

## DECISION DOCUMENT NATIONWIDE PERMIT 8

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); and (2) a discussion of the environmental considerations necessary to comply with the National Environmental Policy Act. 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 environmental effects, 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

Oil and Gas Structures on the Outer Continental Shelf. Structures for the exploration, production, and transportation of oil, gas, and minerals on the outer continental shelf within areas leased for such purposes by the Department of the Interior, Bureau of Ocean Energy Management. Such structures shall not be placed within the limits of any designated shipping safety fairway or traffic separation scheme, except temporary anchors that comply with the fairway regulations in 33 CFR 322.5(l). The district engineer will review such proposals to ensure compliance with the provisions of the fairway regulations in 33 CFR 322.5(l). Any Corps review under this NWP will be limited to the effects on navigation and national security in accordance with 33 CFR 322.5(f), as well as 33 CFR 322.5(l) and 33 CFR part 334. Such structures will not be placed in established danger zones or restricted areas as designated in 33 CFR part 334, nor will such structures be permitted in EPA or Corps-designated dredged material disposal areas.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity. (See general condition 32.) (Authority: Section 10)

### 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)

## **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 no more than minimal individual and cumulative adverse environmental effects and generally comply with the related laws cited in 33 CFR 320.3. Activities that result in more than minimal individual and cumulative adverse environmental effects cannot be authorized by NWPs. Individual review of each activity authorized by an NWP will not normally be performed, except when pre-construction 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: Section 10 of the Rivers and Harbors Act of 1899; 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 might affect federally-listed endangered or threatened species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) or historic properties (i.e., general conditions 18 and 20, respectively). 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. If a proposed activity will impact a Corps federally authorized Civil Works project, general condition 31 requires that a review by the appropriate Corps office. General condition 28 addresses the use of an NWP with other NWPs to authorize a single and complete project, to ensure that the acreage limits of each of the NWPs used to authorize that project are not exceeded.

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 may result in discharges 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 compliance with the water quality certification requirements of section 401 of the Clean Water Act. 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, unless a presumption of concurrence occurs. The procedures to ensure that the NWPs comply with these laws are described in 33 CFR 330.4(c) and (d), respectively.

## **2.0 Purpose and Need for the Proposed Action**

The proposed action is the issuance of this NWP to authorize structures and work in navigable waters of the United States under section 10 of the Rivers and Harbors Act of 1899 for oil and gas structures on the outer continental shelf that result in no more than minimal individual and cumulative adverse environmental effects. This proposed action is needed for efficient implementation of the Corps Regulatory Program, by authorizing with little, if any, delay or paperwork this category of activities, when those activities have no more than minimal individual and cumulative adverse environmental effects. Issuing an NWP to authorize activities that have no more than minimal individual and cumulative adverse environmental effects instead of processing individual permit applications for these activities, reduces regulatory burdens on the public, benefits the environment through reduced losses of jurisdictional waters and wetlands, and allows the Corps to allocate more of its resources towards evaluating proposed activities requiring authorization under section 10 of the Rivers and Harbors Act of 1899 that have the potential to cause more substantial adverse environmental effects.

## **3.0 Alternatives**

This evaluation includes an analysis of alternatives based on the text of NEPA, which requires consideration of a reasonable range of alternatives to the proposed agency action that are technically and economically feasible, and meet the purpose and need of the proposal. The alternatives identified below are based on an analysis of the reasonably foreseeable potential environmental impacts and socio-economic impacts to the Corps, federal, tribal, and state resource agencies, the general public, and prospective permittees.

### ***3.1 No Action Alternative (Do Not Reissue the Nationwide Permit)***

The no action alternative would be to allow this NWP to continue to authorize activities until it expires on March 14, 2026, and not reissue the NWP. After the NWP expires, under the no action alternative activities that were authorized by this NWP would require individual permits, unless Corps districts issued regional general permits to authorize a similar category of activities that the NWP authorized.

### ***3.2 Reissue the Nationwide Permit With Modifications***

This alternative consists of reissuing the NWP with modifications while considering the comments received from the public in response to the proposal to reissue this NWP. This alternative includes changes to the terms and conditions of this NWP,

including quantitative limits for this NWP, pre-construction notification thresholds and requirements, and other provisions of this NWP. Under this alternative, division and district engineers have the authority under 33 CFR 330.5(c) and (d) to modify, suspend, or revoke NWP authorizations on a regional or case-by-case basis to ensure that the NWP authorizes only those activities that result in no more than minimal individual and cumulative adverse environmental effects.

In the proposed rule published in the June 18, 2025, issue of the Federal Register (90 FR 26100), the Corps requested comments on the proposed reissuance of this NWP. The Corps did not propose any changes to this NWP.

Since the Corps' NWP program began in 1977, the Corps has continuously strived to develop NWPs that only authorize activities that result in no more than minimal individual and cumulative adverse environmental effects. 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.

### ***3.3 Reissue the Nationwide Permit Without Modifications***

This alternative consists of reissuing the NWP without any modifications before it expires on March 14, 2026. Under this alternative, division and district engineers have the authority under 33 CFR 330.5(c) and (d) to modify, suspend, or revoke NWP authorizations on a regional or case-by-case basis to ensure that the NWP authorizes only those activities that result in no more than minimal individual and cumulative adverse environmental effects.

## **4.0 Environmental Consequences**

### ***4.1 General Evaluation Criteria***

NWPs can only authorize activities that have no more than minimal individual and cumulative adverse environmental impacts (see 33 U.S.C. 1344(e), 33 CFR 322.2(f), and 33 CFR 323.2(h)). This document contains a general assessment of the reasonably foreseeable effects of the individual activities authorized by this NWP and the potential cumulative effects of the activities authorized by this NWP during the period (up to five years) it is anticipated to be in effect. In this assessment of individual and cumulative effects, any quantitative or qualitative limits of the NWP, pre-construction notification requirements, the NWP general

conditions, and compliance with applicable laws are considered. The NWP general conditions include mitigation measures that reduce individual and cumulative adverse environmental effects of activities authorized by this NWP. The supplemental documentation prepared by division engineers addresses whether regional conditions, including regional suspension or revocation of the NWP, are necessary to help ensure that activities authorized by NWPs with a particular geographic area (e.g., watershed, seascape, county, state) result in no more than minimal individual and cumulative adverse environmental effects in that geographic area (see 33 CFR 330.5(c)). In addition, district engineers may add conditions to site-specific NWP activities to ensure that those activities will result in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.5(d)).

The impact analysis in this environmental assessment focuses on the impacts or effects that are reasonably foreseeable and have a reasonably close causal relationship to the activities authorized by this NWP under the Corps' permitting authorities (i.e., structures in navigable waters regulated under section 10 of the Rivers and Harbors Act of 1899).

The environmental effects of proposed NWP activities are evaluated by assessing the direct and indirect effects that those NWP activities have on the current environmental setting (Canter 1996). The current environmental setting is the product of the cumulative or aggregated effects of human activities that have persisted over time, as well as the natural processes that have influenced, and continue to influence, the structure and function of aquatic ecosystems and other ecosystems. The current environmental setting includes the present effects of past activities authorized by previously issued versions of this NWP and other NWPs. The current environmental setting can vary substantially in different areas of the country and in different waterbodies. The current environmental setting is dependent in part on the degree to which past and present human activities have altered aquatic and terrestrial ecosystems in a particular geographic area over time. For a particular site in which an NWP activity may take place, the current environmental setting can range from highly developed/altered areas (e.g., urban and suburban areas, where human impacts to ecosystems are highest) to production areas (e.g., agricultural lands) to seminatural areas (e.g., parks) to near natural areas (e.g., wilderness where human impacts to ecosystems are lowest) (van Andel and Aronson 2012). Human impacts on semi-natural ecosystems are lower than human impacts to production ecosystems (van Andel and Aronson 2012). Nearly all waters and wetlands have been directly and indirectly affected by human activities over time (e.g., Halpern et al. 2008 for oceans, Lotze et al. 2006 for estuaries), including land uses in areas that drain to these aquatic ecosystems. Because humans have altered aquatic and terrestrial environments in numerous, substantial ways for thousands of years (e.g., Evans and Davis 2018, Ellis et al. 2021), the current environmental setting takes into account how human activities, natural disturbances, and changing biotic and abiotic conditions have modified

existing aquatic and terrestrial resources.

In the context of the Corps' public interest review (33 CFR 320.4(a)(1)), which requires the Corps to consider the cumulative impacts of activities it authorizes, cumulative impacts are the direct and indirect environmental impacts collectively caused by individual activities authorized by this NWP during the period (up to five years) it is anticipated to be in effect. The cumulative environmental impacts caused by activities authorized by this NWP are evaluated against the current environmental setting. The current environmental setting is the affected environment that described, in general terms, at a national scale in section 4.0 of this document, because that is the scale at which this NWP is issued by Corps Headquarters. When determining whether to modify, suspend, or revoke this NWP on a regional basis to ensure that it authorizes only those activities that have no more than minimal individual and cumulative adverse environmental effects, division engineers will evaluate the cumulative impacts of this NWP within a waterbody, watershed, county, state, Corps district, or other appropriate geographic area.

Consistent with the definitions cited above, the cumulative impacts of this NWP are the product of how many times this NWP is used to authorize structures in navigable waters of the United States across the country during the period this NWP is anticipated to be in effect. The individual and cumulative impacts of activities authorized by this NWP are evaluated against the current environmental setting. The estimated use of this NWP, as well as the estimated authorized impacts and estimated required compensatory mitigation, during the period this NWP is anticipated to be in effect (up to five years) are reasonably foreseeable and have a reasonably close causal relationship to the reissuance of this NWP.

The evaluation in this document comprises the analysis required by NEPA and the public interest review specified in 33 CFR 320.4(a)(1) and (2). 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. Because the NWPs authorize activities across the nation, projects eligible for NWP authorization may be constructed in a wide variety of environmental settings, and affect waters and wetlands of varying quality, from severely degraded (i.e., performing ecological functions and services to a low degree, or not performing one or more ecological functions and services) to performing some or all ecological functions and services to a high degree. NWP activities may result in permanent or temporary losses of aquatic resources, or partial or complete losses of aquatic resources. Therefore, it is difficult to predict all of the direct and indirect impacts that may be caused by each activity authorized by an NWP. For example, the NWP that authorizes 25 cubic yard discharges of dredged or fill material into various types of waters of the United States may be used to fulfill a variety of project purposes, and the direct and indirect effects may vary depending on the specific activity and the environmental

characteristics of the site in which the activity takes place. Therefore, certain NWP's require pre-construction notification for certain activities to provide district engineers the opportunity to review proposed activities on a case-by-case basis and determine whether they will result in no more than minimal individual and cumulative adverse environmental effects.

Under the Corps' public interest review, 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. Division and district engineers will impose, as necessary, additional conditions on the NWP authorization or exercise discretionary authority to address regionally or locally important factors or to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects. In any case, adverse effects will be controlled by the terms, conditions, and additional provisions of the NWP. For example, Endangered Species Act section 7 consultation will be required for all activities that may affect endangered or threatened species or designated critical habitat (see 33 CFR 330.4(f) and NWP general condition 18).

In a specific area of ocean waters, division or district engineers may determine that the cumulative adverse environmental effects of activities authorized by this NWP during the period it is in effect (5 years or less) 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 environmental effects. Division and district engineers have the authority to require individual permits in watersheds or other geographic areas where the cumulative adverse environmental 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 environmental effects of these activities are no more than minimal. When a division or district engineer determines, using local or regional information, that an area of ocean waters is subject to more than minimal cumulative adverse environmental effects due to the use of this NWP, she or he will use the revocation and modification procedure at 33 CFR 330.5. In reaching his or her final decision, the division or district engineer will compile information on the cumulative adverse effects and supplement the information in 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 activities which could result in greater adverse impacts to the aquatic environment. Some of the NWP general conditions include mitigation measures that is likely to help reduce individual and cumulative effects to ocean waters caused by activities authorized by this NWP

during the period (up to 5 years) it is anticipated to be in effect.

## **4.2 Impact Analysis**

This NWP authorizes structures for the exploration, production, and transportation of oil, gas, and minerals on the outer continental shelf. This NWP authorizes structures in navigable waters of the United States, but it does not authorize discharges of dredged or fill material into those waters.

