

EXECUTIVE SUMMARY

S.1 BACKGROUND AND PURPOSE

The objectives of the U.S. Army Corps of Engineers (Corps) Regulatory Program are to provide effective protection of the Nation's aquatic resources, including wetlands, and avoid unnecessary impacts to the regulated public, private property, and the aquatic environment. General permits are an important tool used by the Corps to achieve these objectives since they free up regulatory personnel from spending considerable time on projects or activities that have minimal effects on the aquatic environment and serve the public by authorizing activities in a relatively short amount of time.

General permits authorize activities that are substantially similar in nature and cause only minimal individual and cumulative adverse environmental impacts to aquatic resources. Nationwide permits are a type of general permit which are issued by the Corps to authorize activities with minor impacts in accordance with the requirements of Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. The nationwide permits range from such basic activities as allowing scientific instruments to be placed in aquatic areas, placement of fish traps, mooring buoys, and temporary recreational structures such as water ski jumps to more controversial ones which involve filling of wetlands and aquatic resources such as for single family housing.

The Corps stated that it would prepare a Programmatic Environmental Impact Statement (PEIS) for the entire nationwide permit program in a July 1, 1998, Federal Register notice announcing proposed replacement nationwide permits. The purpose of PEIS is to evaluate the nationwide permit program and determine if it is meeting the Corps objectives, including compliance with all regulations. To accomplish this, two major reviews were conducted and evaluated. One of these was a district procedural review, which consisted of interviews and permit file reviews in a sample of eight Corps districts to determine how these districts were implementing the nationwide permit program. This review also included interviews with other agencies involved with permit evaluation in these districts. The other review examined environmental impacts and was based on data recorded in the Corps database by Corps regulatory staff. The PEIS also analyzes impacts of alternatives to the nationwide permit program on the Nation's aquatic ecosystems, permit applicants, and Corps administration of the regulatory program.

S.2 REGULATORY PROGRAM AND NATIONWIDE PERMIT PROCEDURES

There are two basic types of permits: individual permits and general permits. Individual permits can be issued as Letters of Permission or Standard Permits. General permits consist of nationwide permits, regional general permits, and programmatic general permits. Standard permits are generally used to authorize projects that require considerable scrutiny. Letters of Permission are primarily issued for Section 10 projects or Section 404 projects requiring only an abbreviated review procedure without a public notice for each specific activity. A substantial

portion of the permits issued by the Corps are nationwide permits and they are an important aspect of the Corps program because they can be issued relatively quickly. If there is any concern about more than minimal adverse effects on the aquatic environment resulting from a potential nationwide permit activity, the activity can be evaluated under the individual permit process. Regional general permits are similar to nationwide permits. Both types of these general permits serve as an incentive for applicants to avoid and minimize impacts to meet the stated terms and conditions, thereby receiving Department of Army authorization more quickly than through individual permit processes. Finally, the use of general permits streamlines the regulatory process for the public because state and local requirements are often met by virtue of the terms and conditions posed in the general permit thereby reducing the need to apply to multiple agencies.

Corps regulations allow division and district engineers to place conditions on nationwide permits on an activity-specific basis or restrict their use within specific geographic regions. All modifications are coordinated with Federal and state agencies including the state water quality certification, and appropriate measures are used to inform the public of the additional conditions.

Certain activities that meet the terms and conditions of the nationwide permits may take place without notifying the Corps. Others require notification to the Corps and some further require the Corps to coordinate the proposed activity with Federal and state agencies. If an activity does not meet the terms and conditions or may result in more than minimal effects, the activity must be evaluated under the more time consuming individual permit process, i.e., standard permits and letters of permission.

S.3 REVIEW OF FIELD IMPLEMENTATION OF THE NATIONWIDE PERMIT PROGRAM

District implementation of the nationwide permit program was examined in eight Corps districts. The focus of this review was to see how well the districts are accomplishing the following five objectives: minimal adverse effects on the aquatic environment, protection of endangered species, protection of cultural and historical resources, consistency with state water quality certification and coastal zone management consistency requirements, and expedited review and decision-making. This case study approach included interviews of Corps district regulators and other agency staff, review of district guidance, and examination of sampled nationwide permit files.

S.3.1 Procedures for ensuring minimal adverse effects

S.3.1.1 Regional Conditions, Discretionary Authority, and Special Conditions. Districts employ a number of procedures for ensuring that activities authorized by nationwide permits result in minimal adverse effects on the aquatic environment, individually and cumulatively, at the regional or local level. Most districts use regional conditions to further protect water quality, special aquatic sites, designated critical or important areas, endangered species, and fishery resources. Regional conditions are developed in cooperation with Federal and state agencies and

public notice procedures are used to solicit public comment before adoption and implementation. Regional conditions may involve procedural changes, general- and activity-specific conditions, best management practices, and, in some cases, revocation of authorization for certain activities in particular geographic areas. Regional conditions may also be required to ensure consistency with Section 401 water quality certification or to comply with coastal zone management requirements. Agency interviews conducted as part of the PEIS suggest that their involvement in nationwide permit activities is minor as a result of the regional conditioning process.

