comprised of waterbodies and streams that are permanent open waters.

The wetlands data from the Fish and Wildlife Service's Status and Trends study and the Natural Resources Conservation Service's National Resources Inventory should not be compared, because they use different methods and analyses to produce their results (Dahl 2011).

Leopold, Wolman, and Miller (1964) estimated that there are approximately 3,250,000 miles of river and stream channels in the United States. This estimate is based on an analysis of 1:24,000 scale topographic maps, by stream order. This estimate does not include many small streams. Many small streams are not mapped on 1:24,000 scale U.S. Geological Survey topographic maps (Leopold 1994) or included in other analyses (Meyer and Wallace 2001). In a study of stream mapping in the southeastern United States, only 20% of the stream network was mapped on 1:24,000 scale topographic maps, and nearly none of the observed intermittent or ephemeral streams were indicated on those maps (Hansen 2001). For a 1:24,000 scale topographic map, the smallest tributary found by using 10-foot contour

interval has drainage area of 0.7 square mile and length of 1,500 feet, and smaller channels are common throughout the United States (Leopold 1994). Due to the difficulty in mapping small streams, there are no accurate estimates of the total number of river or stream miles in the conterminous United States that may be classified as "waters of the United States."

The USFWS status and trends study does not assess the condition or quality of wetlands and deepwater habitats (Dahl 2011). The Nation's aquatic resource base is underestimated by the USFWS status and trends study, the National Wetland Inventory (NWI), and studies that estimate the length or number of stream channels within watersheds (see above). The status and trends study does not include Alaska and Hawaii. The underestimate by the status and trends study and the NWI results from the minimum size of wetlands detected through remote sensing techniques and the difficulty of identifying certain wetland types through those remote sensing techniques. The NWI maps do not show small or linear wetlands (Tiner 1997) that may be directly impacted by activities authorized by NWPs. For the latest USFWS status and trends study, most of the wetlands identified are larger than 1 acre, but the minimum size of detectable wetlands varies by wetland type (Dahl 2011). Some wetland types less than one acre in size can be identified; the smallest wetland detected for the most recent status and trends report was 0.1 acre (Dahl 2011). Because of the limitations of remote sensing techniques, certain wetland types are not included in the USFWS status and trends study: seagrass beds, submerged aquatic vegetation, submerged reefs, and certain types of forested wetlands (Dahl 2011). Therefore, activities authorized by NWPs will adversely affect a smaller proportion of the Nation's wetland base than indicated by the wetlands acreage estimates provided in the most recent status and trends report, or the NWI maps for a particular region.

Information on water quality in waters and wetlands, as well as the causes of water quality impairment, is collected by the U.S. Environmental Protection Agency (U.S.EPA) under sections 305(b) and 303(d) of the Clean Water Act. Table 3.4 provides U.S. EPA's most recent national summary of water quality in the Nation's waters and wetlands.

Table 3.4. The 2010 national summary of water quality data (U.S. EPA 2012).

Category of water	Total waters	Total waters assessed	Percent of waters assessed	Good waters	Threatened waters	Impaired waters
Rivers and streams	3,533,205 miles	965,693 miles	27.3	445,079 miles	6,369 miles	514,246 miles
Lakes, reservoirs and ponds	41,666,049 acres	18,796,765 acres	45.1	5,833,964 acres	38,681 acres	12,924,120 acres
Bays and estuaries	87,791 square miles	32,830 square miles	37.4	11,045 square miles	17 square miles	21,768 square miles
Coastal shoreline	58,618 miles	9,143 miles	15.6	1,746 miles	0 miles	7,396 miles
Ocean and near coastal waters	54,120 square miles	1,275 square miles	2.4	968 square miles	0 square miles	307 square miles
Wetlands	107,700,000 acres	1,311,645 acres	1.2	208,944 acres	805 acres	1,101,895 acres
Great Lakes shoreline	5,202 miles	4,431 miles	85.2	78 miles	0 miles	4,353 miles
Great Lakes open waters	60,546 square miles	53,332 square miles	88.1	62 square miles	0 square miles	53,270 square miles

According to the 2010 national summary (U.S. EPA 2012), 53% of assessed rivers and streams, 66% of assessed bays and estuaries, 81% of assessed coastal shoreline, 24% of assessed ocean and near coastal waters, and 84% of assessed wetlands are impaired.

For rivers and streams, 34 causes of impairment were identified, and the top 10 causes were pathogens, sediment, nutrients, organic enrichment/oxygen depletion, polychlorinated biphenyls, habitat alterations, metals (excluding mercury), mercury, flow alterations, and temperature. The primary sources of impairment for the assessed rivers and streams were agriculture, atmospheric deposition, unknown sources, hydrology modification, urban-related runoff/stormwater, wildlife, municipal discharges/sewage, unspecified non-point sources, habitat alterations, and resource extraction.

For wetlands, 27 causes of impairment were identified, and the top 10 causes were organic enrichment/oxygen depletion, pathogens, mercury, metals (excluding mercury), habitat alterations, nutrients, flow alterations, toxic inorganics, total toxics, and sediment. The primary sources for wetland impairment were "unknown," wildlife, municipal discharges/sewage, agriculture, atmospheric deposition, industrial, hydrology modifications, resource extraction, other, and unspecified non-point sources.

Most causes and sources of impairment are not due to activities regulated under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act of 1899. Habitat

alterations as a cause or source of impairment may be the result of activities regulated under section 404 and section 10 because they involve discharges of dredged or fill material or structures or work in navigable waters, but habitat alterations may also occur as a result of activities not regulated under those two statutes, such as the removal of vegetation from upland riparian areas. Hydrologic modifications may or may not be regulated under section 404 or section 10.

Not all of the Nation's aquatic resources are subject to regulatory jurisdiction under Section 404 of the Clean Water Act. Waters of the United States subject to Section 404 of the Clean Water Act are defined at 33 CFR part 328. Some wetlands are not subject to Clean Water Act jurisdiction because they do not meet the criteria at Part 328. In its decision in *Solid Waste County of Northern Cook County v. U.S. Army Corps of Engineers*, 531 U.S. 159 (2001), the U.S. Supreme Court ruled that Clean Water Act jurisdiction does not apply to isolated, intrastate, non-navigable waters based on their use as habitat for migratory birds. Tiner (2003) estimated that in some areas of the country, the proportion of wetlands that are geographically isolated, and may not be subject to Clean Water Act jurisdiction is approximately 20 to 50 percent of the wetland area, and there are other areas where more than 50 percent of the wetlands are geographically isolated. Geographically isolated wetlands comprise a substantial proportion of the wetlands found in regions with arid, semi-arid, and semi-humid climates, as well as areas with karst topography (Tiner 2003). However, it is difficult to determine from maps or aerial photographs whether wetlands are hydrologically isolated from other waters, because there may be small surface hydrologic connections that are not included on those maps or detected by those photographs (Tiner 2003). The scope of waters subject to Clean Water Act jurisdiction has also been affected by the U.S. Supreme Court decision in the consolidated cases of *Rapanos v. U.S.* and *Carabell v. U.S.*, but there have been no formal studies to estimate the proportion of wetlands, streams, and other aquatic resources that may have been affected by that decision.

This NWP authorizes discharges of dredged or fill material into waters of the United States. Surface coal mining activities typically occur in the palustrine, lacustrine, and riverine systems of the Cowardin classification system.

Wetland functions are the biophysical processes that occur within a wetland (King et al. 2000). Wetlands provide many functions, such as habitat for fish and shellfish, habitat for waterfowl and other wildlife, habitat for rare and endangered species, food production, plant production, flood conveyance, flood-peak reduction, flood storage, shoreline stabilization, water supply, ground water recharge, pollutant removal, sediment accretion, and nutrient uptake (NRC 1992).

Functions provided by streams include sediment transport, water transport, transport of nutrients and detritus, habitat for many species of plants and animals (including endangered or threatened species), and maintenance of biodiversity (NRC 1992). Streams also provide hydrologic functions, nutrient cycling functions, food web support, and corridors for movement of aquatic organisms (Allan and Castillo 2007).

Freshwater ecosystems provide services such as water for drinking, household uses, manufacturing, thermoelectric power generation, irrigation, and aquaculture; production of finfish, waterfowl, and shellfish; and non-extractive services, such as flood control, transportation, recreation (e.g., swimming and boating), pollution dilution, hydroelectric generation, wildlife habitat, soil fertilization, and enhancement of property values (Postel and Carpenter 1997).

Marine ecosystems provide a number of ecosystem services, including fish production; materials cycling (e.g., nitrogen, carbon, oxygen, phosphorous, and sulfur); transformation, detoxification, and sequestration of pollutants and wastes produced by humans; support of ocean-based recreation, tourism, and retirement industries; and coastal land development and valuation, including aesthetics related to living near the ocean (Peterson and Lubchenco 1997).