Pre-construction notification is required for all activities authorized by this NWP. If the district engineer determines that the adverse environmental effects of a particular activity 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).

The potential impacts of activities authorized by this NWP on the Corps' public interest review factors listed in 33 CFR 320.4(a)(1) are discussed in more detail in Appendix B of this document.

In this environmental assessment, the analysis of environmental consequences is a qualitative analysis because of the scarcity of quantitative data at a national scale on the quantity and quality of aquatic ecosystems and other ecosystems that comprise the affected environment and the various human activities and natural factors that may directly or indirectly affect those ecosystems and the functions and services they provide. As discussed in Appendix A of this document, the activities authorized by this NWP are just one category among many categories of human activities and natural factors that directly and indirectly affect ocean waters and the ecological functions and services they provide. This environmental assessment focuses on the potential impacts on jurisdictional waters and wetlands that are reasonably foreseeable and may occur after this NWP is issued and goes into effect.

The terms of this NWP, including any acreage limits or any other quantitative limits in the text of the NWP, the protections provided by the NWP general conditions, plus any regional conditions imposed by division engineers and activity-specific conditions imposed by district engineers, will help ensure that the activities authorized by this NWP result in no more than minimal individual and cumulative adverse environmental effects. An additional safeguard in the NWP program is the ability of district engineers to exercise discretionary authority and require project proponents to obtain individual permits for proposed activities whenever a district engineer determines that a proposed activity will result in more than minimal individual or cumulative adverse environmental effects after considering any mitigation proposed by the project proponent (see 33 CFR 330.1(e)(3)).

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 individual and cumulative adverse environmental effects are minimal; or 4) for those NWP activities that require pre-construction notification, add activity-specific conditions to NWP authorizations, such as minimization requirements, to ensure that the adverse environmental effects are minimal. NWPs can authorize activities in high value waters as long as the individual and cumulative adverse environmental effects are minimal.

Corps divisions and districts also monitor the use of this NWP and the authorized impacts identified in NWP verification letters. At a later time, if warranted, a division engineer may add regional conditions to further restrict or prohibit the use of this NWP to ensure that it does not authorize activities that result in more than minimal cumulative adverse environmental effects in a particular geographic region (e.g., an area of ocean waters or a seascape unit). 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 this NWP, as well as substantive public comments, to assess the individual and cumulative adverse environmental effects caused by regulated activities authorized by this NWP.

#### 4.2.1 Individual impacts

The individual environmental impacts are the direct and indirect impacts to ecosystems caused by a specific activity authorized by this NWP (i.e., structures in navigable waters of the United States) at a project site. The types of activities generally considered to be “structures in navigable waters of the United States” are discussed below.

This NWP authorizes structures in navigable waters of the United States. Structures or work in navigable waters of the United States may alter the ecological functions and services performed by those navigable waters. The Corps’ regulations for section 10 of the Rivers and Harbors Act of 1899 in 33 CFR part 322 define the term “structure” as including, “without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other obstacle or obstruction.” [33 CFR 322.2(b)]

Structures in navigable waters of the United States do not typically result in losses of navigable waters, but they may change the ecological functions and services performed by those waters. Examples of exceptions would include fills in navigable waters to create fast land along the shoreline, or artificial islands. Structures and

work in navigable waters may alter the physical, chemical, and biological characteristics of those waters, but they generally do not result in a loss in the quantity of navigable waters. Structures in navigable waters may alter the ecological functions and services provided by those waters. Those alterations will vary, depending on the specific characteristics of the specific activity authorized by this NWP and the environmental setting in which the NWP activity may occur. The environmental setting will vary from site to site, and from region to region across the country.

As discussed above, the individual impacts of activities authorized by this NWP include the direct and indirect effects caused by structures in navigable waters of the United States at a specific site. Whether the individual adverse environmental effects of an NWP activity are no more than minimal are dependent on activity-specific and site-specific factors. The activity-specific factors include the size and configuration of the NWP, the timing of the NWP activity, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), whether any best management practices or other mitigation measures are used to reduce direct and indirect impacts, and how the project proponent conducts the NWP activity (e.g., what equipment is used to conduct the discharge dredged or fill material or to install structures or do work in navigable waters). The site-specific factors include the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, and the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion).

Ecosystems are heterogeneous, open systems that interact with other ecosystems that occur in a landscape (Wallington et al. 2005) or a seascape. Ecosystems are subjected to multiple categories of disturbances over a variety of spatial (local, regional, global) and temporal scales (Foley et al. 2015, Elmqvist et al. 2003). A disturbance is an anthropogenic or natural event that alters or disrupts the structure and function of an ecosystem, often to a substantial degree (Clewell and Aronson 2013). Disturbances are often caused by external influences, such as human activities (e.g., land use changes) and storms (Clewell and Aronson 2013). Activities authorized by this NWP are likely to be disturbances that have the potential to temporarily or permanently change the structure and function of aquatic ecosystems.

Effects are changes in ecosystem structure and function over time (Spaling and Smit 1993) that are caused by anthropogenic and natural disturbances. How an ecosystem responds to disturbances is dependent on context, connections at various scales (e.g., local, regional, global) between ecosystems and ecosystem components, and the ecosystem's current structure and function (Walker and Salt 2006). Disturbances to ecosystems are not always harmful, and disturbances may

be an important component of the ecosystem's dynamics (Wallington et al. 2005) that help maintain its structure and function, as well as the ecological services it provides. Some ecosystems require management by people to retain their structure and function, as well as their resilience to disturbances (Lui et al. 2007).

The environmental effects or impacts that are likely to be caused by individual activities authorized by this NWP during the period (up to five years) it is anticipated to be in effect are evaluated against the current environmental setting (i.e., the affected environment). The affected environment is described at a national scale in Appendix A of this document because if the NWP is issued, that is the scale at which the NWP can be used for activities that require DA authorization. As discussed in Appendix A of this document, all ecosystems have been affected by human activities to some degree. Because historical baselines (i.e., the structure and function of ecosystems in the absence of modifications caused by human activities) no longer exist in most areas, ecosystem management decisions should be made by using contemporary baselines that acknowledge how humans have dominated and changed ecosystems over long periods of time (Kopf et al. 2015). The current environmental setting is the result of human activities altering ecosystems over thousands of years (e.g., Halpern et al. 2008, Evans and Davis 2018), as well as natural changes in environmental conditions that have occurred over time.

Human-mediated and natural disturbances are important factors in ecosystem dynamics, and it is important for natural resource managers to understand how ecosystems have changed over time, what interactions at a landscape scale occur among ecosystem components, and what are the internal dynamics of these ecosystems (Wallington et al. 2005). Anthropogenic and natural disturbances to ecosystems can be placed into three categories: (1) disturbances that maintain ecosystem integrity; (2) moderate disturbances where the ecosystem can recover in time through natural processes; and (3) disturbances that result in ecosystem impairment, which may require human intervention (e.g., restoration) to prevent the ecosystem from changing into a different, and potentially less functional ecological state (Clewell and Aronson 2013). Structures and work in navigable waters of the United States are human-mediated disturbances that can affect the structure and function of aquatic ecosystems, but they are just two categories of anthropogenic disturbances among many categories of anthropogenic and natural disturbances that can affect the structure and function of jurisdictional waters and wetlands and other aquatic ecosystems. Many of the categories of human activities and natural factors that can affect the structure and function of aquatic ecosystems are identified in Appendix A of the document.

Among the various regions and individual sites in the United States and its territories where this NWP may be used for activities that require DA authorization, there is substantial variability in the current environmental setting. In some areas of the country and at specific sites, the current environmental setting is the result of

substantial alteration of waterbodies and other ecosystems by various human activities and natural disturbances that have occurred over time (Clewell and Aronson 2013). However, in other areas of the country, the current environmental setting has been less affected by various human activities and natural disturbances that have occurred over time, and those alterations are more subtle and more difficult to discern (Clewell and Aronson 2013).

The types of ecological functions and services provided by aquatic ecosystems vary considerably by region and by specific aquatic ecosystems, with some aquatic ecosystems performing ecological functions and services to a high degree, and other aquatic ecosystems performing ecological functions and services to a lesser degree. Given the geographic scope in which this NWP can be used to authorize activities under section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act of 1899, the wide variability in aquatic resource structure and function from site to site and from region to region, and the limited quantitative data available at a national scale on functions and services provided by various types of aquatic ecosystems, the analysis of potential environmental consequences of the issuance of this NWP is a qualitative analysis. In addition, if this NWP is reissued, it will be reissued before specific sites for proposed NWP activities are identified. Therefore, the impact analysis in this environmental assessment is a general, qualitative analysis and cannot consider site-specific characteristics associated with a particular NWP activity.

The individual activities authorized by this NWP are likely to affect, to some degree, the ecological functions and services provided by jurisdictional waters and wetlands. In addition, individual activities authorized by this NWP may indirectly affect non-aquatic ecosystems, such as upland forests and grasslands, as well as cultural or production ecosystems (e.g., parks or agricultural areas) that are heavily managed by human actions. The severity of potential impacts to aquatic resources caused by NWP activities is dependent on a variety of factors. Impacts to aquatic resources caused by NWP activities may result in a partial, total, or no loss of aquatic resource functions and services, depending on the specific characteristics of the NWP activity and the environmental setting in which the NWP activity occurs. In addition, the duration of those impacts may vary by activity, with some NWP activities causing permanent impacts, some NWP activities causing temporary impacts, and other NWP activities causing both permanent and temporary impacts. In addition, the duration of permanent or temporary impacts caused by an NWP activity may also be influenced by the resilience and resistance of the affected aquatic resource(s) to disturbances caused by that NWP activity.

Because there is considerable variation across the country in terms of the types of aquatic resources, the ecological functions and services they provide, and their resilience and resistances to various anthropogenic and natural disturbances, including disturbances caused by NWP activities, the environmental consequences of the issuance of this NWP will vary by site and by region.

The impacts of individual activities authorized by this NWP are also likely to vary by the biotic and abiotic characteristics of the activity site and the surrounding area. Some NWP activities may result in losses of most or all aquatic resource functions and services at the site of an NWP activity. For example, an NWP activity may convert an aquatic ecosystem or a part of an aquatic ecosystem to dry land or a building or other type of engineered feature, and eliminate all or most of the aquatic ecosystem functions and services that were provided by that site. Some NWP activities may cause losses of some ecosystem functions and services while retaining or enhancing other ecosystem functions and services at the project site (e.g., an NWP activity that converts an aquatic ecosystem to a different type of aquatic or terrestrial ecosystem that provides some ecological functions and services). Some NWP activities may result in no long-term changes in ecological functions and services performed by the affected waters and wetlands because the NWP activity caused only temporary impacts and either the site recovered or was restored after that NWP activity was completed.

When determining whether a proposed NWP activity will cause no more than minimal individual and cumulative adverse environmental effects, the district engineer will consider the direct and indirect effects caused by the NWP activity. The district engineer will also consider the cumulative adverse environmental effects caused by activities authorized by the NWP and whether those cumulative adverse environmental effects are no more than minimal. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional or condition assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse environmental effects determination. These criteria are listed in the NWPs in Section D, "District Engineer's Decision." The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.

For proposed NWP activities that may result in more than minimal individual adverse environmental effects, the district engineer will provide the applicant the opportunity to submit a mitigation proposal to reduce the adverse environmental effects so that they are no more than minimal (33 CFR 330.1(e)(3)). If the applicant cannot or will not submit an acceptable mitigation proposal to reduce the adverse environmental effects of the proposed NWP activity so that they are no more than minimal, the district engineer will exercise discretionary authority and require an

individual permit for that activity (33 CFR 330.1(d)).

Compensatory mitigation required by district engineers for specific activities authorized by this NWP may help reduce the contribution of those activities to cumulative impacts to the Nation's wetlands, streams, and other aquatic resources, by providing ecological functions that partially or fully replace some or all of the aquatic resource functions lost as a result of those activities. Mitigation requirements, including compensatory mitigation requirements for the NWPs, are described in NWP general condition 23. In addition, compensatory mitigation projects for activities authorized by this NWP must comply with the applicable provisions of the Corps' regulations at 33 CFR part 332. District engineers will establish compensatory mitigation requirements on a case-by-case basis during their evaluations of 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 activities. 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 ecosystem structure and functions. If the compensatory mitigation project is not meeting its objectives, adaptive management will be required by the district engineer. 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)).