Districts also can use discretionary authority as a means of ensuring minimal adverse effects to the aquatic environment by moving an activity from a nationwide permit review into a standard permit review. Although discretionary authority is used rarely, project managers often include special conditions in the permit verification to ensure minimal impacts. Most applicants accept these conditions (to avoid delays and associated costs) so that discretionary authority is not exercised and standard permit review is not required.

S.3.1.2 Cumulative Impact Analysis. Most districts accomplish cumulative impact analysis informally by assigning project managers by county or watershed basis so that permit evaluators will have knowledge of permit history and resources in the affected area that can serve as an implicit cumulative impact reference base.

Regulators typically search the regulatory database to identify previous permits in the area, and other agencies may provide pertinent information. Other supporting information used to evaluate cumulative impacts include aerial photographs and topographic, soil survey and National Wetland Inventory maps.

However, several districts have implemented more analytical approaches to address cumulative effects in the permit program. They have linked the regulatory database to a Geographic Information System (GIS) so that project managers can quickly assess the number and type of permits issued and may calculate authorized impacts within a certain geographical area.

S.3.1.3 Determining Presence and Extent of Waters of the U.S. Site visits, consultant reports, and desktop determinations are used to determine whether or not federally regulated waters are present. While site visits are typically not conducted for nationwide permit activities, districts with several field office locations within a single state typically are able to make field determinations. Availability of other agency information, quality of consultant delineation, and distance are offered as the primary reasons for determining whether site visits are necessary for project managers to evaluate proposed nationwide permit activities.

Desktop determinations are made on every application that does not undergo a site visit. Most districts use soil surveys, National Wetland Inventory maps, and U.S. Geological Survey topographic maps to make office determinations. Some districts have recent aerial photography and data layers in GIS available for regulatory use.

S.3.1.4 Compensatory Mitigation. Mitigation in terms of the nationwide permit program is generally only required to the extent necessary to ensure minimal individual and cumulative adverse effects on the aquatic environment. Typically, mitigation for a nationwide permit activity involves on-site avoidance and minimization, and, under some circumstances, compensatory mitigation. Since 1996, Corps districts have been encouraged to require compensatory mitigation for activities that require preconstruction notification to the Corps to ensure that these activities have minimal adverse effects.

Compensatory mitigation for impacts associated with nationwide permits may be accomplished either on-site or off-site (including mitigation banks or through contributions to in-lieu fee programs). Mitigation banking is increasingly being used to provide effective mitigation. In some locations, watershed management plans may be used to support mitigation decisions.

Compensatory mitigation compliance with permit conditions is essential to ensure minimal adverse effects. More compliance examination is needed.

S.3.2 Procedures for ensuring consistency with state water quality certifications and coastal zone management consistency determinations

Section 401 water quality certifications and coastal zone management consistency determinations for the nationwide permits, vary widely depending on the individual state or Tribal programs and priorities. Districts coordinate water quality certification for nationwide permits with Tribes, States, and the U.S. Environmental Protection Agency, as appropriate.

Some states issue water quality certification for certain nationwide permits, issue water quality with conditions for other nationwide permits, or deny water quality certification for certain nationwide permits. Districts and Tribes or states may agree to deny or condition the nationwide permit water quality certification in certain geographic regions or ecosystems. In any case, all activities require state water quality certification.

Coastal zone management consistency determinations for nationwide permits are coordinated and implemented in a manner similar to water quality certifications.

S.3.3 Procedures for ensuring protection of endangered species

Nationwide permits may not authorize activities that will jeopardize a threatened or endangered species or destroy or adversely modify the critical habitat of such species (33 CFR 330.4(f), Federal Register (1991)). At the national level, the Corps is working on programmatic consultation under section 7 of the Endangered Species Act regarding procedures for administering the nationwide permit program.

At the district level, a prominent procedure for ensuring compliance with the Endangered Species Act is the development of regional conditions (e.g., time of year restrictions for work, construction recommendations, etc.), standard local operating procedures, and Programmatic

Biological Opinions. These local procedures are developed with the U.S. Fish and Wildlife Service and National Marine Fisheries Service.

In addition to these approaches, districts use existing information provided by the U.S. Fish and Wildlife Service and National Marine Fisheries Service and state resource agencies to screen activities for endangered species and critical habitat, regardless of permit type.

Before applying for a Corps permit, some districts require applicants to discuss projects with the appropriate resource agencies where endangered species or critical habitat are known to occur. This allows the applicants to address and resolve issues early in the process.

S.3.4 Procedures for ensuring protection of cultural and historical resources

No activity that may affect cultural or historic resources may be authorized until compliance with the National Historic Preservation Act and 33 CFR 325 Appendix C (Federal Register 1990) is satisfied. Some nationwide permits are coordinated with the State Historic Preservation Officer (nationwide permits 14, 21, 26 (between 1-3 acres of impact), 29, 33, 37, and 38), regardless of potential effect.