Activities authorized by this NWP will provide goods and services that are valued by society. For example, coal extracted through surface coal mining operations provide energy for a wide range of uses. Energy produced from coal may be converted into electrical energy that is used by residents, businesses, industry, and other entities.

4.0 Environmental Consequences

4.1 General Evaluation Criteria

This document contains a general assessment of the foreseeable effects of the individual activities authorized by this NWP and the anticipated cumulative effects of those activities. In the assessment of these individual and cumulative effects, the terms and limits of the NWP, pre-construction notification requirements, and the standard NWP general conditions are considered. The supplemental documentation provided by division engineers will address how regional conditions affect the individual and cumulative effects of the NWP.

The following evaluation comprises the NEPA analysis, the public interest review specified in 33 CFR 320.4(a)(1) and (2), and the impact analysis specified in Subparts C through F of the 404(b)(1) Guidelines (40 CFR Part 230).

The issuance of an NWP is based on a general assessment of the effects on public interest and environmental factors that are likely to occur as a result of using this NWP to authorize activities in waters of the United States. As such, this assessment must be speculative or predictive in general terms. Since NWPs authorize activities across the nation, projects eligible for NWP authorization may be constructed in a wide variety of environmental settings. Therefore, it is difficult to predict all of the indirect impacts that may be associated with each activity authorized by an NWP. For example, the NWP that authorizes 25 cubic yard discharges of dredged or fill material into waters of the United States may be used to fulfill a variety of project purposes. Indication that a factor is not relevant to a particular NWP does not necessarily mean that the NWP would never have an effect on that factor, but

that it is a factor not readily identified with the authorized activity. Factors may be relevant, but the adverse effects on the aquatic environment are negligible, such as the impacts of a boat ramp on water level fluctuations or flood hazards. Only the reasonably foreseeable direct or indirect effects are included in the environmental assessment for this NWP. Division and district engineers will impose, as necessary, additional conditions on the NWP authorization or exercise discretionary authority to address locally important factors or to ensure that the authorized activity results in no more than minimal individual and cumulative adverse effects on the aquatic environment. In any case, adverse effects will be controlled by the terms, conditions, and additional provisions of the NWP. For example, Section 7 Endangered Species Act consultation will be required for activities that may affect endangered or threatened species or critical habitat.

4.2 Impact Analysis

This NWP authorizes discharges of dredged or fill material into waters of the United States for surface coal mining activities that are already authorized, or are currently being processed by states with approved programs under Title V of the Surface Mining Control and Reclamation Act of 1977 or as part of an integrated permit processing procedure by the Department of Interior, Office of Surface Mining Reclamation and Enforcement. These activities include contour mining, mountaintop mining, and area mining.

Pre-construction notification is required for all activities authorized by this NWP. The pre-construction notification requirement allows district engineers to review proposed activities on a case-by-case basis to ensure that the individual and cumulative adverse effects of those activities on the aquatic environment are minimal. If the district engineer determines that the adverse effects of a particular project are more than minimal after considering mitigation, then discretionary authority will be asserted and the applicant will be notified that another form of DA authorization, such as a regional general permit or individual permit, is required (see 33 CFR 330.4(e) and 330.5).

Additional conditions can be placed on proposed activities on a regional or case-by-case basis to ensure that the activities have minimal individual and cumulative adverse effects on the aquatic environment. Regional conditioning of this NWP will be used to account for differences in aquatic resource functions, services, and values across the country, ensure that the NWP authorizes only those activities with minimal individual and cumulative adverse effects on the aquatic environment, and allow each Corps district to prioritize its workload based on where its efforts will best serve to protect the aquatic environment. Regional conditions can prohibit the use of an NWP in certain waters (e.g., high value waters or specific types of wetlands or waters), lower pre-construction notification thresholds, or require pre-construction notification for some or all NWP activities in certain watersheds or types of waters. Specific NWPs can also be revoked on a geographic or watershed basis where the adverse effects resulting from the use of those NWPs are more than minimal.

In high value waters, division and district engineers can: 1) prohibit the use of the NWP in those waters and require an individual permit or regional general permit; 2) impose an

acreage limit for the NWP; 3) add regional conditions to the NWP to ensure that the adverse environmental effects are minimal; or 4) for those NWP activities that require pre-construction notification, add special conditions to NWP authorizations, such as compensatory mitigation requirements, to ensure that the adverse effects on the aquatic environment are minimal. NWPs can authorize activities in high value waters as long as the individual and cumulative adverse effects on the aquatic environment are minimal.

The construction and use of fills for temporary access for construction may be authorized by NWP 33 or regional general permits issued by division or district engineers. The related activity must meet the terms and conditions of the specified permit(s). If the discharge is dependent on portions of a larger project that require an individual permit, this NWP will not apply. [See 33 CFR 330.6(c) and (d)]

4.3 Cumulative Effects

The Council on Environmental Quality's NEPA regulations define cumulative effects as: "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." [40 CFR 1508.7.] Therefore, the NEPA cumulative effects analysis for an NWP is not limited to activities authorized by the NWP or other DA permits and includes Federal and non-Federal activities that affect the Nation's wetlands, streams, and other aquatic resources. The cumulative effects analysis should focus on specific categories of resources instead of the environmental effects caused by a particular action, and it requires identification of the stressors that cause degradation of those resources, including those caused by actions unrelated to the proposed action (CEQ 1997). The geographic scope of the cumulative impacts analysis is the United States and its territories, where the NWP may be used to authorize specific activities that require DA authorization. The temporal scope of the cumulative effects analysis includes past actions that have affected the Nation's wetlands, streams, and other aquatic resources, as well as present actions and reasonably foreseeable future actions that are affecting, or will affect, wetlands, streams, and other aquatic resources. The present effects of past federal, non-federal, and private actions are included in the affected environment, which is described in Section 3.0. The affected environment includes current aggregate effects of past actions, which are captured in recent national information on the quantity and quality of wetlands, streams, and other aquatic resources that is summarized in Section 3.0.

In addition to the activities authorized by this NWP, there are many activities that contribute to cumulative effects on wetlands, streams, and other aquatic resources in the United States, and alter the quantity of those resources and the functions they provide. Activities authorized by past versions of NWP 21, as well as other NWPs, individual permits, letters of permission, and regional general permits have resulted in direct and indirect impacts to wetlands, streams, and other aquatic resources. Those activities may have legacy effects that have added to the cumulative effects and affected the quantity of those resources and the

functions they provide. Discharges of dredged or fill material that do not require DA permits because they are exempt from section 404 permit requirements can also adversely affect the quantity of the Nation's wetlands, streams, and other aquatic resources and the functions they provide. Discharges of dredged or fill material that convert wetlands, streams, and other aquatic resources to upland areas result in permanent losses of aquatic resource functions. Temporary fills and fills that do not convert waters or wetlands to dry land may cause short-term or partial losses of aquatic resource functions.

Cumulative effects to wetlands, streams, and other aquatic resources in the United States are not limited to the effects caused by activities regulated and authorized by the Corps under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899. Other federal, non-federal, and private activities also contribute to the cumulative effects to wetlands, streams, and other aquatic resources, by changing the quantity of those resources and the functions they provide. Cumulative effects to wetlands, streams, and other aquatic resources are the result of landscape-level processes (Gosselink and Lee 1989). As discussed in more detail below, cumulative effects to aquatic resources are caused by a variety of activities (including activities that occur entirely in uplands) that take place within a landscape unit, such as the watershed for a river or stream (e.g., Allan 2004, Paul and Meyer 2001, Leopold 1968) or the contributing drainage area for a wetland (e.g., Wright et al. 2006, Brinson and Malvárez 2002, Zedler and Kercher 2005).

The ecological condition of rivers and streams is dependent on the state of their watersheds (NRC 1992), because they are affected by activities that occur in those watersheds, including agriculture, urban development, deforestation, mining, water removal, flow alteration, and invasive species (Palmer et al. 2010b). Land use changes affect rivers and streams through increased sedimentation, larger inputs of nutrients (e.g., nitrogen, phosphorous) and pollutants (e.g., heavy metals, synthetic chemicals, toxic organics), altered stream hydrology, the alteration or removal of riparian vegetation, and the reduction or elimination of inputs of large woody debris (Allen 2004). Agriculture is the primary cause of stream impairment, followed by urbanization (Paul and Meyer 2001). Agricultural land use adversely affects stream water quality, habitat, and biological communities (Allan 2004). Urbanization causes changes to stream hydrology (e.g., higher flood peaks, lower base flows), sediment supply and transport, water chemistry, and aquatic organisms (Paul and Meyer 2001). Leopold (1968) found that land use changes affect the hydrology of an area by altering stream flow patterns, total runoff, water quality, and stream structure. Changes in peak flow patterns and runoff affect stream channel stability. Stream water quality is adversely affected by increased inputs of sediments, nutrients, and pollutants, many of which come from non-point sources (Paul and Meyer 2001, Allan and Castillo 2007).

