# DECISION DOCUMENT
# NATIONWIDE PERMIT 6

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

Survey Activities. Survey activities, such as core sampling, seismic exploratory operations, plugging of seismic shot holes and other exploratory-type bore holes, exploratory trenching, soil surveys, sampling, and historic resources surveys. For the purposes of this NWP, the term "exploratory trenching" means mechanical land clearing of the upper soil profile to expose bedrock or substrate, for the purpose of mapping or sampling the exposed material. The area in which the exploratory trench is dug must be restored to its pre-construction elevation upon completion of the work. In wetlands, the top 6 to 12 inches of the trench should normally be backfilled with topsoil from the trench. This NWP authorizes the construction of temporary pads, provided the discharge does not exceed 25 cubic yards. Discharges and structures associated with the recovery of historic resources are not authorized by this NWP. Drilling and the discharge of excavated material from test wells for oil and gas exploration are not authorized by this NWP; the plugging of such wells is authorized. Fill placed for roads and other similar activities is not authorized by this NWP. The NWP does not authorize any permanent structures. The discharge of drilling mud and cuttings may require a permit under Section 402 of the Clean Water Act. (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 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 adverse effects on the aquatic environment, individually or cumulatively, 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; and the Magnuson-Stevens Fishery and Conservation and Management 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 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 17 and 18). General condition 15 restricts the use of NWPs for activities that are located in Federally-designated wild and scenic rivers. None of the NWPs authorize artificial reefs. General condition 24 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 which may result in discharges of dredged or fill material 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 September 26, 2006, 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 September 26, 2006, Federal Register notice were used to improve the NWP by changing NWP terms and limits, notification requirements, and/or NWP general conditions, as necessary.

We proposed to modify this NWP to add exploratory trenching to the list of authorized activities and to authorize the construction of temporary pads used for survey activities, provided the discharge does not exceed 25 cubic yards.

Two commenters supported the proposed modifications and one commenter said that the NWP would result in more than minimal impacts to the aquatic environment. One commenter stated that there should be a 1/4 acre limit for exploratory trenching. This

commenter also suggested imposing a 25 cubic yard limit on all activities authorized by this NWP.

It has been our experience that exploratory trenching results in minimal adverse effects on the aquatic environment, and this NWP has been conditioned to require restoration of the trenched area upon completion of work. Since most impacts associated with exploratory trenches are temporary, an acreage limit is not necessary. Division engineers may impose regional conditions to require pre-construction notifications or specific limits for certain activities. District engineers may also exercise discretionary authority and require an individual permit if a proposed activity would result in more than minimal adverse effects on the aquatic environment. It is unnecessary to impose a 25 cubic yard limit on all discharges authorized by this NWP, since most of these discharges are temporary. Temporary fills must be removed upon completion of the work, in accordance with the requirements of general condition 13. Any permanent fills are likely to be small in size, because of the types of activities authorized by this NWP.

One commenter suggested adding language regarding the backfilling of the exploratory trench. Some commenters stated that the definition of "exploratory trenching" should include more prescriptive details such as benchmarks, width, and depth.

We are conditioning this NWP to require permittees to backfill the top 6 to 12 inches of exploratory trenches constructed in wetlands with topsoil from the trench. This change will bring consistency with the terms of other NWPs that authorize trenching activities. We do not believe that it is necessary to include prescriptive limits on the trench dimensions. However, division engineers may choose to establish such limits through regional conditions.

One commenter suggested that the 25 cubic yard limit for discharges associated with temporary pads should be removed. Another said that the 25 cubic yard limit should apply to the cumulative amount of material for multiple drill sites. Two commenters said that limits should be placed on the amount of such discharges because a state may not issue water quality certification for this NWP.

The 25 cubic yard limit is necessary to help ensure that the NWP authorizes only activities with minimal adverse effects on the aquatic environment. It also provides a suitable limit on the quantity of discharge necessary for construction of these temporary pads. The cubic yard limit for temporary pads applies to a single and complete project, as defined at 33 CFR 330.2(i). If a state does not issue water quality certification for this NWP, an individual water quality certification must be obtained or waived for each activity before it is authorized in that state.

One commenter stated the NWP should also authorize temporary access roads. Such work may qualify for the 404(f) exemption for temporary mining roads or could be authorized by NWP 33.

## 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 adverse effects on the aquatic environment, individually or cumulatively. 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 or 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 work 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 adverse effects on the aquatic environment, individually or cumulatively. 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 survey activities in waters of the United States that have minimal adverse effects on the aquatic environment. The Corps has considered alternative limits and applicable waters for this NWP, as well as modifying or adding NWP general conditions, as discussed in the preamble of the Federal Register notice announcing the issuance of this NWP.