All district offices send preconstruction notices to the State Historic Preservation Officer as required. In addition, some districts also coordinate with the State Historic Preservation Officer in areas of known sites, regardless of whether or not coordination is required. State Historic Preservation Officer comments are addressed in accordance with the procedures of 33 CFR Part 325, Appendix C. Nationwide permit verification letters and other permit authorizations include language to reiterate the requirements of general condition 12.

S.3.5 Procedure for ensuring expedited review and decision-making

General permits are the predominate form in terms of numbers of permits issued. In Fiscal Year (FY) 1998, 41,879 nationwide permits were issued, and 40,404 regional general permits were issued. Standard permits and letters of permission issued totaled 4,855 and 2,719, respectively.

In that fiscal year, nationwide permit verifications were issued in an average of 18 days and regional general permit verifications were issued in an average of 10 days. During the same period, the average time required to evaluate standard permits and letters of permission was 95 days and 36 days, respectively.

In an effort to ensure that nationwide permit decisions are made promptly, the Corps may provisionally verify nationwide permit activities. A provisional verification is most often used when the Corps has completed its review, but the state water quality certification or coastal zone consistency determination has not been made. Provisional verifications stipulate that work cannot begin until state and local authorizations are received.

S.4 AFFECTED ENVIRONMENT

The affected environment includes those waters, including wetlands, and closely associated terrestrial environments influenced by Corps permit decisions issued under the statutory authorities of Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Economic analyses and Federal laws and administrative policy implicitly place higher general value on the natural services of wetlands than on other waters, and places higher general value on natural services of waters than on the natural services of terrestrial environment. Exceptions to this general rule are common, however in specific permit decisions.

Over half of the Nation's wetlands have been converted to other use since European settlement. That rate of loss has slowed in recent decades as a result of the Federal government's goal of no overall net loss of wetland function and value.

The most recent estimated rate of wetland loss for the mid-1990s is 32,600 acres annually (Natural Resources Conservation Service 2000) of which about half is associated with the urban and rural development most associated with the Corps permit program. The National Wetland Inventory estimate of wetland loss for the late 1980s to the mid-1990s was somewhat similar (Dahl 2000). In FY 1998, the Corps documented that about 32,000 acres of impacts were authorized under Corps permits, of which about 26,500 acres of impact occurred in Corps-defined wetland (84%). The total Corps-estimated impact on wetlands was greater than the 16,000 acres documented as lost to development activities most associated with Corps permits, which might be explained by compensatory mitigation or by estimation error in the regulatory database or in the other studies.

Of the total estimated impact, about 10,400 acres were for activities authorized by nationwide permit, with 7,200 acres in wetlands (27% of the total wetland impact). Corps data for wetland acreage impacts are more reliable than impacts estimated for waters other than wetlands. The total estimated nationwide permit impact ranges around an average of 27% of the total permitted impact. An additional small amount of impact (about 350 acres) was estimated to occur at impact sizes below the notification threshold for general permits, including nationwide permits.

Corps data for FY 1998 indicate that the Corps program is functioning to minimize negative impacts and can improve most through increasing enforcement of compensatory mitigation requirements. Data reveal that on-site impacts in the Nation's waters were reduced at least 21% by nationwide and standard permits. Probably more important was the unmeasured effect of reducing impact simply by having the regulatory program in place with a combination of individual and general permits

Compensatory mitigation has uncertain effectiveness, however. Uncertainty results from high variation in compensatory mitigation success and uncertainty in Corps mitigation records. Mitigation actions presently may be more effective for pond waters and inland emergent herbaceous wetlands than for impacts to other wetlands and waters, and especially impacts to streams and rivers. The cumulative effectiveness of compensatory mitigation required by the

Corps is critical in determining the long-term cumulative impact on aquatic ecosystem functions and the associated valued natural services.

S.5 ALTERNATIVES

In March 1999, the Corps published a notice of intent in the Federal Register announcing the initiation of the PEIS and provided the opportunity for agency and public comment. Formal scoping for the PEIS involved written comments and four public meetings in three cities located in the eastern, central and western U.S. The Corps reviewed the written comments and scoping meeting discussions and incorporated many of them into the PEIS alternatives. The following five alternatives were considered in extensive detail in the PEIS.

S.5.1 Alternative A—No Action is the alternative against which all the other alternatives were compared. It represents using the nationwide permit procedures based on 1996 nationwide permits and nationwide permit regulations issued in 1991. The most complete Corps regulatory data available at the start of the PEIS was for FY 1998, which reflected the No Action Alternative conditions. Late in the PEIS study, the nationwide permit process was modified. Several new and modified nationwide permits were issued on March 9, 2000 to replace nationwide permit 26 (Federal Register 2000). There was insufficient data to use the nationwide permit program changes that were implemented in 2000 as a No Action Alternative.

S.5.2 Alternative B—Nationwide Permit Replacement by Standard Permits would have all nationwide permit activities reviewed through the standard permit process. For comparison purposes, the PEIS estimated impacts for this alternative only for those activities that were verified by the Corps in FY 1998 as qualifying for nationwide permit authorization.