The construction and operation of water-powered mills in the 17th to 19th centuries substantially altered the structure and function of streams in the eastern United States (Walter and Merritts 2008) and those effects have persisted to the present time. In urbanized and agricultural watersheds, the number of small streams has been substantially reduced, in part by activities that occurred between the 19th and mid-20th centuries (Meyer and Wallace 2001). Activities that affect the quantity and quality of small streams include residential,

commercial, and industrial development, mining, agricultural activities, forestry activities, and road construction (Meyer and Wallace 2001), even if those activities are located entirely in uplands.

Activities that affect wetland quantity and quality include: land use changes that alter local hydrology (including water withdrawal), clearing and draining wetlands, constructing levees that sever hydrologic connections between rivers and floodplain wetlands, constructing other obstructions to water flow (e.g., dams, locks), constructing water diversions, inputs of nutrients and contaminants, and fire suppression (Brinson and Malvárez 2002). Upland development adversely affects wetlands and reduces wetland functionality because those activities change surface water flows and alter wetland hydrology, contribute stormwater and associated sediments, nutrients, and pollutants, cause increases in invasive plant species abundance, and decrease the diversity of native plants and animals (Wright et al. 2006). Many of the remaining wetlands in the United States are degraded (Zedler and Kercher 2005). Wetland degradation and losses are caused by changes in water movement and volume within a watershed or contributing drainage area, altered sediment transport, drainage, inputs of nutrients from non-point sources, water diversions, fill activities, excavation activities, invasion by non-native species, land subsidence, and pollutants (Zedler and Kercher 2005).

Coastal waters are also affected by a wide variety of activities. Most inland waters in the United States drain to coastal areas, and therefore activities that occur in inland watersheds affect coastal waters (NRC 1994). Adverse effects to coastal waters are caused by habitat modifications, point source pollution, non-point source pollution, changes to hydrology and hydrodynamics, exploitation of coastal resources, introduction of non-native species, global climate change, shoreline erosion, and pathogens and toxins (NRC 1994). Eutrophication of coastal waters is caused by nutrients contributed by waste treatment systems, non-point sources, and the atmosphere, and may cause hypoxia or anoxia in coastal waters (NRC 1994). Inland land uses, such as agriculture, urban development, and forestry, adversely affect coastal waters by diverting fresh water from estuaries and by acting as sources of nutrients and pollutants to coastal waters (Millennium Ecosystem Assessment 2005). Habitat modifications are the result of dredging or filling coastal waters, inputs of sediment via non-point sources, changes in water quality, or alteration of coastal hydrodynamics (NRC 1994). Coastal development activities, including those that occur in uplands, affect marine and estuarine habitats (Millennium Ecosystem Assessment 2005). The introduction of non-native species may change the functions and structure of coastal wetlands and other habitats (Millennium Ecosystem Assessment 2005). Substantial alterations of coastal hydrology and hydrodynamics are caused by land use changes in watersheds draining to coastal waters, the channelization or damming of streams and rivers, water consumption, and water diversions (NRC 1994). Changes in water movement through watersheds may also alter sediment delivery to coastal areas, which affects the sustainability of wetlands and intertidal habitats and the functions they provide (NRC 1994). Fishing activities may also modify coastal habitats by changing habitat structure and the biological communities that inhabit those areas (NRC 1994).

There is also little information on the ecological condition or the Nation's wetlands, streams, and other aquatic resources, or the amounts of functions they provide, although reviews have acknowledged that most of these resources are degraded (Zedler and Kercher 2005, Allan 2004) or impaired (U.S. EPA 2012) because of various activities and other stressors. These data deficiencies make it more difficult to characterize the affected environment to assess cumulative effects.

As discussed in Section 3.0 of this document there is a wide variety of causes and sources of impairment of the Nation's rivers, streams, wetlands, lakes, estuarine waters, and marine waters (U.S. EPA 2012), which also contribute to cumulative effects to aquatic resources. Many of those causes of impairment are point and non-point sources of pollutants that are not regulated under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act of 1899. Two common causes of impairment for rivers and streams, habitat alterations and flow alterations, may be due in part to activities regulated by the Corps under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act of 1899. Habitat and flow alterations may also be the caused by activities that do not involve discharges of dredged or fill material or structures or work in navigable waters. For wetlands, impairment due to habitat alterations, flow alterations, and hydrology modifications may involve activities regulated under section 404, but these causes of impairment may also be due to unregulated activities, such as changes in upland land use that affects the movement of water through a watershed or contributing drainage area or the removal of vegetation.

Many of the activities discussed in this cumulative effects section that affect wetlands, streams, and other aquatic resources are not subject to regulation under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act of 1899.

Dahl (1990) estimates that approximately 53 percent of the wetlands in the conterminous United States were lost in the 200-year period covering the 1780s to 1980s. The annual rate of wetland loss has decreased substantially since the 1970s (Dahl 2011), when wetland regulation became more prevalent (Brinson and Malvárez 2002). Between 2004 and 2009, there was no statistically significant difference in wetland acreage in the conterminous United States (Dahl 2011). According to the 2011 wetland status and trends report, during the period of 2004 to 2009 urban development accounted for 11% of wetland losses (61,630 acres), rural development resulted in 12% of wetland losses (66,940 acres), silviculture accounted for 56% of wetland losses (307,340 acres), and wetland conversion to deepwater habitats caused 21% of the loss in wetland area (115,960 acres) (Dahl 2011). Some of the losses occurred to wetlands that are not subject to Clean Water Act jurisdiction and some losses are due to activities not regulated under Section 404 of the Clean Water Act, such as unregulated drainage activities, exempt forestry activities, or water withdrawals. From 2004 to 2009, approximately 100,020 acres of wetlands were gained as a result of wetland restoration and conservation programs on agricultural land (Dahl 2011). Another source of wetland gain is conversion of other uplands to wetlands (389,600 acres during 2004 to 2009) (Dahl 2011). Inventories of wetlands, streams, and other aquatic resources are incomplete because the techniques used cannot identify some of those resources (e.g., Dahl (2011) for

wetlands; Meyer and Wallace (2001) for streams).

Compensatory mitigation required by district engineers for specific activities authorized by this NWP will help reduce the contribution of those activities to the cumulative effects on the Nation's wetlands, streams, and other aquatic resources, by providing ecological functions to partially or fully replace some or all of the aquatic resource functions lost as a result of those activities. Compensatory mitigation requirements for the NWPs are described in general condition 23 and compensatory mitigation projects must also comply with the applicable provisions of 33 CFR part 332. District engineers will establish compensatory mitigation requirements on a case-by-case basis, after evaluating pre-construction notifications. Compensatory mitigation requirements for individual NWP activities will be specified through permit conditions added to NWP authorizations. When compensatory mitigation is required, the permittee is required to submit a mitigation plan prepared in accordance with the requirements of 33 CFR 332.4(c). Credits from approved mitigation banks or in-lieu fee programs may also be used to satisfy compensatory mitigation requirements for NWP authorizations. Monitoring is required to demonstrate whether the permittee-responsible mitigation project, mitigation bank, or in-lieu fee project is meeting its objectives and providing the intended aquatic resource structure and functions. If the compensatory mitigation project is not meeting its objectives, adaptive management will be required. Adaptive management may involve taking actions, such as site modifications, remediation, or design changes, to ensure the compensatory mitigation project meets its objectives (see 33 CFR 332.7(c)).

The estimated contribution of this NWP to the cumulative effects to aquatic resources in the United States during the five year period that the NWP would be in effect, in terms of the estimated number of time this NWP would be used until it expires and the projected impacts and compensatory mitigation, is provided in Section 6.2.2. The activities authorized by this NWP will result in minor contributions to the cumulative effects that have occurred to wetlands, streams, and other aquatic resources in the United States because, as discussed in this section, they are one of many activities that affect those resources. The causes of cumulative effects discussed in this section include past, present, and reasonably foreseeable future federal, non-federal, and private activities. For the national-scale cumulative effects analysis presented in this section, it is not possible to quantify the relative contributions of the various activities that affect the quantity of wetlands, streams, and other aquatic resources and the functions they provide, because such data are not available at the national scale.

In a specific watershed, division or district engineers may determine that the cumulative adverse effects of activities authorized by this NWP are more than minimal. Division and district engineers will conduct more detailed assessments for geographic areas that are determined to be potentially subject to more than minimal cumulative adverse effects. Division and district engineers have the authority to require individual permits in watersheds or other geographic areas where the cumulative adverse effects are determined to be more than minimal, or add conditions to the NWP either on a case-by-case or regional basis to require mitigation measures to ensure that the cumulative adverse effects are minimal. When

a division or district engineer determines, using local or regional information, that a watershed or other geographic area is subject to more than minimal cumulative adverse effects due to the use of this NWP, he or she will use the revocation and modification procedure at 33 CFR 330.5. In reaching the final decision, the division or district engineer will compile information on the cumulative adverse effects and supplement this document.