In the September 26, 2006, Federal Register notice, the Corps requested comments on the proposed reissuance of this NWP. The Corps proposed to change this NWP by adding "exploratory trenching" as an example of activities authorized by this NWP, and to add a definition of that term to the text of the NWP. The Corps also proposed to authorize discharges of dredged or fill material for the construction of temporary pads for survey activities, with a 25 cubic yard limit for such discharges.

### 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 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 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. When conducting such assessments, division and district engineers can only consider those activities regulated by the Corps under Section 10 of the Rivers and Harbors Act, Section 404 of the Clean Water Act, and Section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972. Adverse impacts resulting from activities outside of the Corps scope of review, such as the construction or expansion of upland developments, cannot be considered in the Corps analysis of cumulative adverse effects on the aquatic environment.

### 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 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 work will result in minimal adverse effects.

General condition 20 requires the permittee to minimize and avoid impacts to waters of the United States to the maximum extent practicable at 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. As another example, the NWP authorization can be conditioned to prohibit the permittee from conducting the work during specific times of the year to protect spawning fish and shellfish. If the proposed work 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 contiguous United States is approximately 1,930,000,000 acres (Dahl 2006). Alaska is 366,050,000 acres in size and Hawaii is 4,110,720 acres in size (source: http://www.usgs.gov/state/ , accessed July 25, 2005). Terrestrial ecosystems comprise more than 93 percent of the contiguous United States and most are abundant compared to aquatic ecosystems, which make up the remainder (Dahl 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).

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 2006) (see also http://www.fgdc.gov/standards/projects/FGDC-standards-projects/wetlands/fgdc-announce , accessed April 3, 2006). 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 vegetation type, soils, and 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 2006).

The Emergency Wetlands Resources Act of 1986 (Public Law 99-645) requires the USFWS to submit wetland status and trends reports to Congress (Dahl 2006). The latest status and trends report, which covers the period of 1998 to 2004, is summarized in Table 3.1.

**Table 3.1. Estimated aquatic resource acreages in the conterminous United States in 2004 (Dahl 2006).**

| Aquatic Habitat Category | Estimated Area in 2004 (acres) |
|---|---|
| Marine | 128,600 |
| Estuarine intertidal non-vegetated | 600,000 |
| Estuarine intertidal vegetated | 4,571,700 |
| **All intertidal waters and wetlands** | 5,300,300 |
| Palustrine non-vegetated | 6,633,900 |
| Palustrine vegetated | 95,819,800 |
| • Palustrine emergent wetlands | 26,147,000 |
| • Palustrine forested wetlands | 52,031,400 |
| • Palustrine shrub wetlands | 17,641,400 |
| **All palustrine aquatic habitats** | 102,453,700 |
| Lacustrine deepwater habitats | 16,773,400 |
| Riverine deepwater habitats | 6,813,300 |
| Estuarine subtidal habitats | 17,717,800 |
| **All aquatic habitats** | 149,058,500 |

The acreage of lacustrine deepwater habitats does not include the open waters of Great Lakes (Dahl 2006).

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) (2003) 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 2003 NRI is summarized in Table 3.2. The 2003 NRI estimates that there are 110,760,000 acres of palustrine and estuarine wetlands on non-Federal land and water areas in the United States (NRCS 2003).

**Table 3.2. The 2003 National Resources Inventory acreages for palustrine and estuarine wetlands on non-federal land, by land cover/use category (NRCS 2003).**

| National Resources Inventory Land Cover/Use Category | Area of Palustrine and Estuarine Wetlands (acres) |
|---|---|
| cropland, pastureland, and Conservation Reserve Program land | 16,730,000 |
| forest land | 65,440,000 |
| rangeland | 7,740,000 |
| other rural land | 15,800,000 |
| developed land | 1,590,000 |
| water area | 3,460,000 |
| **Total** | 110,760,000 |

The land cover/use categories used by the 2003 NRI are defined below (NRCS 2003). 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.

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 2006). 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 2006 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 2.5 acres, but the minimum size of detectable wetland varies by wetland type (Dahl 2006). 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 0.005 acre (Dahl 2006). 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, certain types of forested wetlands, and emergent wetlands along the Pacific coast (Dahl 2006). 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.

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).

This NWP authorizes survey activities in all waters of the United States, including discharges of dredged or fill material into those waters. These waters are included in the marine, estuarine, 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 nutrient cycling functions, food web support, and transport organisms (Allan 1995).