S.5.3 Alternative C—Nationwide Permit Replacement by Letters of Permission would have all nationwide permit activities reviewed as letters of permission. Under this alternative, districts would develop an abbreviated processing procedure, which includes coordination with Federal and state resource agencies and a public interest evaluation, but without a public notice for the specific projects. For Section 10 activities the letters of permission could only be used for minor work that would not have significant individual or cumulative impacts on the environment and would not be controversial. For comparison purposes, the PEIS estimated impacts for this alternative only for those activities that were verified by the Corps in FY 1998 as qualifying for nationwide permit authorization.

S.5.4 Alternative D—Nationwide Permits Replacement by Regional General Permits would have all activities presently evaluated as nationwide permits reviewed as regional general permits. Districts would develop regional general permits to authorize activities previously authorized by the nationwide permits.

S.5.5 Alternative A1—Procedural and Threshold Variation of the No Action Alternative is roughly similar to the nationwide permit replacement package issued on March 9, 2000. Alternative A1 includes a series of replacement and modified permits for nationwide permit 26

with 1/2-acre upper limits and a 1/10-acre pre-construction notification requirement for some of the replacement nationwide permits. This variation also imposes general condition restrictions related to designated critical resource waters and 100-year floodplains.

Table S.5-1. Procedural Differences Among Alternatives

	Alternative A	Alternative B	Alternative C	Alternative D	Procedural and Threshold Variation (Alternative A1)
	<i>No action—1996 Program Nationwide Permits (NWP)</i>	<i>Replacement with Standard Permits (SP)</i>	<i>Replacement with Letters of Permission (LOP)</i>	<i>Replacement with Regional General Permits (RGP)</i>	<i>Nationwide Permit Limits and Thresholds (NWPs issued March 2000)</i>
Permit Coordination Procedures:	<ul style="list-style-type: none"> •Non reporting below threshold •Preconstruction notification (PCN) to agencies for certain activities 	<ul style="list-style-type: none"> •Public notice and opportunity to request public hearing •Agency and public comments 	<ul style="list-style-type: none"> •Requires agency coordination for development of activities and procedures •Continued agency and public notification of certain proposed activities 	<ul style="list-style-type: none"> •Non reporting below threshold •Thresholds based on 1996 program •Coordination, depends on agency involvement and public comment on RGP •Assume thresholds and conditions based on 1996 NWP program 	<ul style="list-style-type: none"> •Non reporting below threshold •Thresholds based on Replacement Permits issued in 2000 •PCN to agencies for some activities
Permit Evaluation Procedures:	<ul style="list-style-type: none"> •Agency comments on PCN •National Decision Documents and Supplemental Decision Documents for regional conditions •Regional Conditions •No case by case off-site alternatives analysis •Discretionary Authority •Special Conditions •Compensatory Mitigation to offset impacts and “buy down impacts” for certain activities •General or individual water quality certifications and coastal zone management consistency determinations required for each category of activities 	<ul style="list-style-type: none"> •Review and address agency and public comments •Off-site alternatives analysis •Special Conditions •Environmental Assessment(EA)/ Environmental Impact Statement(EIS) •Compensatory Mitigation to offset impacts •Decision Document for each authorized SP activity •Individual water quality certifications and coastal zone management consistency determinations required 	<ul style="list-style-type: none"> •Categories of activities and procedures developed by Corps and Federal and State agencies •Decision Document for LOP activities and procedures •Abbreviated EA and alternatives analysis procedures •Compensatory Mitigation to offset impacts •Decision Document for each authorized LOP activity •General or individual water quality certifications and coastal zone management consistency determinations required 	<ul style="list-style-type: none"> •Activities developed by Corps, coordinated with agencies and public through public notice •No case by case alternatives analysis •Decision document prepared for each RGP (not for subsequent activities) •Discretionary Authority •Compensatory Mitigation to offset impacts and “buy down impacts” •General or individual water quality certifications and coastal zone management consistency determinations required 	<ul style="list-style-type: none"> •PCN Agency Coordination for review and comment •National and Supplemental Decision Documents •Regional Conditions •No case by case off-site alternatives analysis •Special Conditions •Compensatory Mitigation to offset impacts and “buy down impacts” •General or individual water quality certifications and coastal zone management consistency determinations required

Two other alternatives were considered but not evaluated in detail because the Corps judged that they would not improve program implementation and defensibility.

S.5.6 Nationwide Permit Replacement by State Programmatic General Permits. This alternative could only be accomplished by states with agencies that have programs that offer similar protection of aquatic resources. Categories of activities and procedures for evaluation and coordination can be developed for state programmatic general permits.

S.5.7 Activity Regulation by Rules. Under this alternative, the Corps would not conduct case-by-case project review for activities that meet specified terms and conditions (similar to non-reporting nationwide permits under current procedures). There would be no application to the Corps and thus no associated administrative costs. Tracking impacts would be difficult, if not impossible.