The Corps expects that the convenience and time savings associated with the use of this NWP will encourage applicants to design their projects within the scope of the NWP rather than request individual permits for projects which could result in greater adverse impacts to the aquatic environment. The minimization encouraged by the issuance of this NWP, as well as compensatory mitigation that may be required for specific activities authorized by this NWP, will help reduce cumulative effects to the Nation's wetlands, streams, and other aquatic resources.

5.0 Public Interest Review

5.1 Public Interest Review Factors (33 CFR 320.4(a)(1))

For each of the 20 public interest review factors, the extent of the Corps consideration of expected impacts resulting from the use of this NWP is discussed, as well as the reasonably foreseeable cumulative adverse effects that are expected to occur. The Corps decision-making process involves consideration of the benefits and detriments that may result from the activities authorized by this NWP.

(a) Conservation: The activities authorized by this NWP will modify the natural resource characteristics of the project area. The required compensatory mitigation will result in the restoration, enhancement, establishment, or preservation of aquatic habitats that will help offset losses of conservation values. The adverse effects of activities authorized by this NWP on conservation will be minor.

(b) Economics: Surface coal mining activities will have positive impacts on local economies. These activities will generate jobs and revenue for local contractors as well as revenue to companies that sell mining equipment and construction materials. The sale of coal extracted from these mines will generate revenue for mining companies. The energy provided by coal-burning power plants will provide power for businesses, including manufacturing industries, as well as residences and recreational facilities. Activities authorized by this NWP will also benefit the community by improving the local economic base, which is affected by employment, tax revenues, community services, and property values.

(c) Aesthetics: Surface coal mining activities will alter the visual character of some waters of the United States. The extent and perception of these changes will vary, depending on the size and configuration of the mining activities and any associated fills, the nature of the surrounding area, and the public uses of the area. Activities authorized by this NWP will

also modify other aesthetic characteristics, such as air quality and the amount of noise. The increased human use of the project area and surrounding land will also alter local aesthetic values.

(d) General environmental concerns: Activities authorized by this NWP will affect general environmental concerns, such as water, air, noise, and land pollution. The authorized activities will also affect the physical, chemical, and biological characteristics of the environment. The adverse effects of the activities authorized by this NWP on general environmental concerns will be minor. Adverse effects to the chemical composition of the aquatic environment will be controlled by general condition 6, which states that the material used for construction must be free from toxic pollutants in toxic amounts. General condition 23 requires mitigation to minimize adverse effects to the aquatic environment through avoidance and minimization at the project site. Compensatory mitigation may be required by district engineers to ensure that the net adverse effects on the aquatic environment are minimal. Specific environmental concerns are addressed in other sections of this document.

(e) Wetlands: Surface coal mining activities may result in the loss or alteration of wetlands. In most cases, the affected wetlands will be permanently filled, especially where rocks and soil from coal mining activities are deposited, resulting in the permanent loss of aquatic resource functions and values. Wetlands may also be converted to other uses and habitat types. Some wetlands may be temporarily impacted by the activity through the use of temporary staging areas and access roads. These wetlands will be restored, unless the district engineer authorizes another use for the area, but the plant community may be different, especially if the site was originally forested. Compensatory mitigation may be required to offset the loss of wetlands and ensure that the adverse effects to the aquatic environment are minimal. Reclamation activities may also result in the restoration of wetlands.

Wetlands provide habitat, including foraging, nesting, spawning, rearing, and resting sites for aquatic and terrestrial species. The loss or alteration of wetlands may alter natural drainage patterns. Wetlands reduce erosion by stabilizing the substrate. Wetlands also act as storage areas for stormwater and flood waters. Wetlands may act as groundwater discharge or recharge areas. The loss of wetland vegetation will adversely affect water quality because these plants trap sediments, pollutants, and nutrients and transform chemical compounds. Wetland vegetation also provides habitat for microorganisms that remove nutrients and pollutants from water. Wetlands, through the accumulation of organic matter, act as sinks for some nutrients and other chemical compounds, reducing the amounts of these substances in the water.

General condition 23 requires avoidance and minimization of impacts to waters of the United States, including wetlands, at the project site. Compensatory mitigation may be required by district engineers to ensure that the net adverse effects on the aquatic environment are minimal. General condition 22 prohibits the use of this NWP to discharge dredged or fill material in designated critical resource waters and adjacent wetlands, which may include high value wetlands. Division engineers can regionally condition this NWP to

restrict or prohibit the use of this NWP in high value wetlands. District engineers will also exercise discretionary authority to require an individual permit if the wetlands to be filled are high value and the activity will result in more than minimal adverse effects on the aquatic environment. District engineers can also add case-specific special conditions to the NWP authorization to provide protection to wetlands or require compensatory mitigation to offset losses of wetlands.

(f) Historic properties: General condition 20 states that in cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act have been satisfied. Reviews required under the Surface Mining Control and Reclamation Act will also ensure compliance with the National Historic Preservation Act.

(g) Fish and wildlife values: This NWP authorizes activities in waters of the United States, including streams and wetlands, which provide habitat to many species of fish and wildlife. Activities authorized by this NWP may alter the habitat characteristics of streams and wetlands, decreasing the quantity and quality of fish and wildlife habitat. Wetland and riparian vegetation provides food and habitat for many species, including foraging areas, resting areas, corridors for wildlife movement, and nesting and breeding grounds. Open waters provide habitat for fish and other aquatic organisms. Woody riparian vegetation shades streams, which reduces water temperature fluctuations and provides habitat for fish and other aquatic animals. Riparian vegetation provides organic matter that is consumed by fish and aquatic invertebrates. Woody riparian vegetation creates habitat diversity in streams when trees and large shrubs fall into the channel, forming snags that provide habitat and shade for fish. The morphology of a stream channel may be altered by activities authorized by this NWP, which can affect fish populations. However, pre-construction notification is required for all activities authorized by this NWP, which provides the district engineer with an opportunity to review the proposed activity and assess potential impacts on fish and wildlife values and ensure that the authorized activity results in minimal adverse effects on the aquatic environment. The district engineer must verify in writing that the proposed activity will result in minimal adverse effects on the aquatic environment, individually and cumulatively. Compensatory mitigation may be required by district engineers to restore, enhance, establish, and/or preserve wetlands will offset losses of jurisdictional wetlands. Stream rehabilitation, enhancement, and preservation activities may be required as compensatory mitigation for impacts to streams. The establishment and maintenance of riparian areas next to open and flowing waters may also be required as compensatory mitigation. These methods of compensatory mitigation will provide fish and wildlife habitat values.

General condition 2 will reduce the adverse effects to fish and other aquatic species by prohibiting activities that substantially disrupt the necessary life cycle movements of indigenous aquatic species, unless the primary purpose of the activity is to impound water. Compliance with general conditions 3 and 5 will ensure that the authorized activity has minimal adverse effects on spawning areas and shellfish beds, respectively. The authorized

activity cannot have more than minimal adverse effects on breeding areas for migratory birds, due to the requirements of general condition 4.

Compliance with the Bald and Golden Eagle Protection Act (16 U.S.C. 668(a)-(d)), the Migratory Bird Treaty Act (16 U.S.C. 703; 16 U.S.C. 712), and the Marine Mammal Protection Act (16 U.S.C. 1361 et seq.), including any requirements to obtain take permits, is the responsibility of the project proponent for a particular NWP activity. General condition 19 states that the permittee is responsible for obtaining any "take" permits required under the U.S. Fish and Wildlife Service's regulations governing compliance with the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act.

Consultation pursuant to the essential fish habitat provisions of the Magnuson-Stevens Fishery Conservation and Management Act will occur as necessary for proposed NWP activities that may adversely affect essential fish habitat. Consultation may occur on a case-by-case or programmatic basis. Division and district engineers can impose regional and special conditions to ensure that activities authorized by this NWP will result in minimal adverse effects on essential fish habitat.

(h) Flood hazards: The activities authorized by this NWP may affect the flood-holding capacity of 100-year floodplains, including surface water flow velocities. Changes in the flood-holding capacity of 100-year floodplains may impact human health, safety, and welfare. To minimize these adverse effects, general condition 10 requires the activity to comply with applicable FEMA-approved state or local floodplain management requirements. The requirements of general condition 10 will help ensure that the activities authorized by this NWP will have minimal adverse effects on flood hazards. Compliance with general condition 9 will also reduce flood hazards. This general condition requires the permittee to maintain, to the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters, except under certain circumstances. Much of the land area within 100-year floodplains is upland, and outside of the Corps scope of review.

(i) Floodplain values: Activities authorized by this NWP may affect the flood-holding capacity of floodplains, as well as other floodplain values. The fish and wildlife habitat values of floodplains will be adversely affected by activities authorized by this NWP, by modifying or eliminating areas used for nesting, foraging, resting, and reproduction. The water quality functions of floodplains may also be adversely affected by these activities. Modification of the floodplain may also adversely affect other hydrological processes, such as groundwater recharge. All activities authorized by this NWP require pre-construction notification, so that district engineers can review the proposed activities on a case-by-case basis to ensure that those activities result in minimal adverse effects on the aquatic environment.