Additional conditions can be placed on NWP authorizations on a regional or activity-specific basis by division or district engineers to comply with applicable laws (e.g., section 7 of the Endangered Species Act and section 106 of the National Historic Preservation Act) and ensure that the authorized activities have no more than minimal individual and cumulative adverse environmental effects. Regional conditions added to this NWP by division engineers 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 no more than minimal individual and cumulative adverse environmental effects. Regional conditions also allow each Corps district to prioritize its workload based on where its efforts will best serve to protect the aquatic environment and other relevant public interest review factors. Regional conditions can restrict or prohibit the use of an NWP in certain waters (e.g., high value waters or specific types of wetlands or waters. Specific NWPs can also be revoked on a geographic or watershed basis where the individual and cumulative adverse environmental effects resulting from the use of those NWPs are more than minimal.

Under 33 CFR 330.4(f)(2), for an NWP activity proposed by a non-federal permittee,

the district engineer will review the pre-construction notification to determine if ESA section 7 consultation is required for that activity. If the district engineer determines that the proposed NWP activity may affect listed species or designated critical habitat, ESA section 7 consultation will be conducted with the U.S. Fish and Wildlife Service (U.S. FWS) or National Marine Fisheries Service (NMFS) depending on which species the district engineer determined may be affected by the proposed NWP activity. During the ESA section 7 consultation process the U.S. FWS or NMFS will evaluate the effects of the action caused by the proposed NWP activity, the status of the species and critical habitat, and the consequences of other activities that are caused by the proposed action but that are not part of the action that are reasonably certain to occur within the action area. For formal ESA section 7 consultations, the U.S. FWS or NMFS will formulate their opinion as to whether the proposed NWP activity is likely to jeopardize the continued existence of listed species (or species proposed for listing) or result in the destruction or adverse modification of critical habitat (or critical habitat proposed for such designation) (see 50 CFR 402.14(g)). The ESA section 7 consultation requirements may also be fulfilled through informal consultation, when the U.S. FWS or NMFS provide their written concurrence that a proposed NWP activity is not likely to adversely affect endangered or threatened species or their designated critical habitat (see 50 CFR 402.13(c)).

#### 4.2.2 Cumulative impacts

The cumulative impacts caused by the issuance of this NWP are dependent on the number of times the NWP is used to authorize regulated activities during the period (up to five years) it is anticipated to be in effect. Because the activities authorized by this NWP constitute only a small proportion of the categories of human activities across the country that directly and indirectly affect ocean waters, estuarine waters, lakes, wetlands, streams, and other aquatic resources, the activities authorized by this NWP during the period it is anticipated to be in effect are likely to result in only a minor incremental change to the jurisdictional waters and wetlands in the affected environment (i.e., the current environmental setting in the United States and its territories), and the ecological functions and services those waters and wetlands provide. Division and district engineers will monitor the use of this NWP on a regional and activity-specific basis, and under their authorities in 33 CFR 330.5(c) and (d), will modify, suspend, or revoke NWP authorizations in situations where those activities will result in more than minimal cumulative adverse environmental effects in a waterbody, watershed, or other geographic region.

The impacts of activities authorized by this NWP during the period (up to five years) it is anticipated to be in effect are evaluated against the current affected environment, to determine the potential severity of those anticipated impacts in light of the human alterations to aquatic ecosystems that have occurred over time and space. This evaluation takes into account how the activities authorized by this NWP

might affect aquatic ecosystems, the resilience of aquatic ecosystems, and the ability of aquatic ecosystems to continue to provide ecological functions and services after the authorized activities have occurred. When evaluating pre-construction notifications, district engineers should be taking into account the current environmental setting, as well as how the jurisdictional waters and wetlands might respond as a result of the implementation of the NWP activity, including how resilient those waters and wetlands are to disturbances caused by discharges of dredged or fill material and/or structures or work in navigable waters.

Based on reported use of this NWP during the period of February 22, 2022, to February 21, 2024, the Corps estimates that this NWP will be used approximately 2 times per year on a national basis, resulting in impacts to approximately 2/10-acre of waters of the United States, including jurisdictional wetlands. All activities authorized by this NWP require pre-construction notification to the district engineer.

Based on reported use of this NWP during that time period, the Corps estimates that district engineers will not require compensatory mitigation to offset the impacts to waters of the United States authorized by this NWP because compensatory mitigation is not likely to be necessary to ensure that activities authorized by this NWP result in only minimal adverse effects on the aquatic environment. The verified activities that do not require compensatory mitigation will have been determined by Corps district engineers to result in no more than minimal individual and cumulative adverse effects on the aquatic environment without compensatory mitigation.] During the period of 2026 to 2031, the Corps expects little change to the percentage of NWP 8 verifications requiring compensatory mitigation, because there have been no substantial changes in the mitigation general condition or the NWP regulations for determining when compensatory mitigation may be required for NWP activities. The demand for these types of activities could increase or decrease during the five year period this NWP is anticipated to be in effect.

Based on these annual estimates, the Corps estimates that approximately 10 activities could be authorized until this NWP expires, resulting in impacts to approximately one acre of waters of the United States, including jurisdictional wetlands. During the period this NWP is in effect, the individual and cumulative impacts on the aquatic environment caused by activities authorized by this NWP are expected to result in only minor changes to the current environmental setting at the scale at which this NWP is issued (i.e., the United States and its territories), which is described in Appendix A of this document. Division engineers have the authority to modify, suspend, or revoke this NWP in a particular geographic region (e.g., a Corps district, state, watershed, or seascape) if they believe those discharges of dredged or fill material into waters of the United States are likely to result in more than minimal individual and cumulative adverse environmental effects in the identified geographic region (see 33 CFR 330.5(c)). District engineers have the authority to modify, suspend, or revoke this NWP on a case-by-case basis if they determine those discharges of dredged or fill material into waters of the United

States are likely to result in more than minimal individual and cumulative adverse environmental effects on the project site (see 33 CFR 330.5(d)).

Compensatory mitigation is not normally required to offset the impacts resulting from the activities authorized by this NWP. The demand for these types of activities could increase or decrease over the time period (up to five years) this NWP is anticipated to be in effect.

For the purposes of considering environmental change that occurs in response to multiple human activities over time in a particular geographic area, “cumulative impacts” have been defined from an ecological perspective in various ways (Duinker et al. 2013). An ecological approach to considering cumulative impacts differs from the regulatory approaches under NEPA, and the Corps’ public interest review. The regulatory approaches to considering cumulative effects are not effective in addressing the causes of cumulative environmental change because they fail to take into account all relevant drivers of cumulative environmental change, especially those drivers that fall outside of the Corps’ jurisdiction.

In an ecological context, cumulative impacts to aquatic ecosystems and other ecosystems include all human activities that can affect those ecosystems, and are not limited to activities authorized by this NWP. Cumulative impacts to aquatic ecosystems are caused by a variety of human activities (see Appendix A for a list of those activities). As one example of defining cumulative impacts in an ecological context, the National Research Council (NRC) (1986) defined “cumulative impacts” as the on-going degradation of ecological systems caused by repeated perturbations or disturbances. MacDonald (2000) defined “cumulative impacts” as the result of the combined effects of multiple activities that occur in a particular area that persist over time. “Cumulative effects” are caused by the interaction of multiple activities in a seascape unit (Clarke Murray et al. 2014, Crain et al. 2008). According to Gosselink and others (1990), cumulative impacts are a large-scale phenomenon because ecosystems within a large geographic area interact with each other and the direct and indirect effects of disturbances caused by human activities can reach throughout that geographic area.

All ecosystems are subjected to multiple disturbances that cause cumulative impacts to those ecosystems (Hodgson et al. 2019, Hodgson and Halpern 2018, Suding and Hobbs 2009). Cumulative impacts have gained a substantial human component because of the numerous activities conducted by people as they interact with their environment (Crain et al. 2008). Cumulative impacts are evaluated against the current environmental setting, and the current environmental setting is the product of cumulative environmental change (Cocklin et al. 1992) that has occurred over many years over broad geographic areas as a result of a variety of human activities and natural disturbances. For a particular ecosystem, the severity of cumulative impacts may be dependent on the current condition of that ecosystem (Clarke Murray et al. 2014), which may not be well understood with currently

available information. Ecological thresholds, which are discussed below, can provide useful, science-based targets for environmental regulation (Kelly et al. 2014), including the evaluation of the cumulative impacts to ecosystems caused by multiple human activities and natural disturbances.

Cumulative impacts are not limited to activities that are regulated by a single agency, but they also include activities that are not regulated by that agency (Gosselink et al. 1990). Therefore, cumulative impact assessment should consider the impacts of multiple projects that occur in a region, as well as other human activities that are not considered “projects” per se, such as on-going agricultural activities, forestry activities, urbanization, and fossil fuel consumption (Spaling 1994) that are not subjected to environmental review by any entity (Hunsicker et al. 2016) but are likely to directly or indirectly affect the structure and function of ecosystems. Some “non-project” contributors to cumulative impacts may be identified in a cumulative impact analysis but there may be other non-project contributors to cumulative impacts that cannot be identified (Spaling 1994) by the entity conducting the assessment.

Cumulative impact assessment is a complex task because of the need to understand: (1) how multiple disturbances that contribute to cumulative impacts interact with each other, (2) the connectivity among ecosystem components, (3) the pathways by which ecosystems can have linear or non-linear responses to multiple disturbances, and (4) the indirect or higher order interactions among multiple disturbances (Hodgson and Halpern 2018, Spaling 1994). Cumulative effects analysis should take into account the complexity, uncertainty, and natural variation of ecosystems (Clarke Murray et al. 2014). Cumulative impact assessment requires an understanding of how ecosystems, including aquatic ecosystems, withstand and recover from anthropogenic and natural disturbances, as well as their limitations to withstanding and recovering from those disturbances (Noble 2010). Cumulative impact analysis involves uncertainty because of our limited understanding of ecosystems, including aquatic ecosystems, and how various human activities and natural disturbances affect the structure and function of those ecosystems (Clarke Murray et al. 2014). An additional challenge to assessing cumulative impacts is the difficulty of quantifying the response of an ecosystem to a specific disturbance, including the degree to which that disturbance affects the structure and function of that ecosystem (Clarke Murray et al. 2014). Furthermore, if ecosystem response to a particular disturbance is difficult to quantify, then it is likely to be even more difficult to quantify how an ecosystem responds to the cumulative impacts of multiple disturbances. These complexities and challenges point to the challenges and difficulties in quantifying cumulative impacts.

Cumulative impact analysis can utilize either a stressor-based approach or an effects-based approach (e.g., Duinker et al. 2013, Dubé 2003, Cocklin et al. 1992). A stressor-based approach evaluates the cumulative effects caused by a specific type of disturbance or cause of environmental change (Cocklin et al. 1992). A

stressor-based approach to cumulative impact assessment does not take into account other potential anthropogenic or natural disturbances that may also cause changes in ecosystem structure and function (Duinker et al. 2013, Noble 2010). If substantial changes in aquatic ecosystem structure and function occur, then under a stressor-based approach to cumulative impact analysis there will be uncertainty as to whether the specific disturbances considered in the cumulative impact analysis (such as activities authorized by an NWP) are the cause of those substantial changes in aquatic ecosystem structure and function.

A stressor-based approach to cumulative impact assessment would likely not be effective in identifying and implementing management actions that could reduce or reverse those cumulative impacts because it might not identify the primary driver(s) of change in aquatic ecosystem structure. With respect to the activities authorized by this NWP, under a stressor-based approach to cumulative impact analysis, those NWP activities might not be a substantive driver of changes in aquatic ecosystem structure and function in a waterbody, watershed, or other geographic region. Other anthropogenic or natural disturbances that may or may not have been considered during a stressor-based cumulative impact analysis may be primarily responsible for those changes in ecosystem structure and function.