S.5.8 Various Combinations of Nationwide Permit Alternatives

Millions of potential alternatives would result if the various alternatives identified above were considered for each of the active nationwide permits. Consideration of subcategories would still be unmanageable owing to the great number of potential alternatives. The conclusion from this evaluation was that nothing would be gained by sub-categorizing the nationwide permits because the purpose of this PEIS is to review the effectiveness of the overall nationwide permit program. Decisions resulting from this PEIS process will not preclude further specific or categorical changes to the nationwide permit program and may even foster such modifications.

S.5.9 Preferred Alternative

The preferred alternative is that alternative “which the agency believes would fulfill its statutory mission and responsibilities, giving consideration to economic, environmental, technical, and other factors.” A draft environmental impact statement is not required to identify a preferred alternative. Therefore, the preferred alternative will not be selected until the Nationwide Permit Programmatic Environmental Impact Statement is issued.

S.6 COMPARISON OF IMPACTS OF ALTERNATIVES ON AQUATIC RESOURCES

A relatively small percentage of impacts authorized under the Corps regulatory program are authorized by nationwide permit verifications. Nationwide permits authorized only about 26% of impact acreage authorized by the Corps regulatory program, although nationwide permits accounted for about 47% of the issued permits. A large fraction of the total nationwide permit impact (acres) in 1998 was in wetlands, estimated to be about 80%. Based on average value per acre, as estimated in the economic literature, wetlands comprised over 90% of impacted resource value in 1998.

Examination and evaluation of functions and service values of aquatic resources is hampered by lack of documentation, e.g., identification within the subclass classification scheme of Cowardin

et al. (1979). There are no estimates on a regional or national scale other than acreage permanently impacted within broad ecosystem classifications. All permanent impacts were assumed to completely eliminate wetland functions when numerous exceptions are likely, but not documented. There is no method to account for these functions nationally. Thus, one has to assume change in function from the amount of impacted acres, based on general knowledge of functions and values associated with ecosystem types.

Any tabulation of impacts must acknowledge data entry shortcomings (internal and external) in the Corps regulatory database, which lessens certainty of any conclusions regarding cumulative impact assessment.

S.6.1 Variation in Impact Avoidance and Minimization

Nationwide permit limits provide an incentive for applicants to minimize impacts to meet permit terms and conditions thus decreasing potential environmental effects and thereby receiving Corps authorization more quickly than they could through the individual permit process. The total acres of impact avoided/minimized to qualify for nationwide permits may be greater than the total impacts authorized. However, cumulative impact tabulation does not capture the permit applicant's avoidance of aquatic resource impacts prior submitting the permit application.

Off-site alternatives analyses for standard permits do not necessarily result in more impact avoidance than is achieved through the nationwide permit terms and conditions. Standard permit alternatives analyses typically do not result in withdrawal or denial of permits; that is, the impact is not avoided entirely. The percentage of off-site alternatives analyses for standard permits resulting in a change of the original proposed project location to another location are estimated at only between zero and five percent.

There is a small variation in minimization after permit request. Nationwide permits and standard permits are characterized by greater minimization than letters of permission or regional general permits. In FY 1998, this minimization amounted to about 21% of the total requested impacts for all permits, or minimization by approximately 8,000 acres.

A comparison of impacts on aquatic resources by the PEIS alternatives is presented in Table S.6.

S.6.2 Variation in Authorized Losses

There is little evidence to indicate a reduction in cumulative impacts to aquatic resources, e.g., acres, if there is a change from nationwide permits to another type of permit review procedure. This assumes that compensatory mitigation would be required to offset impacts and to be of similar quality for each of the considered alternatives.

Nearly all documented impacts authorized by nationwide permits occurred in relatively abundant nontidal wetlands. Regional general permits impacted tidal wetlands over five times more frequently than nationwide permit impacts.

**Table S.6 General Comparison of Impacts to Aquatic Resources
by Nationwide Permit Alternatives**

Impacts to Aquatic Resources	Alternative A (No Action)	Alternative B	Alternative C	Alternative D	Procedural and Threshold Variation – Alternative A1
Avoidance and minimization Authorized Impacts Compensatory Mitigation Unreported Impacts	<p><i>No action—1996 Nationwide Permit Program</i></p> <ul style="list-style-type: none"> •Incentive for minimizing impacts (to meet limits) thus decreasing potential environmental effects and permit evaluation times •Recent increase in compensatory mitigation expected to continue to increase •Very low tidal wetland impact-almost all in relatively abundant freshwater wetland. •Impacts to non-replaceable resources (i.e., controversial) reclassified to SP review. •Below threshold impact estimated to be small (5%). 	<p><i>Replacement with Standard Permits</i></p> <ul style="list-style-type: none"> •No incentive for minimizing impacts (to meet limits) thus potential increase in environmental effects 	<p><i>Replacement with Letters of Permission</i></p> <ul style="list-style-type: none"> •Similar to No Action Alternative (for Section 404 LOP activities) • No evidence of negotiated reduction in acres impact. 	<p><i>Replacement with Regional General Permits</i></p> <ul style="list-style-type: none"> •Incentive for minimizing impacts (to meet limits) thus decreasing potential environmental effects and permit evaluation times •Recent increase in compensatory mitigation expected to continue to increase •Rarely required compensatory mitigation in past, but likely increase in compensatory mitigation in manner similar to other alternatives •Greater tidal wetland impact 	<p><i>Nationwide Permit Limits and Thresholds (NWP's issued March 2000)</i></p> <ul style="list-style-type: none"> •Incentive for minimizing impacts (to meet limits) thus decreasing potential environmental effects and permit evaluation times •Recent increase in compensatory mitigation expected to continue to increase •Decrease overall individual and cumulative impacts associated with reduced limits and 2 general conditions. •Compensatory mitigation will offset impacts