Compensatory mitigation may be required for activities authorized by this NWP, which will offset losses of waters of the United States and provide water quality functions and wildlife habitat. General condition 23 requires avoidance and minimization of impacts to waters of the United States to the maximum extent practicable at the project site, which will reduce

losses of floodplain values. The mitigation requirements of general condition 23 will help ensure that the adverse effects of these activities on floodplain values are minimal. Compliance with general condition 9 will also ensure that activities in 100-year floodplains will not cause more than minimal adverse effects on flood storage and conveyance.

(j) Land use: Activities authorized by this NWP will change land use. The mining of coal and the deposition of rock and soil from the mining operation will change the character of the land. Reclamation required for activities authorized by this NWP will restore natural land uses. Since the primary responsibility for land use decisions is held by state, local, and Tribal governments, the Corps scope of review is limited to significant issues of overriding national importance, such as navigation and water quality (see 33 CFR 320.4(j)(2)).

(k) Navigation: Activities authorized by this NWP must comply with general condition 1, which states that no activity may cause more than minimal adverse effects on navigation. This NWP requires pre-construction notification for all authorized activities, which will allow district engineers to review the proposed activity and determine whether adverse effects on navigation will be minimal.

(l) Shore erosion and accretion: The activities authorized by this NWP will have minor direct effects on shore erosion and accretion processes, since surface coal mining activities are usually located in inland areas. NWP 13, regional general permits, or individual permits may be used to authorize bank stabilization projects associated with surface coal mining activities, which may affect shore erosion and accretion.

(m) Recreation: Activities authorized by this NWP may change the recreational uses of the area. Certain recreational activities, such as bird watching, hunting, and fishing may no longer be available in the area during the mining operation, but these activities may resume after the mined area has been successfully reclaimed. Some surface coal mining activities may permanently eliminate recreational uses of the area.

(n) Water supply and conservation: Activities authorized by this NWP may adversely affect both surface water and groundwater supplies. During surface coal mining activities, there may increases in the demand for potable water in the region. The deposition of rock and soil from surface coal mining activities may alter groundwater recharge areas, which could decrease replenishment of groundwater supplies. Surface water flow patterns may be affected by the authorized activity. Activities authorized by this NWP can also affect the quality of water supplies by adding pollutants to surface waters and groundwater, but many causes of water pollution, such as discharges regulated under Section 402 of the Clean Water Act, are outside the Corps scope of review. The quantity and quality of local water supplies may be enhanced through the construction of water treatment facilities. Division and district engineers can prohibit the use of this NWP in watersheds for public water supplies, if it is in the public interest to do so. General condition 7 prohibits discharges in the vicinity of public water supply intakes. Compensatory mitigation may be required for activities authorized by this NWP, which will help maintain or improve the quality of surface waters.

(o) Water quality: Surface coal mining activities in wetlands and open waters will have adverse effects on water quality. These activities can cause increases in nutrients, sediments, and pollutants in the water. The loss of wetland and riparian vegetation will adversely affect water quality because these plants trap sediments, pollutants, and nutrients and transform chemical compounds. Wetland and riparian vegetation also provides habitat for microorganisms that remove nutrients and pollutants from water. Wetlands, through the accumulation of organic matter, act as sinks for some nutrients and other chemical compounds, reducing the amounts of these substances in the water column. Wetlands and riparian areas also decrease the velocity of flood waters, removing suspended sediments from the water column and reducing turbidity. Riparian vegetation also serves an important role in the water quality of streams by shading the water from the intense heat of the sun. Compensatory mitigation may be required for activities authorized by this NWP, to ensure that those activities do not have more than minimal adverse effects on the aquatic environment, including water quality. Wetlands and riparian areas restored, established, enhanced, or preserved as compensatory mitigation will provide local water quality benefits.

During surface coal mining operations, small amounts of oil and grease from mining and construction equipment may be discharged into the waterway. The frequency and concentration of these discharges are not expected to have more than minimal adverse effects on overall water quality.

This NWP requires a section 401 water quality certification, because it authorizes discharges of dredged or fill material into waters of the United States. Most water quality concerns are addressed by the state or Tribal section 401 agency. The Office of Surface Mining or the state mining agency may require the permittee to implement water quality management measures that minimize the degradation of the downstream aquatic environment, including water quality. The establishment and maintenance of riparian areas may be required for activities authorized by the NWP, if there are streams or other open waters on the project site. The riparian areas will protect downstream water quality and enhance the aquatic habitat.

(p) Energy needs: During surface coal mining activities, the activities authorized by this NWP may increase energy consumption in the area, especially electricity, natural gas, and petroleum products. The coal extracted from mines will be used to fuel power plants, thereby providing energy to people. Existing infrastructure may have to be expanded to distribute the electricity generated by power plants to cities and other areas.

(q) Safety: The activities authorized by this NWP will be subject to Federal, state, and local safety laws and regulations. Therefore, this NWP will not adversely affect the safety of the project area.

(r) Food and fiber production: Activities authorized by this NWP may adversely affect food and fiber production, especially where rock and soil from surface coal mining activities are deposited in farm fields. The use of farmland for the disposal of mined material and wastes reduces the amount of available agricultural land in the nation, unless that land is replaced

by converting other land, such as forest, to agricultural land. The loss of farmland is more appropriately addressed through the land use planning and zoning authority held by state and local governments.

(s) Mineral needs: Activities authorized by this NWP may increase demand for aggregates and stone, which could be used for mining activities. Activities authorized by this NWP may increase the demand for other building materials, such as steel, aluminum, and copper, which are made from mineral ores.

(t) Considerations of property ownership: The NWP complies with 33 CFR 320.4(g), which states that an inherent aspect of property ownership is a right to reasonable private use. The NWP provides expedited DA authorization for activities in waters of the United States for surface coal mining activities, provided the activities comply with the terms and conditions of the NWP and result in minimal adverse effects on the aquatic environment.

5.2 Additional Public Interest Review Factors (33 CFR 320.4(a)(2))

5.2.1 Relative extent of the public and private need for the proposed structure or work

This NWP authorizes discharges of dredged or fill material into waters of the United States for surface coal mining activities that have minimal individual and cumulative adverse effects on the aquatic environment. These activities satisfy public and private needs for energy. The need for this NWP is based upon the number of these activities that occur annually with minimal individual and cumulative adverse effects on the aquatic environment.

5.2.2 Where there are unresolved conflicts as to resource use, the practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed structure or work

Most situations in which there are unresolved conflicts concerning resource use arise when environmentally sensitive areas are involved (e.g., special aquatic sites, including wetlands) or where there are competing uses of a resource. The nature and scope of the activity, when planned and constructed in accordance with the terms and conditions of this NWP, reduce the likelihood of such conflict. In the event that there is a conflict, the NWP contains provisions that are capable of resolving the matter (see Section 1.2 of this document).

General condition 23 requires permittees to avoid and minimize adverse effects to waters of the United States to the maximum extent practicable on the project site. Consideration of off-site alternative locations is not required for activities that are authorized by general permits. General permits authorize activities that have minimal individual and cumulative adverse effects on the aquatic environment and overall public interest. District engineers will exercise discretionary authority and require an individual permit if the proposed activities will result in more than minimal adverse environmental effects on the project site. The consideration of off-site alternatives can be required during the individual permit

process.

5.2.3 The extent and permanence of the beneficial and/or detrimental effects which the proposed structure or work is likely to have on the public and private uses to which the area is suited

The nature and scope of the activities authorized by the NWP will most likely restrict the extent of the beneficial and detrimental effects to the area immediately surrounding the surface coal mining activity. Activities authorized by this NWP will have minimal individual and cumulative adverse effects on the aquatic environment.

The terms, conditions, and provisions of the NWP were developed to ensure that individual and cumulative adverse environmental effects are minimal. Specifically, NWPs do not obviate the need for the permittee to obtain other Federal, state, or local authorizations required by law. The NWPs do not grant any property rights or exclusive privileges (see 33 CFR 330.4(b) for further information). Additional conditions, limitations, restrictions, and provisions for discretionary authority, as well as the ability to add activity-specific or regional conditions to this NWP, will provide further safeguards to the aquatic environment and the overall public interest. There are also provisions to allow suspension, modification, or revocation of the NWP.

6.0 Clean Water Act Section 404(b)(1) Guidelines Analysis

The 404(b)(1) compliance criteria for general permits are provided at 40 CFR 230.7.

6.1 Evaluation Process (40 CFR 230.7(b))

6.1.1 Alternatives (40 CFR 230.10(a))

General condition 23 requires permittees to avoid and minimize discharges of dredged or fill material into waters of the United States to the maximum extent practicable on the project site. The consideration of off-site alternatives is not directly applicable to general permits.