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 help provide information that benefits society. For example, scientific measuring devices provide information on river stages, flow rates, water quality, and other important environmental characteristics. Such information may be used for activities such as forecasting flood events and improving water quality.

## 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, the anticipated cumulative effects of those activities, and the potential future losses of waters of the United States that are estimated to occur until the expiration date of the NWP. In the assessment of these individual and cumulative effects, the terms and limits of the NWP, notification requirements, and the standard NWP general conditions are considered. The supplementary 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 structures and work in navigable waters of the United States, as well as discharges of dredged or fill material into waters of the United States, for survey activities.

Pre-construction notification is not required for activities authorized by this NWP, but the division engineer may regionally condition this NWP to require notification. A pre-construction notification requirement allows district engineers to review proposed activities on a case-by-case basis to ensure that the 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 work has minimal 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 or 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 notification thresholds, or require notification for all work 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 on the NWP; 3) require notification for all activities in those waters; 4) add regional conditions to the NWP to ensure that the adverse environmental effects are minimal; or 5) for those activities that require 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 work 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 Impacts

The cumulative impacts of an NWP generally depends on the number of times the permit is used on a national basis. However, in a specific watershed, division or district engineers may determine that the cumulative adverse effects of activities authorized by NWPs 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 where the cumulative adverse effects are more than minimal, or add conditions to the NWP either on a case-by-case or regional basis to ensure that the cumulative adverse effects are minimal. When division or district engineers determine that a geographic area is subject to more than minimal cumulative adverse effects due to the use of the NWPs, they will use the revocation and modification procedure at 33 CFR 330.5. In reaching the final decision, they will compile information on the cumulative adverse effects and supplement this document.

Based on reported use of this NWP during fiscal year 2003 and the period of July 1, 2005 to June 30, 2006, a survey of district offices, and an estimate of unreported use, the Corps estimates that this NWP will be used approximately 2,316 times per year on a national basis, resulting in impacts to approximately 100 acres of waters of the United States, including jurisdictional wetlands. The Corps estimates that approximately 22 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 11,580 activities could be authorized over a five year period until this NWP expires, resulting in impacts to approximately 500 acres of waters of the United States, including jurisdictional wetlands. Approximately 110 acres of compensatory mitigation would be required to offset those impacts. The required compensatory mitigation will attenuate cumulative impacts on the Nation's aquatic resources, so that the net 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 rather than request individual permits for projects which could result in greater adverse impacts to the aquatic environment.

## 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 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 may modify the natural resource characteristics of the project area. Compensatory mitigation, if required for activities authorized by this NWP, will result in the restoration, enhancement, establishment, or preservation of aquatic habitats that will offset losses of conservation values. The adverse effects of activities authorized by this NWP on conservation will be minor.

(b) Economics: Survey activities will have positive impacts on the local economy because these activities will generate jobs and revenue for local contractors as well as revenue to building supply companies that sell construction materials.

(c) Aesthetics: Survey activities may alter the visual character of some waters of the United States, but these effects are likely to be temporary. This NWP does not authorize permanent structures. The extent and perception of these changes will vary, depending on the scale of the survey activities, the nature of the surrounding area, and the public uses of the area. Activities authorized by this NWP can also temporarily modify other aesthetic characteristics, such as air quality and the amount of noise.

(d) General environmental concerns: Activities authorized by this NWP will affect general environmental concerns, such as water, air, noise, and land pollution. The authorized work 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 20 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. It is important to note that the Corps scope of review is usually limited to impacts to aquatic resources. Specific environmental concerns are addressed in other sections of this document.

(e) Wetlands: Survey activities in waters of the United States may result in the destruction of wetlands. In most cases, the affected wetlands will be temporarily filled, and will be restored when the survey activity is completed. Some wetlands may be temporarily impacted by the work 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.

Wetlands provide habitat, including foraging, nesting, spawning, rearing, and resting sites for aquatic and terrestrial species. The destruction 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 20 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. 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 work 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 18 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.

(g) Fish and wildlife values: This NWP authorizes activities in waters of the United States, including wetlands and streams, 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. Division engineers can regionally condition this NWP to require notification to the district engineer, to allow case-by-case review of potential impacts to ensure that the NWP authorizes activities with minimal adverse effects on the fish and wildlife values. Compensatory mitigation may be required by district engineers to restore, enhance, create, and/or preserve wetlands and other aquatic habitats to offset losses of waters of the United States. 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 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 work has minimal adverse effects on spawning areas and shellfish beds, respectively. The authorized work cannot have more than minimal adverse effects on breeding areas for migratory birds, due to the requirements of general condition 4.