S.6.3 Unreported impacts

Many nationwide permit applicants report impacts that are below the lower reporting preconstruction notice threshold. It is not readily apparent that reducing thresholds for nationwide permit preconstruction notification requirements much more than the recent reductions (March 2000 replacement nationwide permits) would result in a substantial increase in the numbers of permit applications received. It appears that most project proponents already report voluntarily even though not required to do so.

Impacts below the preconstruction notification threshold size were estimated to add about 5% to the total nationwide permit impact.

S.6.4 Compensatory Mitigation

There is little evidence to suggest variation among alternatives in compensatory mitigation requirements. Regional general permit impacts have been offset to a smaller extent than impacts authorized under other permit types. However, it can be expected that activities previously verified under nationwide permits, but now authorized under a regional general permit

alternative, would provide compensatory mitigation to a similar extent as expected under other types of permit authorizations.

There is some doubt about the true dimension of the overall ratio of nationwide permit compensatory mitigation to impact because of possible errors in the Corps database for nationwide permit 27. Exclusion of nationwide permit 27 from the tabulation greatly reduces the overall ratio for nationwide permits close to that of regional permits.

S.6.5 Discussion

There is no evidence that mitigation success differs among permit types when compensatory mitigation is required. However, the overall mitigation ratio for nationwide permit impacts is uncertain, but appears not to be lower than for regional general permits. Given the information available and excepting the possible low overall mitigation ratio, nationwide permits in FY 1998 appeared to complement standard permits well in reducing net environmental impacts.

S.7 COMPARISON OF THE IMPACTS OF THE ALTERNATIVES ON PERMIT APPLICANTS

A prominent cost in dollar terms to the permit applicant is the cost associated with submitting a permit application. These direct costs vary greatly by type of permit, geography and region of the country. The comparison in these costs is for **illustrative purposes only** since estimation of these costs is complicated by, among other things, the wide variability in the types and characteristics of potentially affected activities and the economic settings in which they occur. Table S.7 presents a comparison of impacts of the alternatives on permit applicants.

Replacement of nationwide permits with standard permits would more than triple the direct cost for the permit applicant over the costs for those activities otherwise authorized as nationwide permits (as per the No Action Alternative A). Replacement of nationwide permits with letters of permission would result in permit applicant costs about 25% more than nationwide permits, while replacement with regional general permits would result in comparable costs to nationwide permits. Procedural variation of the No Action Plan would cost the permit applicant about 13% more than the No Action Plan.

Permit applicants also incur indirect costs of compliance with the Corps regulatory program. These are "opportunity costs" that include permitting time costs and any development values foregone as a result of the Corps evaluation. Opportunity costs increase as the time it takes for the Corps to process permit applications increases. Shift of nationwide permits to standard permits (Alternative B) or letters of permission (Alternative C) would increase the time it takes to complete the respective permit evaluation potentially increasing opportunity costs. Also, systemic effects of increasing standard permit and letter of permission applications would increase the Corps workload and thus further increase average evaluation days for those permits.

Table S.7. General Comparison of Impacts of Nationwide Permit Alternatives on Permit Applicants

	Alternative A (No Action)	Alternative B	Alternative C	Alternative D	Procedural and Threshold Variation – Alternative A1
	<i>No action—1996 Program</i>	<i>Replacement with Standard Permits</i>	<i>Replacement with Letters of Permission</i>	<i>Replacement with Regional General Permits</i>	<i>Nationwide Permit Limits and Thresholds (NWP's issued March 2000)</i>
Direct compliance costs	Least cost (\$233 million per year)	Greatest compliance costs (\$754 million per year)	Slightly greater than No Action Alternative (\$293 million per year)	Least cost--Similar impact to No Action Alternative (\$230 million per year)	Slightly greater cost than No Action Alternative (\$262 million per year)
Opportunity costs	Least cost	Greatest opportunity costs	Slightly greater than No Action Alternative	Least cost--Similar impacts to No Action Alternative	Slightly greater cost than No Action Alternative

S.8 COMPARISON OF THE IMPACTS OF THE ALTERNATIVES ON THE CORPS ADMINISTRATION OF THE PROGRAM

Each of the alternatives evaluated in this PEIS will directly affect the efficiency with which each district is able to process each type of permit. Increases in permit workload would likely increase the average evaluation days required to process a permit if the permitting budget did not change. Similarly, increases in the number of days the district dedicates to permitting would likely decrease the average evaluation days required to process a permit. Table S.8 shows a comparison of impacts on Corps processing costs for the alternatives.