6.1.2 Prohibitions (40 CFR 230.10(b))

This NWP authorizes discharges of dredged or fill material into waters of the United States, which require water quality certification. Water quality certification requirements will be met in accordance with the procedures at 33 CFR 330.4(c).

No toxic discharges will be authorized by this NWP. General condition 6 states that the material must be free from toxic pollutants in toxic amounts.

This NWP does not authorize activities that jeopardize the continued existence of any listed threatened or endangered species or result in the destruction or adverse modification of

critical habitat. Reviews of pre-construction notifications, regional conditions, and local operating procedures for endangered species will ensure compliance with the Endangered Species Act. Refer to general condition 18 and to 33 CFR 330.4(f) for information and procedures.

This NWP will not authorize the violation of any requirement to protect any marine sanctuary. Refer to section 6.2.3(j)(1) of this document for further information.

6.1.3 Findings of Significant Degradation (40 CFR 230.10(c))

Potential impact analysis (Subparts C through F): The potential impact analysis specified in Subparts C through F is discussed in section 6.2.3 of this document. Mitigation required by the district engineer will ensure that the adverse effects on the aquatic environment are minimal.

Evaluation and testing (Subpart G): Because the terms and conditions of the NWP specify the types of discharges that are authorized, as well as those that are prohibited, individual evaluation and testing for the presence of contaminants will normally not be required. If a situation warrants, provisions of the NWP allow division or district engineers to further specify authorized or prohibited discharges and/or require testing.

Based upon Subparts B and G, after consideration of Subparts C through F, the discharges authorized by this NWP will not cause or contribute to significant degradation of waters of the United States.

6.1.4 Factual determinations (40 CFR 230.11)

The factual determinations required in 40 CFR 230.11 are discussed in section 6.2.3 of this document.

6.1.5 Appropriate and practicable steps to minimize potential adverse impacts (40 CFR 230.10(d))

As demonstrated by the information in this document, as well as the terms, conditions, and provisions of this NWP, actions to minimize adverse effects (Subpart H) have been thoroughly considered and incorporated into the NWP. General condition 23 requires permittees to avoid and minimize discharges of dredged or fill material into waters of the United States to the maximum extent practicable on the project site. Compensatory may be mitigation required by the district engineer to ensure that the net adverse effects on the aquatic environment are minimal.

6.2 Evaluation Process (40 CFR 230.7(b))

6.2.1 Description of permitted activities (40 CFR 230.7(b)(2))

As indicated by the text of this NWP in section 1.0 of this document, and the discussion of potential impacts in section 4.0, the activities authorized by this NWP are sufficiently similar in nature and environmental impact to warrant authorization under a single general permit. Specifically, the purpose of the NWP is to authorize discharges of dredged or fill material for surface coal mining activities that are either: already authorized, or are currently being processed by states with approved programs under Title V of the Surface Mining Control and Reclamation Act of 1977 or as part of an integrated permit processing procedure by the Department of Interior, Office of Surface Mining Reclamation and Enforcement. The nature and scope of the impacts are controlled by the terms and conditions of the NWP.

The activities authorized by this NWP are sufficiently similar in nature and environmental impact to warrant authorization by a general permit. The terms of the NWP authorize a specific category of activity (i.e., discharges of dredged or fill material for surface coal mining activities) in a specific category of waters (i.e., waters of the United States). The restrictions imposed by the terms and conditions of this NWP will result in the authorization of activities that have similar impacts on the aquatic environment, namely the replacement or modification of aquatic habitats, with fills associated with surface coal mining operations, such as valley fills, permanent stream diversions, impoundments, processing plants, and road crossings.

If a situation arises in which the activity requires further review, or is more appropriately reviewed under the individual permit process, provisions of the NWPs allow division and/or district engineers to take such action.

6.2.2 Cumulative effects (40 CFR 230.7(b)(3))

The 404(b)(1) Guidelines at 40 CFR 230.11(a) define cumulative effects as "...the changes in an aquatic ecosystem that are attributable to the collective effect of a number of individual discharges of dredged or fill material." For the issuance of general permits, such as this NWP, the 404(b)(1) Guidelines require the permitting authority to "set forth in writing an evaluation of the potential individual and cumulative impacts of the categories of activities to be regulated under the general permit." [40 CFR 230.7(b)] If a situation arises in which cumulative effects are likely to be more than minimal and the proposed activity requires further review, or is more appropriately reviewed under the individual permit process, provisions of the NWPs allow division and/or district engineers to take such action.

Based on a survey of its districts, the Corps estimates that this NWP will be used approximately 61 times per year on a national basis, resulting in impacts to approximately 26 acres of waters of the United States, including jurisdictional wetlands. The Corps estimates that approximately 62 acres of compensatory mitigation will be required to offset these impacts. The demand for these types of activities could increase or decrease over the five-

year duration of this NWP. Using the current trend, approximately 305 activities could be authorized over a five year period until this NWP expires, resulting in impacts to approximately 130 acres of waters of the United States, including jurisdictional wetlands. Approximately 310 acres of compensatory mitigation would be required to offset those impacts. Compensatory mitigation is the restoration (re-establishment or rehabilitation), establishment, enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved. [33 CFR 332.2]

Wetland restoration, enhancement, and establishment projects can provide wetland functions, as long as the wetland compensatory mitigation project is placed in an appropriate landscape position, has appropriate hydrology for the desired wetland type, and the watershed condition will support the desired wetland type (NRC 2001). The success of wetland restoration, enhancement, and establishment is dependent on the technical expertise of the mitigation provider, allowing sufficient time for wetland structure and functions to develop, and recognizing the ability for ecosystems to undergo self-design during their development (Mitsch and Gosselink 2007). Most studies of compensatory mitigation success have focused solely on the ecological attributes of the compensatory mitigation projects, and few studies have also evaluated the aquatic resources impacted by permitted activities (Kettlewell et al. 2008), so it is difficult to assess whether compensatory mitigation has fully or partially offset the lost functions provided by the aquatic resources that are impacted by permitted activities. In its review, the NRC (2001) concluded that some wetland types can be successfully restored or established (e.g., non-tidal emergent wetlands, some forested and scrub-shrub wetlands, sea grasses, and coastal marshes), while other wetland types (e.g., vernal pools, bogs, and fens) are difficult to restore and should be avoided where possible. Because of its greater potential to successfully provide wetland functions, restoration is the preferred compensatory mitigation mechanism (33 CFR 332.3(a)(2)). Bogs, fens, and springs are considered to be difficult-to-replace resources and compensatory mitigation should be provided through in-kind rehabilitation, enhancement, or preservation of these wetlands types (33 CFR 332.3(e)(3)).

In its review of outcomes of wetland compensatory mitigation activities, the NRC (2001) stated that wetland functions can be replaced by wetland restoration and establishment activities. They discussed five categories of wetland functions: hydrology, water quality, maintenance of plant communities, maintenance of animal communities, and soil functions. Wetland functions develop at different rates in wetland restoration and establishment projects (NRC 2001). It is difficult to restore or establish natural wetland hydrology, and water quality functions are likely to be different than the functions provided at wetland impact sites (NRC 2001). Reestablishing or establishing the desired plant community may be difficult because of invasive species colonizing the mitigation project site (NRC 2001). The committee also found that establishing and maintaining animal communities depends on the surrounding landscape. Soil functions can take a substantial amount of time to develop, because they are dependent on soil organic matter and other soil properties (NRC 2001). The NRC (2001) concluded that the success of replacing wetland functions depends on the particular function of interest, the restoration or establishment techniques used, and the

extent of degradation of the compensatory mitigation project site and its watershed.

The ecological success of wetland restoration and enhancement activities is affected by the amount of changes to hydrology and inputs of pollutants, nutrients, and sediments within the watershed or contributing drainage area (Wright et al. 2006). Wetland restoration is becoming more successful, especially in cases where monitoring and adaptive management are used to correct deficiencies in these efforts (Zedler and Kercher 2005). Irreversible changes to landscapes, especially those that affect hydrology within contributing drainage areas or watersheds , cause wetland degradation and impede the success of wetland restoration efforts (Zedler and Kercher 2005).