In contrast to a stressor-based approach, an effects-based approach to cumulative effects analysis uses a broader definition of “cumulative impact” and thus takes into account the various categories of human activities (including NWP activities) and natural disturbances that contribute to cumulative environmental change. An effects-based approach to cumulative impact assessment is likely to be more robust than a stressor-based approach (Duinker et al. 2013, Duinker and Greig 2006). The complexity associated with those various categories of anthropogenic and natural disturbances and how they interact with each other present challenges with decision-making and management of cumulative impacts for a particular category of anthropogenic disturbance, such as activities authorized by this NWP. That challenge arises because other anthropogenic disturbances, not activities authorized by the NWP, may be the primary drivers of substantial changes in ecosystem structure and function in the region where the NWP is used. An effects-based approach to cumulative impact analysis may help point managers and decision-makers to broader courses of actions to address cumulative impacts and help ensure the sustainability of ecosystems in a region and their ability to provide ecological functions and services (e.g., Duinker and Greig 2006, Gosselink et al. 1990).

Activities authorized by this NWP do not occur in isolation from other human activities and natural disturbances that can cause changes to the structure and function of aquatic ecosystems and other ecosystems. Because activities not regulated by the Corps under its permitting authorities may contribute to substantial changes in the structure and function of aquatic ecosystems in a region, a broader definition of cumulative impacts should be considered when evaluating substantial

changes in aquatic ecosystem structure and function in a waterbody, watershed, seascape, or other regional geographic area. As discussed below and in Appendix A of this document, there are numerous other categories of human activities and natural disturbances (e.g., storms, wildfires) that can also alter the structure and function of jurisdictional waters and wetlands, as well as other ecosystems, and contribute to cumulative impacts. These other categories of human activities and natural disturbances that contribute to cumulative effects to aquatic ecosystems and other ecosystems occur concurrently with the activities authorized by this NWP during the period it is in effect. The various human activities and natural disturbances are likely to interact with each other and may affect the structure and function of jurisdictional waters and wetlands. The activities authorized by this NWP are likely to comprise a small fraction of the human activities that alter or cause losses of aquatic ecosystems and other natural resources. The likelihood that activities authorized by this NWP will cause aquatic ecosystems in a region assessed for cumulative impacts to undergo more than minimal changes in structure and function is likely to be small, given the variety and number of human activities and natural disturbances that directly and indirectly affect aquatic ecosystems that are likely to occur concurrently with the activities authorized by this NWP.

There are a number of ecological considerations that should be taken into consideration when evaluating cumulative impacts, including the cumulative impacts of one category of activities (e.g., activities authorized by this NWP), that can alter or disrupt ecological processes and affect the structure and function of jurisdictional waters and wetlands and other aquatic ecosystems and the services they provide. Those ecological considerations include: (1) the difficulties of establishing cause-and-effect relationships between a specific category of anthropogenic or natural disturbance and changes in ecosystem structure and function; (2) evaluating how various types of anthropogenic and natural disturbances interact with each other; (3) ecosystem dynamics; (4) and ecological thresholds in ecosystems that exhibit non-linear dynamics. Another challenge with cumulative impact assessment in practice is that there are currently substantial gaps in our ecological understanding of how multiple anthropogenic and natural disturbances interact with each other to cause changes to ecosystems and the ecological functions and services they provide (Hodgson et al. 2019, Côté et al. 2016, Clarke Murray et al. 2014).

There are also challenges associated with managing cumulative impacts to ecosystems, including aquatic ecosystems, that are affected by multiple categories of disturbances in a waterbody, watershed, or other geographic region. Some activities that cause disturbances to aquatic ecosystems and other ecosystems may be regulated by federal, tribal, state, or local government agencies but many sources of anthropogenic disturbances might not be regulated under any federal, tribal, state, or local government laws or regulations (Dubé 2003), that is, the problem of fragmented jurisdiction in large-scale ecological systems.

Substantial changes in ecosystem structure and function are usually the result of the cumulative impacts of multiple disturbances (Hughes et al. 2013, Levin and Mollmann 2015, Scheffer and Carpenter 2003). An ecosystem's response to cumulative impacts is dependent on the complexity of the ecosystem and its ability to respond to various types of disturbance and degrees of disturbance, as well as its dynamic variability and its capacity to absorb disturbance (Spaling 1994). When considering cumulative impacts to aquatic ecosystems caused by a specific category of anthropogenic disturbances, firmly establishing a cause-and-effect relationship between that disturbance category and subsequent environmental change is difficult because of the complexity of these ecosystems, their dynamic nature, and the many categories of human activities and natural disturbances that can affect their structure and function (e.g., Korpinen and Andersen 2016, Clarke Murray et al. 2014, Cocklin et al. 1992). Cause-and-effect relationships between ecosystems and the disturbances that can affect their structure and function are complex because the number of potential disturbances, the various feedback mechanisms that affect how ecosystems respond to those disturbances, and the variability in how ecosystems respond to multiple disturbances and the variability in feedback mechanisms (Spaling 1994).

When the capacity of a waterbody to perform ecological functions decreases substantially, it is usually difficult to identify one specific activity that is responsible for that degradation, because that degradation is usually the result of multiple anthropogenic disturbances that caused cumulative environmental change in that waterbody (Dubé 2003). The difficulties in establishing cause-and-effect relationships and cumulative environmental change in waterbodies, watersheds, and other geographic regions are pertinent to decision-making by division and district engineers for NWP activities because of the numerous other drivers of cumulative environmental change in jurisdictional waters and wetlands. Natural disturbances may also be responsible, to some degree, for contributing to that cumulative environmental change in aquatic ecosystems. Slowly-occurring changes to ecosystem structure and function can also make it difficult to identify cause-and-effect linkages between disturbances and changes in ecosystem structure and function, making decision-making for regulatory and resource agencies more challenging (Hughes et al. 2013, Kelly et al. 2015).

Establishing a decisive cause-and-effect relationship between the use of the NWP in a region and substantial changes in the structure and function of aquatic ecosystems in that region is difficult because of the greater likelihood that those substantial changes were caused by a combination of human activities and natural disturbances that affect the structure and function of those aquatic ecosystems. NWP activities occur concurrently with other human activities and natural disturbances, and the collective disturbances caused by human activities are the causes of cumulative change in aquatic ecosystems. Attempting to manage cumulative effects requires an understanding all of the various anthropogenic and natural disturbances that can affect the ecosystem(s) being evaluated, not just the

disturbances caused by a specific category of activities (Noble 2010). Therefore, all of those human activities and natural disturbances should be considered when assessing cumulative effects and determining whether there are appropriate management actions that could be required under the Corps' permitting authorities (and any other applicable federal, tribal, state, and local regulatory authorities) to address substantial cumulative adverse environmental effects. Because of the variety of human activities and natural disturbances that contribute to cumulative environmental change, resource managers should also understand that cumulative impacts are likely to continue to occur even if one particular of category of activities (e.g., the activities authorized by this NWP) is prohibited from occurring in that region for the foreseeable future.

Disturbances from various anthropogenic sources interact with each other to cause additional indirect or higher order effects to ecosystems (Hodgson and Halpern 2018). Therefore, when assessing cumulative impacts, it is important to consider not only the multitude of human activities and natural disturbances that contribute to cumulative impacts to aquatic ecosystems and other ecosystems, but how those disturbances interact with each other. Because of the complexity of ecological systems and potential higher order interactions among disturbances that are likely to affect ecosystem components, it is difficult to predict how cumulative impacts will change ecosystem structure and function (Crain et al. 2008). There is substantial uncertainty in determining the severity of cumulative impacts because we do not fully understand how various disturbances interact with each other, and with ecosystem components, over space and time (Clarke Murray et al. 2014), and how those interactions control or influence ecological processes (Groffman et al. 2006).

Interactions among human and natural disturbances to ecosystems may be additive, synergistic, or antagonistic (Côté et al. 2016, Kelly et al. 2014, Crain et al. 2008). Under an additive interaction, an ecosystem's response to two or more disturbances is the sum of those disturbances (Côté et al. 2016). Under a synergistic interaction, an ecosystem's response to two or more disturbances is greater than the response from each disturbance (Côté et al. 2016). That is, for synergistic interactions the collective effects are more severe than they would be if they were added together. Under an antagonistic interaction, an ecosystem's response to two or more disturbances is smaller than the response from each disturbance (Côté et al. 2016). In other words, for antagonistic interactions the collective effects are less than they would be if they were added together. As the number of anthropogenic and natural disturbances affecting an ecosystem increases, the likelihood of more complex interactions among those disturbances increases (Crain et al. 2008). When there are multiple disturbances acting on an ecosystem at the same time, it is difficult to identify which types of disturbance interactions are occurring (Côté et al. 2016).

Many cumulative impact assessment methods assume additive interactions between disturbances and ecosystem components, but broader ecological studies

show that synergistic and antagonistic interactions among disturbances are common (Korpinen and Andersen 2016). Some cumulative impact assessments assume that synergistic interactions are the most common form of disturbance interaction, and more consideration needs to be given to antagonistic and additive interactions (Côté et al. 2016). Assuming that all or most interactions among disturbances are synergistic interactions can lead to a false conclusion that ecosystem structure and function has become more degraded than it really is. To avoid such false conclusions, it is important to consider antagonistic and additive disturbance interactions (Côté et al. 2016) when evaluating cumulative impacts and whether it is necessary to respond to those cumulative impacts. Côté and others (2016) recommend that natural resource managers consider that synergistic, antagonistic, and additive interactions among disturbances are equally likely to occur.

For activities authorized by this NWP, the contribution of those activities to cumulative impacts on the structure and function of jurisdictional waters and wetlands is dependent in part on how the disturbances cause by NWP activities interact with the disturbances caused by other human activities and natural events that occur during the period this NWP is in effect. Those interactions may be additive, synergistic, and/or antagonistic. The specific types of interactions that occur among NWP activities and other anthropogenic disturbances may vary by aquatic resource category and geographic region. The type of interaction that occurs may also depend on the degree to which the affected jurisdictional waters and wetlands perform ecological functions and services, the types of other categories of human activities and natural disturbances that also affect the structure and function of jurisdictional waters and wetlands in that region, and other factors. The complexity of aquatic ecosystems, the potential types of disturbance interactions that can occur, and other factors make it difficult to predict how aquatic ecosystems in a particular region will respond to cumulative impacts. Because of this uncertainty, a monitoring and reactive approach to addressing cumulative impacts through the division and district engineer's authority to modify, suspend, or revoke NWP authorization on a regional or activity-specific basis is likely to be the most effective approach for ensuring in a particular region that this NWP authorizes only those activities that have no more than minimal cumulative adverse environmental effects.

Cumulative impact assessment should also take into account ecosystem dynamics, which are driven in part by how anthropogenic and natural disturbances interact with each other, feedback mechanisms that influence ecosystem structure and function, as well as other factors such as the presence of ecological thresholds and resilience. All ecosystems are dynamic and are subject to disturbances, and it is the type, magnitude, and frequency of disturbances that causes an ecosystem to either: (1) maintain its structure and function, (2) improve its structure and function, or (3) exhibit a decline in its structure and function (Spaling 1994). All ecosystems have some capacity to assimilate various amounts of disturbances without degrading

ecosystem components or processes (Spaling 1994).

Ecological science has altered its understanding of how ecosystems change over time, from static models based on equilibrium and predictable behavior to complex, dynamic models that are based on non-equilibrium and unpredictable behavior that accounts for the complexity and non-linearity of ecosystem dynamics (Wallington et al. 2005). Some ecosystems may exhibit gradual, continuous overall responses to multiple disturbances, while other ecosystems exhibit more complex dynamics, expressing little or no change in structure and function in response to multiple disturbances until a threshold is reached where those ecosystems undergo abrupt, discontinuous (i.e., non-linear) changes in structure and function (Wallington et al. 2005, Scheffer et al. 2001). Most ecosystems exhibit complex dynamics, especially as human activities have had increasing cumulative impacts on these systems (Suding and Hobbs 2009).

Some ecosystems exhibit gradual or linear ecosystem dynamics, where they undergo incremental changes in ecosystem structure and function as they are subjected to an anthropogenic or natural disturbance (Hunsicker et al. 2016, Kelly et al. 2014) over. Ecosystems with linear dynamics do not have resilience and as they are exposed to subsequent disturbances, they respond with gradual changes in their structure and function.