Implementation of Alternative B or C (shifting nationwide permits to standard permit or letter of permission processing) would increase the number of Section 404 standard permits or letters of permission issued fourfold and the average evaluation days approximately 13% to 17% by year five. Use of regional general permits to replace nationwide permits (Alternative D) would not be expected to increase average evaluation days. These estimates assume Corps district annual permitting budgets would remain roughly at current levels.

The PEIS also estimated the increased permitting budget that the Corps would need to implement the alternatives while maintaining current levels of permitting efficiency. Implementation of Alternatives C and D would face one-time permit development costs – costs incurred only in the first year of the program and not faced by Alternative B. These costs would be associated with developing, coordinating, and implementing letters of permission or regional general permits.

Table S.8 Comparison of the Impacts of the Alternatives on the Program Administration (Estimated Corps Costs)

	Alternative A (No Action)	Alternative B	Alternative C	Alternative D	Procedural and Threshold Variation – Alternative A1
	<i>No action—1996 Program</i>	<i>Replacement with Standard Permits</i>	<i>Replacement with Letters of Permission</i>	<i>Replacement with Regional General Permits</i>	<i>Nationwide Permit Limits and Thresholds (NWP's issued March 2000)</i>
Corps workload or administrative costs	Least cost (\$16 million per year)	Greatest workload costs (\$98 million per year)	<ul style="list-style-type: none"> •Greatest 1st year costs because upfront development costs •Agency administrative costs decrease after implementation but remain higher than No Action Alternative (•\$103 million the first year •\$448 million over five years)	<ul style="list-style-type: none"> •Least cost (similar to No Action Alternative) •Incur costs upfront development costs (•\$52 million the first year •\$252 million over five years)	<ul style="list-style-type: none"> •Slightly greater cost than No Action Alternative (\$23 million per year)
Other agency workload or administrative costs	Least cost	Greatest workload costs on all Federal agencies over time	•Increased agency review	•Least cost (similar to No Action Alternative)	•Slightly greater cost than No Action Alternative

Replacement of nationwide permits with standard permits or letters of permission would increase Corps costs five to six times the cost of processing those activities as nationwide permits, i.e., the No Action Alternative. The total estimated expenditure for processing FY 1998 nationwide permits is approximately \$16 million and the total Corps regulatory budget was \$107 million. Procedural variations of the No Action Alternative would increase Corps costs about 40% over the No Action Alternative costs.

S.9 SUMMARY OF IMPACT COMPARISONS

Little evidence exists for suggesting major variation in authorized impacts to aquatic resources, except for possibly lower compensatory mitigation ratios, which should be readily modified or corrected as appropriate.

Replacement of the nationwide permit process with standard permits or letters of permission would require increased involvement of other Federal and state agencies to fully capture or realize the environmental oversight inherent to those permits. However, it is not evident that the other agencies have sufficient staffing to accommodate a large increase in review workload.

Replacement of the nationwide permit process with the regional general permit process would result mostly in reduced coordination with other agencies and possibly less consistent protection of aquatic resources.

Replacement of the nationwide permit process with state programmatic general permits could only be accomplished by states with agencies that have programs that offer similar or greater protection of aquatic resources. Categories of activities and procedures for evaluation and coordination can be developed for state programmatic general permits.

Replacement of the nationwide permit process with an “Activity Regulation by Rules” would eliminate case-by-case project review for activities that meet specified terms and conditions (similar to non-reporting nationwide permits in the current program). That is, there would be no application to the Corps and thus no associated administrative costs. Tracking impacts under this scenario would be difficult if not impossible. Impacts associated with this alternative would be similar to the 1996 program or perhaps greater if limits of the rules were greater than the 1996 nationwide permit program. The regulated public would likely have some uncertainty about whether their activities qualify by regulatory rule.

The standard permit and letters of permission alternatives would be much more costly to administer and would impose higher compliance costs (in some cases much higher) on permit applicants. The Procedural and Threshold Variation Alternative (A1) would be less costly than these two alternatives, although it has higher costs than the No Action Alternative. The regional general permit alternative would impose similar costs to the Corps and permit applicants.

The alternatives were examined as wholesale replacement permit schemes for nationwide permits. The above findings should not discredit or discourage use of the alternatives on a local or regional basis. For example, if other agencies can provide appropriate input or responsibility, implementation of letters of permission can yield both environmental protection while reducing compliance and administrative costs.

S.10 NATIONWIDE PERMIT PROCESS DEFICIENCIES TO BE ADDRESSED TO REDUCE OR ELIMINATE ADVERSE ENVIRONMENTAL IMPACTS

Several issues are identified in the PEIS that need to be addressed to reduce or eliminate potential adverse environmental impacts.