Streams are difficult-to-replace resources and compensatory mitigation should be provided through stream rehabilitation, enhancement, and preservation since those techniques are most likely to be successful (see 33 CFR 332.3(e)(3)). Stream rehabilitation is usually the most effective compensatory mitigation mechanism since restoring a stream to a historic state is not possible because of changes in land use and other activities in a watershed (Roni et al. 2008). Stream rehabilitation and enhancement projects, including the restoration and preservation of riparian areas, provide riverine functions (e.g., Allan and Castillo (2007) for rivers and streams, NRC (2002) for riparian areas). Non-structural and structural techniques can be used to rehabilitate and enhance streams, and restore riparian areas (NRC 1992). Non-structural practices include removing disturbances to allow passive recovery of streams and riparian areas, reducing or eliminating activities that have altered stream flows to restore natural flows, preserving or restoring floodplains, and restoring and protecting riparian areas, including fencing those areas to exclude livestock and people (NRC 1992). Structural rehabilitation and enhancement techniques include channel, bank, and/or riparian area modifications to improve habitat and dam removal (NRC 1992). Road improvements, riparian rehabilitation, reconnecting floodplains to their rivers, and installing in-stream habitat structures have had varying degrees of success in stream rehabilitation activities (Roni et al. 2008). Success of these rehabilitation activities is strongly dependent on addressing impaired water quality and insufficient water quantity, since those factors usually limit the biological response to stream rehabilitation efforts (Roni et al. 2008). Ecologically successful stream rehabilitation and enhancement activities depend on addressing the factors that most strongly affect stream functions, especially water quality, water flow, and riparian quality, and not focusing solely on rehabilitating or enhancing the physical habitat of streams (Palmer et al. 2010b).

The compensatory mitigation required by district engineers in accordance with general condition 23 and activity-specific conditions will provide aquatic resource functions and services to offset some or all of the losses of aquatic resource functions caused by the activities authorized by this NWP, and reduce the contribution of those activities to the cumulative effects on the Nation's wetlands, streams, and other aquatic resources. The required compensatory mitigation must be conducted in accordance with the applicable provisions of 33 CFR part 332, which requires development and implementation of approved mitigation plans, as well as monitoring to assess success in accordance with ecological performance standards established for the compensatory mitigation project. The

district engineer will evaluate monitoring reports to determine if the compensatory mitigation project has fulfilled its objectives and is ecological successful. [33 CFR 332.6] If the monitoring efforts indicate that the compensatory mitigation project is failing to meet its objectives, the district engineer may require additional measures, such as adaptive management or alternative compensatory mitigation, to address the compensatory mitigation project's deficiencies. [33 CFR 332.7(c)]

According to Dahl (2011), during the period of 2004 to 2009 approximately 489,620 acres of former upland were converted to wetlands as a result of wetland reestablishment and establishment activities. Efforts to reestablish or establish wetlands have been successful in increasing wetland acreage in the United States.

The individual and cumulative adverse effects on the aquatic environment resulting from the activities authorized by this NWP will be minimal. The Corps expects that the convenience and time savings associated with the use of this NWP will encourage applicants to design their projects within the scope of the NWP, including its limits, rather than request individual permits for projects that could result in greater adverse impacts to the aquatic environment. Division and district engineers will restrict or prohibit this NWP on a regional or case-specific basis if they determine that these activities will result in more than minimal individual and cumulative adverse effects on the aquatic environment.

6.2.3 Section 404(b)(1) Guidelines Impact Analysis, Subparts C through F

(a) Substrate: Discharges of dredged or fill material into waters of the United States will alter the substrate of those waters, usually replacing the aquatic area with dry land, and changing the physical, chemical, and biological characteristics of the substrate. The original substrate will be removed or covered by other material, such as rock, soil, gravel, etc. Temporary fills may be placed upon the substrate, but must be removed upon completion of the activity (see general condition 13). Higher rates of erosion may result during construction, but general condition 12 requires the use of appropriate measures to control soil erosion and sediment.

(b) Suspended particulates/turbidity: Depending on the method of construction, soil erosion and sediment control measures, equipment, composition of the bottom substrate, and wind and current conditions during construction, fill material placed in open waters will temporarily increase water turbidity. Pre-construction notification is required for all activities authorized by this NWP, which will allow the district engineer to review each activity and ensure that individual and cumulative adverse effects on the aquatic environment are minimal. Particulates will be resuspended in the water column during removal of temporary fills. The turbidity plume will normally be limited to the immediate vicinity of the disturbance and should dissipate shortly after each phase of the construction activity. General condition 12 requires the permittee to stabilize exposed soils and other fills, which will reduce turbidity. In many localities, contractors are required to develop and implement sediment and erosion control plans to minimize the entry of soil into the aquatic environment. NWP activities cannot create turbidity plumes that smother important

spawning areas downstream (see general condition 3).

(c) Water: Surface coal mining activities affect some characteristics of water, such as water clarity, chemical content, dissolved gas concentrations, pH, and temperature (Palmer et al. 2010a). These activities may change the chemical and physical characteristics of the waterbody by introducing suspended or dissolved chemical compounds or sediments into the water. Changes in water quality can affect the species and quantities of organisms inhabiting the aquatic area. Water quality certification is required for activities authorized by this NWP that result in discharges of dredged or fill material into waters of the United States, which will ensure that the activity does not violate applicable water quality standards. Clean Water Act Section 402 permits are required for point source discharges of pollutants from sediment ponds and surface coal mining facilities. Permittees may be required to implement water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality. Impoundments may be required to prevent or reduce the input of harmful chemical compounds into the waterbody. The district engineer may require the establishment and maintenance of riparian areas next to open waters, such as streams. Riparian areas help improve or maintain water quality, by removing nutrients, moderating water temperature changes, and trapping sediments.

(d) Current patterns and water circulation: Activities authorized by this NWP may adversely affect the movement of water in the aquatic environment. All activities authorized by this NWP require pre-construction notification to the district engineer, which will help ensure that adverse effects to current patterns and water circulation are minimal. Road crossings within a surface coal mining operation may alter water flow patterns and circulation. General condition 9 requires the authorized activity to be designed to withstand expected high flows and to maintain the course, condition, capacity, and location of open waters to the maximum extent practicable. General condition 10 requires activities to comply with applicable FEMA-approved state or local floodplain management requirements, which will reduce adverse effects to surface water flows.

(e) Normal water level fluctuations: The activities authorized by this NWP will not adversely affect normal patterns of water level fluctuations due to tides and flooding. The activities authorized by this NWP do not occur in tidal waters. To ensure that the NWP does not authorize activities that adversely affect normal flooding patterns, general condition 10 requires NWP activities to comply with applicable FEMA-approved state or local floodplain management requirements. General condition 9 requires the permittee to maintain the pre-construction course, condition, capacity, and location of open waters, to the maximum extent practicable.

(f) Salinity gradients: The activities authorized by this NWP are unlikely to adversely affect salinity gradients.

(g) Threatened and endangered species: The Corps believes that the procedures currently in place result in proper coordination under Section 7 of the Endangered Species Act (ESA) and ensure that activities authorized by this NWP will not jeopardize the continued existence

or any listed threatened and endangered species or result in the destruction or adverse modification of critical habitat. The Corps also believes that current local procedures in Corps districts are effective in ensuring compliance with ESA.

Under general condition 18, no activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

Each activity authorized by an NWP is subject to general condition 18, which states that "[n]o activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species." In addition, general condition 18 explicitly states that the NWP does not authorize the taking of threatened or endangered species, which will ensure that permittees do not mistake the NWP authorization as a Federal authorization to take threatened or endangered species. General condition 18 also requires a non-federal permittee to submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat. This general condition also states that, in such cases, non-federal permittees shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized.

Under the current Corps regulations (33 CFR 325.2(b)(5)), the district engineer must review all permit applications for potential impacts on threatened and endangered species or critical habitat. For the NWP program, this review occurs when the district engineer evaluates the pre-construction notification or request for verification. Based on the evaluation of all available information, the district engineer will initiate consultation with the U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS), as appropriate, if he or she determines that the proposed activity may affect any threatened and endangered species or critical habitat. Consultation may occur during the NWP authorization process or the district engineer may exercise discretionary authority to require an individual permit for the proposed activity and initiate consultation through the individual permit process. If ESA consultation is conducted during the NWP authorization process without the district engineer exercising discretionary authority, then the applicant will be notified that he or she cannot proceed with the proposed activity until ESA consultation is complete. If the district engineer determines that the activity will have no effect on any threatened and endangered species or critical habitat, then the district engineer will notify the applicant that he or she may proceed under the NWP authorization.

Corps districts have, in most cases, established informal or formal procedures with local offices of the USFWS and NMFS, through which the agencies share information regarding threatened and endangered species and their critical habitat. This information helps district engineers determine if a proposed activity may affect listed species or their critical habitat and, if necessary, initiate ESA consultation. Corps districts may utilize maps or databases

that identify locations of populations of threatened and endangered species and their critical habitat. Where necessary, regional conditions are added to NWPs to require pre-construction notification for NWP activities that occur in known locations of threatened and endangered species or critical habitat. For activities that require agency coordination during the pre-construction notification process, the USFWS and NMFS will review the proposed activities for potential impacts to threatened and endangered species and their critical habitat. Any information provided by local maps and databases and any comments received during the pre-construction notification review process will be used by the district engineer to make a "no effect" or "may affect" decision.