Most ecosystems can tolerate disturbances and continue to provide ecological functions and services until they reach an ecological threshold that when crossed, causes the ecosystem to change to an alternative state with a substantially different structure and function (Selkoe et al. 2015, Hunsicker et al. 2016, Suding and Hobbs 2009, Groffman et al. 2006, Scheffer et al. 2001). For many ecosystems it generally takes a substantial amount of collective disturbance (i.e., cumulative impacts) to cause the ecosystem to cross a threshold and abruptly change to a different structure and function (Scheffer et al. 2001, Selkoe et al. 2015). However, some ecosystems may have a lower capacity to absorb disturbances and resist change because they are currently near an ecological threshold where a small amount of additional disturbance may cause the ecosystem to change to a different structure and function (Selkoe et al. 2015). An ecological threshold is a point where a small change in environmental conditions caused by one or more disturbances results in an ecosystem undergoing a large, non-linear change in its structure and function (Kelly et al. 2015, Suding and Hobbs 2009, Groffman et al. 2006). Abrupt changes in ecosystem structure and function caused by crossing a threshold may occur when human activities reduce the resilience of those ecosystems (Folke et al. 2004).

Non-linear ecosystem dynamics can occur in two ways: threshold dynamics or hysteresis (Suding and Hobbs 2009). Under threshold dynamics, ecosystem structure and function change abruptly after one or more disturbances cause a threshold or tipping point to be reached, and the pathway by which ecosystem

recovery can occur is similar to the pathway that resulted in the abrupt change in ecosystem structure and function (Suding and Hobbs 2009). Under hysteresis, ecosystem structure and function change abruptly as an ecological threshold is crossed, but the pathway by which ecosystem recovery can occur (if it can occur through restoration or other means) is not the same as the pathway that caused the abrupt change in ecosystem structure and function (Suding and Hobbs 2009). Non-linear threshold dynamics in ecosystems are more difficult to predict than linear ecosystem responses to disturbances (Foley et al. 2015).

Non-linear ecosystems dynamics and thresholds apply to a wide variety of ecosystems, but not all ecosystems (Foley et al. 2015, Groffman et al. 2006, Suding and Hobbs 2009). Non-linear ecosystem dynamics and threshold responses are common in marine ecosystems (Hunsicker et al. 2016). Numerous aquatic ecosystems (e.g., lakes, coral reefs, oyster reefs, fish communities) can shift between alternative states instead of exhibiting gradual responses to disturbances and changing environmental conditions (Scheffer et al. 2001). Ecological thresholds associated with shifts to alternative states have been observed in marine ecosystems (Hunsicker et al. 2016), as well as terrestrial ecosystems (Groffman et al. 2006). Ecological thresholds are more difficult to identify in terrestrial ecosystems because those ecosystems change more slowly (Groffman et al. 2006). It is also more challenging to identify thresholds in ecosystems that respond more slowly to disturbances, and to develop effective management responses when those ecosystems change to an alternative state (Hughes et al. 2013). Threshold dynamics in ecosystems are strongly influenced by human activities (Suding and Hobbs 2009).

Resilience is the ability of ecosystems to withstand or absorb disturbance while maintaining their basic structure and function (Suding and Hobbs 2009, Walker and Salt 2006, Folke et al. 2004). An ecosystem with greater resilience can absorb more disturbances than an ecosystem with lower resilience (Kelly et al. 2014). Resilience is linked to non-linear dynamics, where an ecosystem can absorb disturbances to some degree before approaching an ecological threshold where an additional amount of disturbance causes that ecosystem to abruptly change to a different structure and function (Kelly et al. 2014). Loss of resilience can increase an ecosystem's susceptibility to changing to a different structure and function, and some changes to alternative states may be irreversible (Folke et al. 2004). Human activities affect the resilience of ecosystems by changing the biotic composition and how those ecosystems respond to disturbances (Suding and Hobbs 2009). Human activities that reduce the resilience of ecosystems, and the ability of those ecosystems to sustain their structure and function, include land use changes, pollution, resource exploitation, changes in disturbance regimes, and changing environmental conditions (Folke et al. 2004). Activities authorized by this NWP may also contribute to decreases in aquatic ecosystem resilience.

Jurisdictional waters and wetlands may exhibit linear or non-linear ecosystem

dynamics in response to direct and indirect impacts caused by activities authorized by this NWP and other anthropogenic and natural disturbances. Therefore, there is uncertainty in how these aquatic ecosystems will respond to activities authorized by this NWP and other disturbances. Depending on the degree to which jurisdictional waters and wetlands are resilient to disturbances caused by activities authorized by this NWP and to other anthropogenic and natural disturbances, some jurisdictional waters and wetlands in a region may exhibit little or no change in ecosystem structure and function during the period this NWP is in effect. Under these circumstances, the use of this NWP during the period it is in effect could be considered as resulting in no more than minimal cumulative adverse environmental effects. There may be waterbodies, watersheds, or other regions where jurisdictional waters and wetlands are at or near ecological thresholds that where additional disturbances, including disturbances caused by activities authorized by this NWP, may cause those aquatic ecosystems to shift to an alternative state (i.e., a substantially different structure and function). In those situations, division and district engineers will determine whether activities authorized by this NWP were responsible for the substantial change in the structure and function the of jurisdictional waters and wetlands in that region, and may take action to modify, suspend, or revoke the NWP in that region.

Current environmental laws (e.g., the Clean Water Act, the National Environmental Policy Act) were passed in the late 1960s and early 1970s, before ecological science began to understand that many ecosystems exhibit non-linear responses to disturbances (Kelly et al. 2014). Therefore, those environmental laws assume that ecosystems exhibit linear responses to disturbances. Activities authorized by this NWP are likely to contribute to the cumulative impacts that affect the dynamics of aquatic ecosystems, and those dynamics may be linear or non-linear. In most cases, our current understanding of aquatic ecosystems or other ecosystems is not sufficient for predicting how they are likely to respond to single disturbances or multiple disturbances (Clarke Murray et al. 2014, Kelly et al. 2014, Suding and Hobbs 2009, Cocklin et al. 1992).

The use of thresholds for determining the significance or severity of cumulative impacts should focus on the use of ecological thresholds, rather than regulatory thresholds, because regulatory thresholds are typically not based on ecological concepts (Duinker et al. 2013), such as ecosystems dynamics in response to multiple disturbances and other drivers. In addition, some regulatory thresholds, especially qualitative thresholds (e.g., an environmental change that is “no more than minimal”), are subjective, and present challenges in defining that regulatory threshold and how to apply it to decision-making. Compared to regulatory thresholds, one advantage that ecological thresholds have as an environmental decision-making tool is that ecological thresholds are not arbitrary because they are based on observable biophysical ecosystem responses (Kelly et al. 2015).

Ecological thresholds can guide decision-making for regulatory programs (Kelly et

al. 2014) for ecosystems with non-linear dynamics. Ecological thresholds are less useful for decision-making for ecosystems that have linear dynamics, because they change gradually in response to multiple disturbances over time, with no discernable threshold. Duinker and others (2013) stated that thresholds are a critical tool for evaluating the significance of cumulative impacts. However, it is difficult to predict where these thresholds are, and ecosystems may exhibit little change before a threshold is reached (Scheffer et al. 2009).

If an ecological threshold exists, it may be difficult to identify because many thresholds are not known to exist until after an ecosystem has changed to an alternative state, especially if the ecosystem has resisted change after being exposed to multiple disturbances (Selkoe et al. 2015). Identifying ecological thresholds requires gathering sufficient information to better understand ecosystem dynamics and reduce uncertainty about where ecological thresholds may occur and under what circumstances they may be reached (Kelly et al. 2014) and cause the ecosystem to exhibit a substantial change in structure and function. In addition, ecological thresholds are likely to change as ecosystems change over time, and it may be difficult to predict where an ecological threshold will exist in the future (Standish et al. 2014). Another factor to consider regarding the use of ecological thresholds in decision-making is that slower transitions to alternative states (i.e., substantial changes in ecosystem structure and function) can be more difficult to identify and manage than sudden transitions to alternative states (Hughes et al. 2013). In some ecosystems, these transitions can take decades, centuries, or longer to occur (Hughes et al. 2013). Therefore, the utility of ecological thresholds in decision-making by Corps divisions and districts, as well as natural resource managers, is dependent on how quickly these transitions shifts are likely to occur in a particular ecosystem.

The aquatic ecosystems that may be affected by activities authorized by this NWP and other Department of the Army permits may respond to multiple disturbances under any of the three models described above, and we likely do not know which model may apply to a particular aquatic ecosystem, watershed, or other geographic area over which cumulative impacts are assessed. This includes aquatic ecosystems that are subject to regulation by the Corps under section 404 of the Clean Water Act and section 10 of the Rivers and Harbors Act of 1899. The type of dynamics an aquatic ecosystem exhibits may also depend on how various disturbances (including disturbances caused by activities authorized by this NWP) will interact with each other and cause gradual or abrupt changes in aquatic ecosystem structure and function. Natural resource managers often do not have sufficient information as to whether an ecological threshold exists in a particular ecosystem, under what conditions that threshold might be crossed, and whether hysteresis may prevent the ecosystem from returning to its previous state (Foley et al. 2015). We are not currently capable of developing accurate, predictive models for complex systems (Scheffer et al. 2012), such as aquatic ecosystems that may be affected by the activities authorized by this NWP, that could be consistently

relied upon for decision-making and management for cumulative adverse environmental effects.

Implementing an approach to use ecological thresholds to make decisions regarding cumulative environmental change and shifts to alternative states has a number of challenges, such as the difficulty of identifying useful thresholds and the possibility that some for ecosystems it might not be possible to identify practical thresholds (Duinker and Greig 2006). The identification of ecological thresholds is also complicated by the complexity of interactions between ecosystems, geography, local environmental factors, and large-scale environmental factors, and how ecosystems respond to disturbance (Standish et al. 2014). In addition, thresholds are likely to vary by specific ecosystems, with individual ecosystems having different thresholds, depending on site-specific and regional characteristics, including the types of disturbances a particular ecosystem is subjected (Groffman et al. 2006). Because of the difficulty in identifying thresholds in advance of an ecosystem shifting to a substantially different structure and function, the most certain way to identify thresholds in ecosystems is to observe when a change to a substantially different structure and function occurs (Kelly et al. 2014, Selkoe et al. 2015).

For jurisdictional waters and wetlands that exhibit non-linear responses to multiple disturbances, including disturbances caused by NWP activities, the “more than minimal cumulative adverse environmental effects” threshold could be interpreted as the occurrence of a substantial change in structure and function after an ecological threshold is crossed. In other words, cumulative effects caused by activities authorized by this NWP during the period it is in effect would be no more than minimal if the aquatic ecosystems within the regional spatial scale at which cumulative effects are assessed (e.g., a waterbody, watershed, county, state, or Corps district) exhibit little or no change in aquatic ecosystem structure and function during that time period.

Some jurisdictional waters and wetlands may exhibit gradual, continuous responses to disturbances caused by activities authorized by this NWP and other anthropogenic and natural disturbances. For jurisdictional waters and wetlands that exhibit linear (additive or gradual) responses to multiple disturbances, including disturbances caused by NWP activities, the “more than minimal cumulative adverse environmental effects” threshold is more difficult to define ecologically because each disturbance causes an incremental change in the structure and function of that aquatic ecosystem. For jurisdictional waters and wetlands that exhibit linear responses to multiple disturbances, division and district engineers would have to exercise their judgment as to when the “more than minimal cumulative adverse environmental effects” threshold is exceeded in a particular region.

Because of differences between linear and non-linear ecosystem responses to cumulative impacts, and other variables such as aquatic ecosystem resilience, the degree to which aquatic ecosystems have been affected by past human activities

and natural disturbances, and gaps in understanding how aquatic ecosystems respond to multiple, interacting disturbances, a reactive approach by division and district engineers to address the potential cumulative adverse environmental effects caused by activities authorized by this NWP during the period it is in effect is warranted. If division and district engineers observe that jurisdictional waters and wetlands in a region are undergoing substantial changes in structure and function, they can take actions under 33 CFR 330.5(c) and (d) to modify, suspend, or revoke that NWP in that geographic area.