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 will have negligible adverse effects on the flood-holding capacity of 100-year floodplains, including surface water flow velocities. Compliance with general conditions 9 and 10 will also reduce flood hazards. This general condition requires the permittee to maintain preconstruction surface flow rates from the site and avoid relocating or redirecting water to the maximum extent practicable. 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 will have minor adverse effects on the flood-holding capacity of the floodplain, as well as other floodplain values. The fish and wildlife habitat values of floodplains may 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. For those activities that require notification, district engineers will review the proposed work 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 20 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 20 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 have negligible adverse effects on land use. The survey activities authorized by this NWP are typically temporary, and this NWP does not authorize permanent structures that will change land use. 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 does not authorize any permanent structures in navigable waters.

(l) Shore erosion and accretion: The activities authorized by this NWP will have minor direct effects on shore erosion and accretion processes, since the NWP is limited to survey activities.

(m) Recreation: Activities authorized by this NWP will have little or no adverse effects on recreational uses of the project area because it authorizes survey activities that will not change recreational uses of the area.

(n) Water supply and conservation: Activities authorized by this NWP will have negligible adverse effects on water and groundwater supplies. Survey activities will not reduce supplies of potable water. Activities authorized by this NWP can also affect the quality of water supplies by adding pollutants and toxic chemicals 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. 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 improve the quality of surface waters.

(o) Water quality: The activities authorized by this NWP may have adverse effects on water quality, but these effects are likely to be negligible. Discharges of drilling mud and cuttings may require a permit under Section 402 of the Clean Water Act. Compensatory mitigation may be required for activities authorized by this NWP, to ensure that the work does 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 may provide local water quality benefits.

During survey activities, small amounts of oil and grease from construction equipment may be discharged into the waterway. Because most of these activities will occur during a relatively short period of time, 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, since 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.

(p) Energy needs: During survey activities, there may be temporary increases in energy consumption, especially electricity, natural gas, and petroleum products. These increases in energy consumption will be minor, since they will be limited to construction activities.

(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 will have negligible adverse effects on food and fiber production, since the NWP authorizes only survey activities.

(s) Mineral needs: Activities authorized by this NWP will have little or no adverse effects on mineral needs, because these activities typically involve only temporary fills.

(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 work in waters of the United States for survey activities that 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 survey activities in all waters of the United States that have minimal adverse effects on the aquatic environment, individually and cumulatively. These activities provide important information, such as geologic and historic information. Survey activities are important for energy exploration, construction, and other type of projects. The need for this NWP is based upon the large number of these activities that occur annually with minimal 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 20 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 work 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 work authorized by the NWP will most likely restrict the extent of the beneficial and detrimental effects to the area immediately surrounding the scientific measuring device. Activities authorized by this NWP will have minimal 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 20 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 preconstruction notifications, regional conditions, and local operating procedures for endangered species will ensure compliance with the Endangered Species Act. Refer to general condition 17 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 20 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 mitigation required by the district engineer will 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 survey activities in all waters of the United States, including discharges of dredged or fill material into those waters . 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 into waters of the United States for survey 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 modification or replacement of aquatic habitats, such as open waters and jurisdictional wetlands, associated with survey activities. Most of these impacts are likely to be temporary.

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 cumulative effects, including the number of activities likely to be authorized under this NWP, are discussed in section 4.3 of this document. If a situation arises in which 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.

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

(a) Substrate: Most of the activities authorized by this NWP involve temporary discharges of dredged or fill material in waters of the United States. 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. Temporary fills may be placed upon the substrate, but must be removed upon completion of the work (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. 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. NWP activities cannot create turbidity plumes that smother important spawning areas downstream (see general condition 3).

(c) Water: Survey activities can affect some characteristics of water, such as water clarity, chemical content, dissolved gas concentrations, pH, and temperature. The activities authorized by this NWP can 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, which will ensure that the work does not violate applicable water quality standards. The discharge of drilling mud and cuttings may require a permit under Section 402 of the Clean Water Act.

(d) Current patterns and water circulation: Activities authorized by this NWP may adversely affect the movement of water in the aquatic environment. This NWP does not authorize discharges of dredged or fill material into waters of the United States for roads, pads, and similar activities. General condition 9 requires the permittee to maintain the pre-construction 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. General condition 9 requires the permittee to maintain the pre-construction course, condition, capacity, and location of open waters, to the maximum extent practicable. 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.

(f) Salinity gradients: The activities authorized by this NWP are unlikely to adversely affect salinity gradients, since it authorizes only survey activities.