Based on the safeguards discussed above, especially general condition 18 and the NWP regulations at 33 CFR 330.4(f), the Corps has determined that the activities authorized by this NWP will not jeopardize the continued existence of any listed threatened or endangered species or result in the destruction or adverse modification of designated critical habitat. Although the Corps continues to believe that these procedures ensure compliance with the ESA, the Corps has taken some steps to provide further assurance. Corps district offices meet with local representatives of the USFWS and NMFS to establish or modify existing procedures, where necessary, to ensure that the Corps has the latest information regarding the existence and location of any threatened or endangered species or their critical habitat. Corps districts can also establish, through local procedures or other means, additional safeguards that ensure compliance with the ESA. Through formal consultation under Section 7 of the Endangered Species Act, or through other coordination with the USFWS and/or the NMFS, as appropriate, the Corps will establish procedures to ensure that the NWP will not jeopardize any threatened and endangered species or result in the destruction or adverse modification of designated critical habitat. Such procedures may result in the development of regional conditions added to the NWP by the division engineer, or in special conditions to be added to an NWP authorization by the district engineer.

(h) Fish, crustaceans, molluscs, and other aquatic organisms in the food web. All activities authorized by this NWP require pre-construction notification to the district engineer, which will allow review of each activity in open waters to ensure that adverse effects to fish and other aquatic organisms in the food web are minimal. Fish and other motile animals will avoid the project site during construction. Sessile or slow-moving animals in the path of discharges, equipment, and building materials will be destroyed. Some aquatic animals may be smothered by the placement of fill material. Motile animals will return to those areas that are temporarily impacted by the activity and restored or allowed to revert back to preconstruction conditions. Aquatic animals will not return to sites of permanent fills. Benthic and sessile animals are expected to recolonize sites temporarily impacted by the activity, after those areas are restored. Activities that alter the riparian zone, especially floodplains, may adversely affect populations of fish and other aquatic animals, by altering stream flow, flooding patterns, and surface and groundwater hydrology. Some species of fish spawn on floodplains, which could be prevented if the activity involves clearing or filling the floodplain. Surface coal mining activities that involve the filling of streams alter habitat features by increasing surface water flow velocities, which can increase downstream flooding and erosion and reduce the amount of habitat for aquatic organisms and destroy

spawning areas (Palmer et al. 2010a). Mitigation measures may be required by district engineers to minimize the adverse effects to hydrology and aquatic habitat caused by filling streams and wetlands.

Division and district engineers can place conditions on this NWP to prohibit discharges during important stages of the life cycles of certain aquatic organisms. Such time of year restrictions can prevent adverse effects to these aquatic organisms during reproduction and development periods. General conditions 3 and 5 address protection of spawning areas and shellfish beds, respectively. General condition 3 states that activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. In addition, general condition 3 also prohibits activities that result in the physical destruction of important spawning areas. General condition 5 prohibits activities in areas of concentrated shellfish populations. General condition 9 requires the maintenance of pre-construction course, condition, capacity, and location of open waters to the maximum extent practicable, which will help minimize adverse impacts to fish, shellfish, and other aquatic organisms in the food web.

(i) Other wildlife: Activities authorized by this NWP may result in adverse effects on other wildlife associated with aquatic ecosystems, such as resident and transient mammals, birds, reptiles, and amphibians, through the destruction of aquatic habitat, including breeding and nesting areas, escape cover, travel corridors, and preferred food sources. This NWP does not authorize activities that jeopardize the continued existence of Federally-listed endangered and threatened species or result in the destruction or adverse modification of critical habitat. Compensatory mitigation, including stream rehabilitation, enhancement, or preservation activities, and the establishment and maintenance of riparian areas next to open waters, may be required for activities authorized by this NWP, which will help offset losses of aquatic habitat for wildlife. General condition 4 states that activities in breeding areas for migratory birds must be avoided to the maximum extent practicable.

(j) Special aquatic sites: The potential impacts to specific special aquatic sites are discussed below:

(1) Sanctuaries and refuges: The activities authorized by this NWP will have minimal adverse effects on waters of the United States within sanctuaries or refuges designated by Federal or state laws or local ordinances. General condition 22 prohibits the use of this NWP to discharge dredged or fill material in NOAA-managed marine sanctuaries and marine monuments and National Estuarine Research Reserves. District engineers will exercise discretionary authority and require individual permits for specific projects in waters of the United States in sanctuaries and refuges if those activities will result in more than minimal adverse effects on the aquatic environment.

(2) Wetlands: The activities authorized by this NWP will have minimal adverse effects on wetlands. District engineers will review pre-construction notifications to ensure that the adverse effects on the aquatic environment are minimal. Division engineers can regionally condition this NWP to restrict or prohibit its use in certain high value wetlands.

See paragraph (e) of section 5.1 for a more detailed discussion of impacts to wetlands.

(3) Mud flats: The activities authorized by this NWP will have minimal adverse effects on mud flats. District engineers will review pre-construction notifications to ensure that the adverse effects on the aquatic environment are minimal. Division engineers can regionally condition this NWP to restrict or prohibit its use in certain waterbodies.

(4) Vegetated shallows: The activities authorized by this NWP will have minimal adverse effects on vegetated shallows. District engineers will review pre-construction notifications to ensure that the adverse effects on the aquatic environment are minimal. Division engineers can regionally condition this NWP to restrict or prohibit its use in vegetated shallows.

(5) Coral reefs: The activities authorized by this NWP will have minimal adverse effects on coral reefs, since it is limited to surface coal mining operations, which do not occur in marine waters.

(6) Riffle and pool complexes: Activities in riffle and pool complexes may be authorized by this NWP, but district engineers will review pre-construction notifications to determine if these activities will result in minimal adverse effects on the aquatic environment. District engineers may require compensatory mitigation, such as stream rehabilitation, enhancement, or preservation, to offset losses of streams caused by surface coal mining activities. If the riffle and pool complexes are high value and the proposed activity will result in more than minimal adverse effects on the aquatic environment, the district engineer will exercise discretionary authority to require the project proponent to obtain an individual permit.

(k) Municipal and private water supplies: See paragraph (n) of section 5.1 for a discussion of potential impacts to water supplies.

(l) Recreational and commercial fisheries, including essential fish habitat: The activities authorized by this NWP may adversely affect waters of the United States that act as habitat for populations of economically important fish and shellfish species. Division and district engineers can condition this NWP to prohibit discharges during important life cycle stages, such as spawning or development periods, of economically valuable fish and shellfish. All activities authorized by this NWP require pre-construction notification to the district engineer, which will allow review of each activity to ensure that adverse effects to economically important fish and shellfish are minimal. Compliance with general conditions 3 and 5 will ensure that the authorized activity does not adversely affect important spawning areas or concentrated shellfish populations. As discussed in paragraph (g) of section 5.1, there are procedures to help ensure that individual and cumulative impacts to essential fish habitat are minimal. For example, division and district engineers can impose regional and special conditions to ensure that activities authorized by this NWP will result in minimal adverse effects on essential fish habitat.

(m) Water-related recreation: See paragraph (m) of section 5.1 above.

(n) Aesthetics: See paragraph (c) of section 5.1 above.

(o) Parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar areas: General condition 22 prohibits the use of this NWP to authorize discharges of dredged or fill material in designated critical resource waters and adjacent wetlands, which may be located in parks, national and historical monuments, national seashores, wilderness areas, and research sites. This NWP can be used to authorize activities in parks, national and historical monuments, national seashores, wilderness areas, and research sites if the manager or caretaker wants to conduct activities in waters of the United States and those activities result in minimal adverse effects on the aquatic environment. Division engineers can regionally condition the NWP to prohibit its use in designated areas, such as national wildlife refuges or wilderness areas.

7.0 Determinations

7.1 Finding of No Significant Impact

Based on the information in this document, the Corps has determined that the issuance of this NWP will not have a significant impact on the quality of the human environment. Therefore, the preparation of an Environmental Impact Statement is not required.

7.2 Public Interest Determination

In accordance with the requirements of 33 CFR 320.4, the Corps has determined, based on the information in this document, that the issuance of this NWP is not contrary to the public interest.

7.3 Section 404(b)(1) Guidelines Compliance

This NWP has been evaluated for compliance with the 404(b)(1) Guidelines, including Subparts C through G. Based on the information in this document, the Corps has determined that the discharges authorized by this NWP comply with the 404(b)(1) Guidelines, with the inclusion of appropriate and practicable conditions, including mitigation, necessary to minimize adverse effects on affected aquatic ecosystems. The activities authorized by this NWP will result in minimal individual and cumulative adverse effects on the aquatic environment.

7.4 Section 176(c) of the Clean Air Act General Conformity Rule Review

This NWP has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act. It has been determined that the activities authorized by this permit will not exceed de minimis levels of direct emissions of a criteria

pollutant or its precursors and are exempted by 40 CFR 93.153. Any later indirect emissions are generally not within the Corps continuing program responsibility and generally cannot be practicably controlled by the Corps. For these reasons, a conformity determination is not required for this NWP.

FOR THE COMMANDER

Dated:

13 Feb 2012

Michael J. Walsh
Major General, US Army
Deputy Commanding General
for Civil and Emergency Operations

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