For the purposes of this environmental assessment, which is prepared at the national scale because the NWP would authorize activities across the country, the activities authorized by this NWP during the period it is in effect are anticipated to result in no more than minimal cumulative adverse environmental effects. If, during the period the NWP is in effect, Corps Headquarters determines that this NWP is resulting in more than minimal cumulative adverse environmental effects across the country, it will take action under 33 CFR 330.5(b) to modify, suspend, or revoke this NWP. At a regional scale, division and district engineers will take actions under 33 CFR 330.5(c) and (d) respectively, to modify, suspend, or revoke this NWP when they determine that the use of this NWP in a region or for a specific activity will result in more than minimal cumulative adverse environmental effects.

### ***4.3 Impact Analysis for Alternatives to the Proposed Action***

#### **4.3.1 No Action Alternative (Do Not Reissue the Nationwide Permit)**

The no action alternative would not achieve one of the goals of the Corps' Nationwide Permit Program, which is to regulate with little, if any, delay or paperwork certain activities having minimal impacts (33 CFR 330.1(b)). 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 division or district engineers exercising their 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 no more than minimal adverse environmental effects, the Corps typically does not receive responses to these public notices from either the public or federal, tribal, and state resource agencies. Therefore, processing individual permits for these minimal impact activities is not likely to result

in substantive changes to those activities. 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 activities that require DA authorization to comply with the NWPs and avoid the longer permit application review times and larger costs typically associated with the individual permit process.

Under the no action alternative, district engineers may issue regional general permits or programmatic general permits to authorize similar categories of activities that would have no more than minimal adverse environmental effects that could have been authorized by this NWP. However, those regional general permits or programmatic general permits may have different quantitative limits, different restrictions, and other permit conditions, and those quantitative limits, restrictions, and permit conditions may result in the authorization of activities that have greater, similar, or lesser adverse environmental effects than the activities that would have been authorized by this NWP. Under the no action alternative, there may be differences in consistency in implementation of the Corps Regulatory Program among Corps districts. District engineers can tailor their regional general permits and programmatic general permits to effectively address the specific categories of aquatic resources found in their geographic areas of responsibility, the specific categories of activities that occur in those geographic areas, and the ecological functions and services those categories of aquatic resources provide. The environmental consequences of this aspect of the no action alternative are more difficult to predict because of the potential variability of regional general permits and programmatic general permits among Corps districts across the country, when such general permits are available to authorize a similar category of activities as this NWP authorizes.

If this NWP is not reissued, districts would have to draft, propose, and issue regional general permits or programmatic general permits through the public notice and comment process and prepare applicable environmental documentation to support their decisions on whether to issue those regional general permits or programmatic general permits. It would take a substantial amount of time to issue those regional general permits and programmatic general permits, and in the interim proposed activities would have to be authorized through the individual permit process.

#### 4.3.2 Reissue the Nationwide Permit With Modifications

This NWP was developed to authorize structures and work in navigable waters of the United States for oil and gas structures on the outer continental shelf that have no more than minimal individual and cumulative adverse environmental effects. The Corps has considered changes to the terms and conditions of this NWP suggested

by comments received in response to the proposed rule, as well as modifying or adding NWP general conditions, as discussed Appendix D of this document and the preamble of the Federal Register notice announcing the reissuance of this NWP.

Changing the terms and conditions of this NWP would likely result in changes the number of activities authorized by this NWP, and the environmental impacts of authorized activities. The environmental consequences of changing the terms and conditions of this NWP may vary, depending on whether modifications for the reissued NWP are more restrictive, less restrictive, or is similarly restrictive compared to previously issued versions of this NWP. The environmental consequences of changing the terms and conditions of this NWP are also dependent on the application of existing tools used to ensure that activities authorized by this NWP will only have no more than minimal adverse environmental effects. Those tools include the quantitative limits of the NWP, the pre-construction notification process, and the ability of division and district engineers to modify, suspend, or revoke this NWP on a regional or case-by-case basis.

Changing the national terms and conditions of this NWP may change the incentives for project proponents to reduce their proposed impacts to jurisdictional waters and wetlands to qualify for NWP authorization, and receive the required DA authorization for regulated activities in less time than it would take to receive individual permits for those activities. Under the individual permit process, the project proponent may request authorization for activities that have greater impacts on jurisdictional waters and wetlands, and may result in larger losses of aquatic resource functions and services.

The environmental consequences of division engineers exercising their discretionary authority to modify, suspend, or revoke this NWP on a regional basis may be a reduction in the number of activities that could be authorized by this NWP in a region or more NWP activities requiring pre-construction notification through regional changes in the PCN requirements for this NWP. The environmental consequences are likely to include reduced losses of waters of the United States because regional conditions can only further condition or restrict the applicability of an NWP (see 33 CFR 330.1(d)). The modification, suspension, or revocation of this NWP on a regional basis by division engineers may also reduce the number of activities authorized by this NWP, which may increase the number of activities that require standard individual permits. If more activities require standard individual permits, permitted losses of jurisdictional waters and wetlands may increase because standard individual permits have no quantitative limits.

An environmental consequence of regional conditions added to the NWPs by division engineers is the enhanced ability to address differences in aquatic resource functions, services, and values among different regions across the nation. Corps divisions may add regional conditions to the NWPs to enhance protection of the aquatic environment in a region (e.g., a Corps district, state, or watershed) and

address regional concerns regarding jurisdictional waters and wetlands and other resources (e.g., listed species or cultural resources) that may be affected or impacted by the activities authorized by this NWP. Division engineers can also revoke an NWP in a region if the use of that NWP results in more than minimal adverse environmental effects, especially in high value or rare waters or wetlands. When an NWP is issued or reissued by the Corps, division engineers issue supplemental documents that evaluate potential impacts of the NWP at a regional level, and assess cumulative impacts caused by this NWP on a regional basis during the period this NWP is in effect. [33 CFR 330.5(c)]

An environmental consequence of district engineers modify, suspending, or revoking this NWP on a case-by-case basis is the ability of district engineers to address site-specific conditions, including the degree to which aquatic resources on the project site provide ecological functions and services. Activity-specific modifications may also address site-specific resources (e.g., listed species or cultural resources) that may be affected by NWP activities. The environmental consequences of modification of this NWP on an activity-specific basis by district engineers may be further reductions in losses of waters of the United States for specific activities authorized by NWP because of mitigation required by district engineers during their reviews of PCNs to ensure that those activities result in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). Examples of mitigation that may be required by district engineers include permit conditions requiring compensatory mitigation to offset losses of waters of the United States or conditions added to the NWP authorization to prohibit the permittee from conducting the activity during specific times of the year to protect spawning fish and shellfish. If a proposed NWP activity will result in more than minimal adverse environmental effects, then the district engineer will exercise discretionary authority and require an individual permit. The individual permit review process requires a project-specific alternatives analysis, including the consideration of off-site alternatives, and a public interest review.

#### 4.3.3 Reissue the Nationwide Permit Without Modifications

Retaining the current terms and conditions of this NWP would likely result in little or no changes in the number of activities authorized by this NWP, and the environmental impacts of authorized activities. Project proponents would likely continue to design their project to qualify for NWP authorization. Retaining the current national terms and conditions of this NWP would likely continue to provide incentives for project proponents to reduce their proposed impacts to jurisdictional waters and wetlands to qualify for NWP authorization, and receive the required DA authorization for regulated activities in less time than it would take to receive individual permits for those activities. Under this alternative, for those activities that require individual permits project proponents may request authorization for activities that have greater impacts on jurisdictional waters and wetlands, and may result in larger losses of aquatic resource functions and services.

Under this alternative, the environmental consequences of division engineers exercising their discretionary authority to modify, suspend, or revoke this NWP on a regional basis would be similar to the environmental consequences discussed in section 4.3.2 of this document. Corps divisions may add regional conditions to the NWPs to enhance protection of the aquatic environment in a region (e.g., a Corps district or seascape) and address regional concerns regarding jurisdictional waters and wetlands and other resources (e.g., listed species or cultural resources) that may be affected or impacted by the activities authorized by this NWP. Division engineers can also revoke an NWP in a region if the use of that NWP results in more than minimal adverse environmental effects, especially in high value or rare waters or wetlands. When an NWP is issued or reissued by the Corps, division engineers issue supplemental documents that evaluate potential impacts of the NWP at a regional level, and assess cumulative impacts caused by this NWP on a regional basis during the period this NWP is in effect. [33 CFR 330.5(c)]

Under this alternative, the ability of district engineers to modify, suspended, or revoke this NWP on a case-by-case to address site-specific conditions, including the degree to which aquatic resources on the project site provide ecological functions and services, is likely to have environmental consequences similar to the environmental consequences of the alternative identified in section 3.2 of this document. Activity-specific modifications under this alternative may also address site-specific resources (e.g., listed species or cultural resources) that may be affected by NWP activities. Activity-specific modifications may also include mitigation requirements similar to the potential mitigation requirements discussed in section 4.3.2 of this document.

The reissuance of this NWP adopts the alternative identified in section 3.3 of this document. The Corps has considered the comments received in response to the proposed rule, and made changes to the NWPs, general conditions, and definitions to address those comments. Division engineer may add regional conditions to this NWP to help ensure that the use of the NWPs in a particular geographic area will result in no more than minimal individual and cumulative adverse environmental effects. District engineers may also add regional conditions to this NWP to help ensure compliance with other applicable laws, such as section 7 of the Endangered Species Act, section 106 of the National Historic Preservation Act, and the essential fish habitat provisions of the Magnuson-Stevens Fishery Conservation and Management Act. Division engineers may also add regional conditions to this NWP to fulfill its tribal trust responsibilities.

Corps divisions and districts also monitor the use of this NWP and the authorized impacts identified in NWP verification letters. At a later time, if warranted, a division engineer may add regional conditions to further restrict or prohibit the use of this NWP to ensure that it does not authorize activities that result in more than minimal adverse environmental effects in a particular geographic region (e.g., a watershed

or seascape unit). 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 this NWP, as well as substantive public comments, to assess the individual and cumulative adverse environmental effects resulting from regulated activities authorized by this NWP.

## **5.0 Determinations**

### ***5.1 Finding of No Significant Impact***

Based on the information in this document, the Corps has determined that the structures in navigable waters of the United States authorized by the issuance of this NWP will not have a reasonably foreseeable significant impact on the quality of the human environment. During the period (up to five years) this NWP is anticipated to be in effect, the activities authorized by this NWP will result in only minor changes to the current environmental setting described in Appendix A of this environmental assessment. Therefore, the preparation of an environmental impact statement is not required for the issuance of this NWP.

### ***5.2 Public Interest Determination***

In Appendix B of this document, and 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 to authorize oil and gas structures in navigable waters of the United States is not contrary to the public interest.

### ***5.3 Compliance with Requirements for Issuance of General Permits under Section 10 of the Rivers and Harbors Act of 1899 (33 CFR 322.2(f))***

Based on the information in this document, the Corps has determined that the oil and gas structures in navigable waters of the United States authorized by this NWP, when conducted in compliance with the conditions included in the NWP authorization, will result in only minor changes to the current environmental setting described in Appendix A of this document, and will have no more than minimal individual and cumulative adverse effects on the aquatic environment during the period (up to five years) this NWP is anticipated to be in effect.

### ***5.4 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: 05 JAN 20



Jason E. Kelly  
Major General, U.S. Army  
Deputy Commanding General for Civil and  
Emergency Operations

## Appendix A – Current Environmental Setting

The affected environment consists of the outer continental shelf. The term “outer continental shelf” means “all submerged lands lying seaward and outside of the area of lands beneath navigable waters as defined in section 2 of the Submerged Lands Act (43 U.S.C. 1301) whose subsoil and seabed appertain to the United States and are subject to its jurisdiction and control.” (30 CFR 250.105, 7/1/2005 edition). The outer continental shelf is seaward of state jurisdiction for the territorial seas (<http://www.boem.gov/Oil-and-Gas-Energy-Program/Leasing/Outer-Continental-Shelf/Index.aspx> (accessed February 2, 2012)).