(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 17, 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 17, which states that "[n]o activity is authorized under any NWP which is likely to 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 destroy or adversely modify the critical habitat of such species." In addition, general condition 17 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 17 also requires non-federal permittees to notify 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 regulated 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 endangered species or their critical habitat and, if necessary, initiate 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 notification for 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 work 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 17 and the NWP regulations at 33 CFR 330.5(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 ESA, the Corps has taken some steps to provide further assurance. Corps district offices have met 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 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. 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 work 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 work, 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. Survey activities in the vicinity of streams may alter habitat features by increasing surface water flow velocities, which can increase erosion and reduce the amount of habitat for aquatic organisms and destroy spawning areas.

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 permittee to maintain the 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 will 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 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. Division engineers can regionally condition this NWP to restrict or prohibit its use in sanctuaries and refuges. District engineers will also 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. 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. The survey activities authorized by this NWP will usually have temporary impacts on mud flats. Division engineers can regionally condition this NWP to restrict or prohibit its use in mud flats.

(4) Vegetated shallows: The activities authorized by this NWP will have minimal adverse effects on vegetated shallows. The survey activities authorized by this NWP will usually have temporary impacts on vegetated shallows. 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. Division engineers can regionally condition this NWP to restrict or prohibit its use in coral reefs, to ensure that the NWP authorizes only activities with minimal adverse effects on the aquatic environment.

(6) Riffle and pool complexes: Activities in riffle and pool complexes may be authorized by this NWP, and division engineers can regionally condition this NWP to restrict or prohibit its use in these special aquatic sites.

(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. Compliance with general conditions 3 and 5 will ensure that the authorized work 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 impacts to essential fish habitat are minimal, individually or cumulatively. 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: The activities authorized by this NWP will have minimal adverse effects on parks, national and historic monuments, national seashores, wilderness areas, research sites, and similar areas. 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 not result in significant degradation of 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: MAR - 1 2007

DON T. RILEY
Major General, U.S. Army
Director of Civil Works

## 8.0 Literature Cited


Allan, J.D. 1995. Stream Ecology: Structure and Function of Running Waters. Chapman and Hall (London). 388 pp.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service. FWS/OBS-79-31. 131 pp.

Dahl, T.E. 2006. Status and trends of wetlands in the conterminous United States 1998 to 2004. U.S. Department of the Interior, Fish and Wildlife Service, Washington, DC. 112 pp.

Hall, J.V., W.E. Frayer, and B.O. Wilen. 1994. Status of Alaska Wetlands. U.S. Department of the Interior, Fish and Wildlife Service, Washington, DC. 33 pp.

Hansen, W.F. 2001. Identifying stream types and management implications. Forest Ecology and Management 143:39-46.

King, D.M., Wainger, L.A., C.C. Bartoldus, and J.S. Wakely. 2000. Expanding wetland assessment procedures: Linking indices of wetland function with services and values. ERDC/EL TR-00-17, U.S. Army Engineer Research and Development Center, Vickburg, MS.

Leopold, L.B., M.G. Wolman, and J.P. Miller. 1964. Fluvial Processes in Geomorphology. Dover Publications, Inc. (New York). 522 pp.

Leopold, L.B. 1994. A View of the River. Harvard University Press (Cambridge). 298 pp.

Meyer, J.L. and J.B. Wallace. 2001. Lost linkages and lotic ecology: rediscovering small streams. In Ecology: Achievement and Challenge. Ed. by M.C. Press, N.J. Huntly, and S. Levin. Blackwell Science (Cornwall, Great Britain). pp. 295-317.

National Research Council (NRC). 1992. Restoration of Aquatic Ecosystems. National Academy Press (Washington, DC). 552 pp.

Natural Resources Conservation Service (NRCS). 2003. 2003 National Resources Inventory Wetlands Tables. http://www.nrcs.usda.gov/technical/land/nri03/table1.html (accessed 5/20/2005)

Peterson, C.H. and J. Lubchenco. 1997. Marine ecosystem services, in Nature's Services: Societal Dependence on Natural Ecosystems. Edited by G.C. Daily. Island Press (Washington, DC). pp. 177-194.

Postel, S. and S. Carpenter. 1997. Freshwater ecosystem services, in Nature's Services: Societal Dependence on Natural Ecosystems. Edited by G.C. Daily. Island Press

(Washington, DC). pp. 195-214.

Tiner, R.W. 2003. Geographically isolated wetlands in the United States. Wetlands 23:494-516.

Tiner, R. 1997. NWI maps: Basic information on the Nation's wetlands. Bioscience 47:269.