The seaward limit of federal jurisdiction on the outer continental shelf extends to 200 nautical miles seaward of the baseline of the territorial sea is measured. But if the continental shelf exceeds 200 nautical miles, the seaward limit of federal jurisdiction extend no further than a distance of 100 nautical miles from the 2,500-meter isobath or up to 350 nautical miles from the baseline of the territorial seas (<http://www.boem.gov/Outer-Continental-Shelf/> accessed April 29, 2016).

The outer continental shelf and its overlying waters provide habitat for a variety of organisms. The waters overlying the outer continental shelf provide habitat for a wide variety of plankton and nekton species. The plankton communities in the ocean waters provide primary and secondary production that supports complex communities of oceanic organisms. Some fish species inhabiting those waters provide the basis for commercial fisheries. Benthic communities of the outer continental shelf consist of a variety of organisms that inhabit the surface of the benthos and the upper surface of the sediments covering the benthos.

Functions provided by the open oceans and outer continental shelf include nutrient cycling, primary production, and secondary production. 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).

Marine and coastal waters can be influenced by environments (e.g., coastal zones) and activities that extend up to 60 miles inland (Barbier 2017). Estuarine and coastal ecosystems are located where coastal waters, coastal lands, and watersheds meet and interact with each other, which results in their production of more substantial and matchless ecological benefits compared any single ecosystem (Barbier et al. 2011). The functions and services provided by estuaries are the product of their hydrology, morphology, habitats, and water and sediment quality (Boerema and Meire 2017). They are also influenced by energy flows, biogeochemical processes, biological processes and functions (Barbier et al. 2011). Table A-1 lists examples of ecosystem services provided by estuaries.

**Table A-1. Ecosystem services provided by estuaries. (Boerema and Meire 2017, Barbier et al. 2011)**

Service category	Ecosystem services
Provisioning	<ul style="list-style-type: none"> <li>• Production of animals and plants</li> <li>• Maintenance of fisheries</li> <li>• Water</li> <li>• Production of raw materials</li> <li>• Transportation</li> </ul>
Regulating	<ul style="list-style-type: none"> <li>• Nutrient cycling</li> <li>• Regulation of environmental conditions</li> <li>• Erosion and sedimentation regulation</li> <li>• Flood protection</li> <li>• Storm protection</li> <li>• Coastal protection</li> <li>• Water current reduction</li> <li>• Wave reduction</li> <li>• Water quality regulation</li> </ul>
Cultural	<ul style="list-style-type: none"> <li>• Aesthetics</li> <li>• Cultural heritage</li> <li>• Recreation</li> <li>• Tourism</li> <li>• Education</li> <li>• Research</li> </ul>

Anthropogenic and natural disturbances affect the functions and services performed by estuarine habitats. Management activities also affect the ecosystem functions and services provided by estuaries (Boerema and Meire 2017). The principal drivers of direct change to estuarine and marine wetlands include the conversion of saltwater marshes, mangroves, seagrass meadows, and coral reefs to other land uses, diversions of freshwater flows, increased inputs of nitrogen, overharvesting various species, water temperature changes, and species introductions (MEA 2005a). These changes are indirectly driven by increases in human populations in coastal areas (MEA 2005a). Robb (2014) identified a number of threats to estuaries and estuarine habitats, such as the construction and operation of port facilities, dredging, pollution, aquaculture activities, resource extraction activities, species introductions, recreational activities, shoreline development and stabilization, waterway impairments, inputs of debris and litter, freshwater diversions, and land-based activities in surrounding watersheds (e.g., development activities, agricultural activities, forestry activities). Changing environmental conditions such as sea level rise, changing water temperatures, ocean acidification, and changing precipitation patterns also affect the functions and services performed by estuaries (Robb 2014).

Marine ecosystems interact with coastal lands within a seascape, where there is connectivity among various habitats in marine waters and estuarine waters (e.g.,

coral reefs, seagrasses, salt marshes, mangroves) and coastal lands (Barbier 2017). How those habitats interact with each other helps determine what ecosystem functions and services they will provide. Table A-2 lists examples of ecosystem services provided by oceans and marine waters.

**Table A-2. Marine ecosystem services provided by oceans. (Barbier 2017).**

Service category	Ecosystem services
Provisioning	<ul style="list-style-type: none"> <li>• Food production</li> <li>• Fish harvests</li> <li>• Wild plant and animal resources</li> <li>• Water</li> <li>• Production of raw materials</li> <li>• Genetic materials</li> <li>• Transportation</li> <li>• Breeding and nursery habitats, including for economically important fish species</li> </ul>
Regulating	<ul style="list-style-type: none"> <li>• Nutrient cycling (e.g., nitrogen, carbon)</li> <li>• Erosion and sedimentation regulation</li> <li>• Flood control</li> <li>• Storm protection</li> <li>• Pollution control</li> <li>• Shoreline stabilization and erosion control</li> </ul>
Cultural	<ul style="list-style-type: none"> <li>• Aesthetics</li> <li>• Religious significance</li> <li>• Cultural heritage</li> <li>• Recreation</li> <li>• Tourism</li> <li>• Education</li> <li>• Scientific research</li> </ul>

Coastal ecosystems exhibit substantial natural variations in space and time, which affects the functions and services they provide (Barbier et al. 2011). Marine and estuarine waters are also affected by human activities in ocean waters, coastal areas, and watersheds that drain to those marine and coastal waters (Korpinen and Andersen 2016). In marine and coastal environments, human activities and other disturbances that affect natural resources in those waters can come from a variety of sources, including water-based activities (e.g., transportation, fishing, mariculture, power generation, and tourism) and land-based activities (e.g., urban and suburban development, agriculture, non-point source pollution, forestry activities, power generation, and mining activities) (Clark Murray et al. 2014).

The activities authorized by DA permits, including the NWP, under the Corps' four permitting authorities comprise a small subset of the human activities that can directly and indirectly affect the structure and functions of aquatic ecosystems,

including waters and wetlands regulated by the Corps under its permitting authorities. Examples of other human activities that can directly and indirectly affect the structure and functions of coastal aquatic ecosystems are listed in Table A-3.

**Table A-3. Human activities that directly and indirectly affect the structure and functions of coastal aquatic ecosystems**

Aquatic ecosystem category	Human activities that directly and indirectly affect aquatic ecosystem structure and function	Reference(s)
coastal areas	<ul style="list-style-type: none"> <li>• development activities, including the construction of residences, commercial buildings, industrial facilities, resorts, and port developments</li> <li>• agricultural and forestry activities</li> <li>• point source and non-point source pollution (nutrients, organic matter, other pollutants)</li> <li>• aquaculture</li> <li>• fishing activities</li> <li>• overharvesting of species</li> <li>• intentional and unintentional introductions of non-native species</li> <li>• dredging</li> <li>• reclamation</li> <li>• shore protection and other structures</li> <li>• habitat modifications</li> <li>• structures that change hydrology and hydrodynamics</li> <li>• shoreline erosion</li> <li>• pathogens and toxins</li> <li>• debris and litter</li> </ul>	Korpinen and Andersen (2016) Robb (2014) Day et al. (2013) Lotze et al. (2006) MEA (2005b) NRC (1994)
oceans	<ul style="list-style-type: none"> <li>• pollution (point and non-point source)</li> <li>• fishing activities</li> <li>• aquaculture/mariculture</li> <li>• ultraviolet light</li> <li>• species invasions</li> <li>• commercial activities, including industrial activities</li> <li>• tourism</li> <li>• marine transportation</li> <li>• land-based activities, including urban and suburban development, agriculture, forestry, power generation, and mining</li> <li>• ports/marinas</li> <li>• benthic structures</li> <li>• offshore energy infrastructure and power generation (e.g., wind farms, pipelines)</li> </ul>	Korpinen and Andersen (2016) Halpern et al. (2015) Clarke Murray et al. (2014) Halpern et al. (2008)

Aquatic ecosystem category	Human activities that directly and indirectly affect aquatic ecosystem structure and function	Reference(s)
coral reefs	<ul style="list-style-type: none"> <li>• overexploitation/overfishing</li> <li>• dredging</li> <li>• destructive fishing practices (e.g., blast or cyanide fishing)</li> <li>• nutrients, sediments, pesticides, and other pollutants (point source and non-point source)</li> <li>• ocean acidification</li> <li>• coastal land uses, including development and agriculture</li> <li>• coral mining</li> <li>• introduction of invasive or non-native species</li> <li>• diseases</li> </ul>	Sheppard (2014) MEA (2005a) Barbier et al. (2011)

Activities authorized by this NWP will provide a wide variety of goods and services that are valued by society. Oil and gas structures on the outer continental shelf are used for the exploration, production, and transportation of oil, gas, and minerals. Oil and natural gas are used to generate energy, and to manufacture a wide variety of products, such as plastics, textiles, pharmaceuticals, and fertilizers.

## Appendix B - Public Interest Review

### ***B.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 may modify the natural resource characteristics of the project area. Impacts to conservation are addressed on a case-by-case basis through the leasing process of the Bureau of Ocean Energy Management of the Department of the Interior.

(b) Economics: The oil and gas structures authorized by this NWP are likely to have positive impacts on the local economy. During construction, these activities will generate jobs and revenue for local contractors as well as revenue to building supply companies that sell construction materials. Oil and gas facilities generate income for energy companies. The production of goods and services will be

facilitated by the energy provided through oil and gas structures, as well as material products that may be produced from oil and natural gas.

(c) Aesthetics: The activities authorized by this NWP may alter the visual character of waters on the outer continental shelf. The extent and perception of these changes will vary, depending on the size and configuration of the activity, the nature of the surrounding area, and the public uses of the area. Impacts to aesthetics are addressed on a case-by-case basis through the leasing process of the Bureau of Ocean Energy Management of the Department of the Interior.

(d) General environmental concerns: Activities authorized by this NWP will affect general environmental concerns, such as water, air, and noise pollution. The authorized activity 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. Impacts to general environmental concerns are addressed on a case-by-case basis through the leasing process of the Bureau of Ocean Energy Management of the Department of the Interior. Specific environmental concerns are addressed in other sections of this document.

(e) Wetlands: Structures constructed in navigable waters of the United States for oil and gas facilities will have no adverse effects on wetlands since this NWP is limited to activities on the outer continental shelf.

(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.

(g) Fish and wildlife values: This NWP authorizes structures in navigable waters of the United States, specifically the outer continental shelf. Impacts to fish and wildlife values are addressed on a case-by-case basis through the leasing process of the Bureau of Ocean Energy Management of the Department of the Interior. Waters overlying the outer continental shelf provide habitat for fish and other aquatic organisms. The structures authorized by this NWP may attract fish and other marine organisms.

For an NWP activity, 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.) is the responsibility of the project proponent. General condition 19 states that the permittee is responsible for contacting appropriate local office of the U.S. Fish and Wildlife

Service to determine applicable measures to reduce impacts to migratory birds or eagles, including whether “incidental take” permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

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 activity-specific conditions to ensure that activities authorized by this NWP will result in no more than minimal adverse effects on essential fish habitat.

(h) Flood hazards: The activities authorized by this NWP will have no adverse effects on the flood-holding capacity of 100-year floodplains, including surface water flow velocities, because this NWP only authorizes structures on the outer continental shelf.

(i) Floodplain values: Activities authorized by this NWP will not adversely affect the flood-holding capacity of the floodplain, or other floodplain values. The fish and wildlife habitat values of floodplains will not be adversely affected by activities authorized by this NWP, since the NWP authorizes only structures on the outer continental shelf. The water quality functions of floodplains will not be adversely affected by these structures.

(j) Land use: Activities authorized by this NWP will have no adverse effects on land use, because it is limited to authoring oil and gas structures on the outer continental shelf.

(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. The district engineer will review the impacts of the proposed structures on navigation and national security.

(l) Shore erosion and accretion: The activities authorized by this NWP will have no adverse effects on shore erosion and accretion processes, because the NWP is limited to authorizing structures on the outer continental shelf.

(m) Recreation: Activities authorized by this NWP are unlikely to change the recreational uses of the area. The NWP authorizes only oil and gas structures on leased areas of the outer continental shelf.

(n) Water supply and conservation: Activities authorized by this NWP will have no adverse effects on water supply and conservation, since it is limited to oil and gas structures installed on the outer continental shelf. The oceanic waters of the outer

continental shelf are not potable.

(o) Water quality: The installation of oil and gas structures on the outer continental shelf will have negligible adverse effects on water quality. During construction, small amounts of oil and grease from construction equipment may be discharged into oceanic waters. Because most of the construction 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.

(p) Energy needs: The activities authorized by this NWP will satisfy energy needs, through the exploration, production, and transportation of oil, gas, and minerals.

(q) Safety: The activities authorized by this NWP will be subject to federal 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. Some fish species may be attracted to oil and gas structures on the outer continental shelf, which may enhance fishing opportunities.

(s) Mineral needs: Activities authorized by this NWP may help mineral exploration, production, and transportation companies satisfy demand for minerals. The facilities authorized by this NWP will help companies extract mineral deposits located on the outer continental shelf.

(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 oil and gas structures constructed on the outer continental shelf.

## ***B.2 Additional Public Interest Review Factors (33 CFR 320.4(a)(2))***

### **B.2.1 Relative extent of the public and private need for the proposed structure or work**

This NWP authorizes structures for the exploration, production, and transportation of oil, gas, and minerals on the outer continental shelf that have no more than minimal individual and cumulative adverse environmental effects. These activities satisfy public and private needs for oil, gas, and mineral products. The need for this NWP is based upon the number of these activities that occur annually with no more than minimal individual and cumulative adverse environmental effects.

### **B.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 1.0 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 no more than minimal individual and cumulative adverse effects on the environment and the overall public interest. The district engineer will exercise discretionary authority and require an individual permit if the proposed activity 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.

B.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 these structures. Activities authorized by this NWP will have no more than minimal individual and cumulative adverse environmental effects.

The terms, conditions, and provisions of the NWP were developed to ensure that individual and cumulative adverse environmental effects are no more than 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.

## **Appendix C – Endangered and threatened species.**

No activity is authorized by any NWP if that activity is likely to jeopardize the continued existence of a threatened or endangered species as listed or proposed for listing under the Federal Endangered Species Act (ESA), or to destroy or adversely modify the critical habitat of such species (33 CFR 330.4(f)). If the district engineer determines a proposed NWP activity may affect listed species or designated critical habitat, he or she will conduct ESA section 7 consultation with the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Services (NMFS) as appropriate. The proposed NWP activity is not authorized until the ESA section 7 consultation process is completed or the district engineer determines the proposed NWP activity will have no effect on listed species or designated critical habitat. Current local procedures in Corps districts are effective in ensuring compliance with section 7 of the ESA. Those local procedures include regional programmatic consultations, including the development of Standard Local Operating Procedures for Endangered Species (SLOPES) and Effects Determination Guidance for Endangered and Threatened Species (EDGES). The issuance or reissuance of an NWP, as governed by NWP general condition 18 (which applies to every NWP and which relates to endangered and threatened species and critical habitat) and 33 CFR 330.4(f), results in “no effect” to listed species or critical habitat, because no activity that “may affect” listed species or critical habitat is authorized by NWP unless ESA section 7 consultation with the USFWS and/or NMFS has been completed. If the non-federal project proponent does not comply with 33 CFR 330.4(f)(2) and general condition 18, and does not submit the required PCN, then the activity is not authorized by NWP. In such situations, it is an unauthorized activity and the Corps district will determine an appropriate course of action under its regulations at 33 CFR part 326 to respond to the unauthorized activity. Unauthorized activities may also be subject to the prohibitions of section 9 of the ESA.

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 designated critical habitat or critical habitat proposed for such designation.” In addition, general condition 18 explicitly states that the NWP does not authorize “take” 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 (or proposed species or proposed critical habitat) might be affected or is in the vicinity of the project, or if the project is located in designated or proposed critical habitat. The Corps established the “might affect” threshold in 33 CFR 330.4(f)(2) and paragraph (c) of general condition 18 because it is more

stringent than the “may affect” threshold for section 7 consultation in the USFWS’s and NMFS’s ESA section 7 consultation regulations at 50 CFR part 402. The word “might” is defined as having “less probability or possibility” than the word “may” (Merriam-Webster’s Collegiate Dictionary, 10th edition). Since “might” has a lower probability of occurring, it is below the threshold (i.e., “may affect”) that triggers the requirement for ESA section 7 consultation for a proposed federal action. 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 Corps’ current regulations at 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 NWP pre-construction notification or a request for an NWP verification for an NWP activity that does not require a PCN. NWP general condition 18 requires a non-federal applicant to submit a pre-construction notification to the Corps if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat (or critical habitat proposed for such designation). Based on the evaluation of all available information, the district engineer will initiate consultation with the USFWS or NMFS, as appropriate, if he or she determines that the proposed activity may affect any threatened and endangered species or designated 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 section 7 consultation during the individual permit process. If the district engineer determines a proposed NWP activity is likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat, he or she will initiate a conference with the USFWS or NMFS. If ESA section 7 consultation or conference is conducted during the NWP authorization process, then the applicant will be notified that he or she cannot proceed with the proposed NWP activity until section 7 consultation is completed.

If the district engineer determines that the proposed NWP activity will have no effect on any threatened or endangered species or critical habitat, then the district engineer will notify the applicant that he or she may proceed under the NWP authorization as long as the activity complies with all other applicable terms and conditions of the NWP, including applicable regional conditions. When the Corps district makes a “no effect” determination, that determination is documented in the record for the NWP verification.

In cases where the Corps makes a “may affect” determination for a proposed NWP activity, formal or informal section 7 consultation is conducted before the activity is authorized by NWP. A non-federal permit applicant cannot begin work until notified

by the Corps that the proposed NWP activity will have “no effect” on listed species or critical habitat, or until ESA section 7 consultation has been completed (see also 33 CFR 330.4(f)). Federal permittees are responsible for complying with ESA section 7(a)(2) and should follow their own procedures for complying with those requirements (see 33 CFR 330.4(f)(1)). Therefore, permittees cannot rely on complying with the terms of an NWP without considering ESA-listed species and critical habitat, and they must comply with the NWP conditions to ensure that they do not violate the ESA. General condition 18 also states that district engineers may add activity-specific conditions to the NWPs to address ESA issues as a result of formal or informal consultation with the USFWS or NMFS.

Each year, the Corps conducts thousands of ESA section 7 consultations with the USFWS and NMFS for activities authorized by NWPs. These section 7 consultations are tracked in ORM. During the period of January 1, 2022, to December 31, 2024, Corps districts conducted 990 formal consultations and 7,785 informal consultations under NWP PCNs where the Corps verified that the proposed activities were authorized by NWP. During that time period, the Corps also used regional programmatic consultations for 15,937 NWP verifications to comply with ESA section 7. During those three years, 309 ESA section 7 conferences were conducted for NWP activities. Therefore, each year an average of 8,340 formal, informal, programmatic ESA section 7 consultations and conferences are conducted with the USFWS and/or NMFS in response to NWP PCNs, including those activities that required PCNs under paragraph (c) of general condition 18. In a study on ESA section 7 consultations tracked by the USFWS, Malcom and Li (2015) found that during the period of 2008 to 2015, the Corps conducted the most formal and informal section 7 consultations, far exceeding the numbers of section 7 consultations conducted by other federal agencies.

Section 7 consultations are often conducted on a case-by-case basis for activities proposed to be authorized by NWP that may affect listed species or critical habitat, in accordance with the USFWS’s and NMFS’s interagency regulations at 50 CFR part 402. Instead of activity-specific section 7 consultations, compliance with ESA section 7(a)(2) may also be achieved through formal or informal regional programmatic consultations. Compliance with ESA section 7 may also be facilitated through division engineers adding regional conditions to the NWPs to address the requirements of ESA section 7. In some Corps districts SLOPES or EDGES have been developed through consultation with USFWS and NMFS regional offices to make the process of complying with ESA section 7 more efficient.

Corps districts have, in most cases, established informal or formal procedures with regional or 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 a district engineer determine if a proposed NWP activity may affect listed species or their critical habitat and, when a “may affect” determination is made, initiate ESA section 7 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 one or more NWPs by division engineers to require pre-construction notifications for NWP activities that occur in known locations of threatened and endangered species or designated 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” determination for the pre-construction notification.

Based on the safeguards discussed in this Appendix, especially general condition 18 and the NWP regulations at 33 CFR 330.4(f), the Corps believes that the activities authorized by this NWP comply with the requirements of the ESA. 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, such as regional conditions and coordination 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 SLOPES, EDGES, or other tools, additional safeguards that ensure compliance with the ESA.

Through ESA section 7 formal or informal consultations, including regional programmatic consultations, the Corps ensures that no activity is authorized by any NWP if that activity is likely to jeopardize the continued existence of a threatened or endangered species as listed or proposed for listing under the ESA, or to destroy or adversely modify the critical habitat of such species. Other tools such as ESA section 7 conferences, SLOPES, EDGES, the development of regional conditions added to the NWP by division engineers, and conditions added to specific NWP authorizations by district engineers help ensure compliance with section 7 of the ESA.

If informal section 7 consultation is conducted, and the USFWS and/or NMFS issues a written concurrence that the proposed NWP activity may affect, but is not likely to adversely affect, listed species or designated critical habitat based on conservation measures incorporated in the NWP activity to avoid or minimize potential effects to listed or proposed species or designated or proposed critical habitat, the district engineer will add conditions for those conservation measures to the NWP authorization. If the USFWS and/or NMFS does not issue a written concurrence with the district engineer’s determination that the proposed NWP activity “may affect, but is not likely to adversely affect” listed species or critical habitat, the district engineer will initiate formal section 7 consultation if he or she changes the effects determination to “may affect, likely to adversely affect.” The project proponent might also be able to modify the proposed NWP activity to a sufficient extent so that a “no effect” determination could be made by the district engineer.

If formal section 7 consultation is conducted and a biological opinion is issued, the district engineer will add conditions to the NWP authorization to incorporate appropriate elements of the incidental take statement of the biological opinion into the NWP authorization, if the biological opinion concludes that the proposed NWP activity is not likely to jeopardize the continued existence of listed species or adversely modify or destroy critical habitat. If the biological opinion concludes that the proposed NWP activity is likely to jeopardize the continued existence of listed species or adversely modify or destroy critical habitat, the proposed activity cannot be authorized by NWP and the district engineer will instruct the applicant to apply for an individual permit. The incidental take statement includes reasonable and prudent measures and terms and conditions such as mitigation, monitoring, and reporting requirements that minimize incidental take. To fulfill its obligations under section 7(a)(2) of the ESA, the Corps will determine which elements of an incidental take statement are appropriate to be added as permit conditions to the NWP authorization (see 33 CFR 325.4(a)). The appropriate elements of the incidental take statement are those reasonable and prudent measures and terms and conditions that: (1) apply to the activities over which the Corps has control and responsibility through its permitting authorities (i.e., structures or work in navigable waters and/or the discharges of dredged or fill material into waters of the United States), and (2) the Corps has the authority to enforce under its permitting authorities. Incorporation of the appropriate elements of the incidental take statement into the NWP authorization through binding, enforceable permit conditions may provide the project proponent an exemption from the “take” prohibitions in ESA section 9 (see section 7(o)(2) of the ESA).

The Corps can modify this NWP at any time that it is deemed necessary to protect listed species or their critical habitat, either through: (1) national general conditions or national-level modifications, suspensions, or revocations of the NWPs; (2) regional conditions or regional modifications, suspensions, or revocations of NWPs; or (3) activity-specific permit conditions (modifications) or activity-specific suspensions or revocations of NWP authorizations. Therefore, although the Corps has issued the NWPs, the Corps can address any ESA issue at any time, if one should arise. The NWP regulations also allow the Corps to suspend the use of some or all of the NWPs immediately, if necessary, while considering the need for permit conditions, modifications, or revocations. These procedures are provided at 33 CFR 330.5.

## **Appendix D – Public Comments and Responses to Comments**

For a summary of the public comments received in response to the June 18, 2025, issue of the Federal Register, refer to the preamble in the Federal Register notice announcing the reissuance of this NWP (90 FR 26100). The substantive comments received in response to the proposed rule published in the Federal Register on June 18, 2025, were used to improve the NWP by changing NWP terms and limits, pre-construction notification requirements, and/or NWP general conditions, as necessary.

No comments were received on the proposed reissuance of this NWP.

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