S.10.1 Regulatory Database Data Entry and Other Information Deficiencies

Corps Headquarters has guidance for field office data entry into the Corps regulatory database—Regulatory Analysis and Management System (RAMS)—and is continuing its efforts of the past nine years to improve the data entry system and practice. Among the data entry deficiencies that need to be addressed and emphasized for immediate improvement are the following.

- A standard database does not exist across all districts and there is insufficient national-level guidance that explains why the data are needed for national environmental accounting, how the districts might use the data, and explicitly what data should be recorded in each data field for each permit type.

- Impact and mitigation data are not gathered consistently for the entire permit program other than the nationwide permits. The lack of data for impacts to other waters and associated mitigation under standard permits, letters of permission and regional general permits limited a comparison of effectiveness for alternative programs. Cowardin wetland-system data are not provided for permits other than nationwide permits. These data would improve future environmental impact statements and contribute to improved assessments of environmental status, such as progress toward national environmental goals.
- Blank data fields in the database cannot be interpreted with certainty because they may be zero impact, temporary impact, impacts to other waters of undocumented degree, or missing data. This deficiency has greatly limited the value of the database for impact analysis.
- Functional data are not easily obtained from the database for both impact and compensatory mitigation with reporting categorized only at the systems level of the Cowardin classification. Class level identification, including hydrogeomorphic classification (Smith et al. 1995) when available, would make functional assessments of compensatory mitigation effectiveness that much more thorough.
- The existing database does not assure that temporary impacts cannot be misinterpreted as permanent impacts. Similarly, there is no way to identify wetland class conversion and if that is considered a loss or gain in function.
- Database evidence strongly suggests that data entered for impact and compensatory mitigation under nationwide permit 27 restoration activities were often confused with the restoration results leading to overestimates of impacts, mitigation and mitigation/impact ratios.
- Stream and other “linear” impacts in classes of other waters cannot be precisely calculated as acreage of impact because mean width of impact is not recorded. Without estimating all impacts in acres, total impact cannot be summed accurately. In addition, descriptions of impacts in verification letters do not describe the authorized activity in the detail needed, including all units.
- Compensatory mitigation is not now categorized in the data base by the action taken, i.e., identified as restoration, creation, preservation, enhancement, or a mix of actions.

The above deficiencies might be corrected relatively easily by universal changes in data entry. Corps Headquarters is presently developing a new data collection and reporting system to improve data collection and analysis. Other deficiencies are more involved however, and might be corrected using a much smaller representative sample of permit actions to obtain statistically rigorous data. For example, there is limited or no information on completeness of impacts and compensatory mitigation, wetland functions, functional integrity of the ecosystem before impact and following compensatory mitigation. Other knowledge deficiencies hamper regulatory effectiveness and efficiency, including specific ecosystem function and service levels for different wetland classes. The PEIS identifies these deficiencies.

S.10.2 Cumulative Impact Analysis Deficiencies

Rigorous cumulative impact analysis is problematic at the watershed or district level. Corps Headquarters has strongly encouraged a watershed planning approach and has recently provided specific recommendations to field offices for considering cumulative effects. Some districts are

(1) holding workshops with other agencies to discuss tools and methods for analyzing cumulative effects and (2) implementing a geographic information system (GIS) to help assist permit decisions, especially in states or other regions that have already developed such systems. In most cases, the GIS is linked to state or other Federal agency databases.

S.10.3 Compensatory Mitigation Success Deficiencies

Compensatory mitigation is a critical part of the equation of achieving minimal impacts and the nationwide permit contribution to “No overall net loss of wetlands”. Compensatory mitigation that is not implemented or does not achieve performance criteria strongly jeopardizes full replacement of lost wetlands and impacted functions. However the extent to which it replaces or does not replace lost wetlands and function cannot now be ascertained. Scientific and other literature generally suggests problems with compensatory mitigation in terms of both permit compliance and ecological success. While it is not evident that many compensatory mitigation projects required as a condition attached to issued nationwide permits are reviewed for compliance with permit conditions, increased review itself is not sufficient to minimize the problems.

Poor mitigation project design and siting are major deterrents to compliant mitigation and replacement of lost functions and values. Many Corps districts are attempting to improve compensatory mitigation success by establishing region-specific guidelines (or using state or other agency guidance) for compensatory mitigation projects.

Many of the problems reported for compensatory mitigation projects are related to risky techniques (e.g., in non-hydrologically sustainable environments) or poor siting (e.g., adjacent to the authorized wetland impact otherwise surrounded by commercial development). If compensatory mitigation is required for a permit, but only risky compensation options are available, preservation as compensation should be encouraged (at high exchange ratios to account for incremental function gained/lost) in concert with watershed vision. Preservation, when there is immediate or relative certainty of non-regulated threat to the wetland, could be especially utilized when permit compensatory mitigation conditions require greater acreage than authorized impact acreage. In such a case, preservation could provide the compensation amounts that exceed the authorized impact acreage.

S.10.3.1 Using a Watershed or Regional Perspective. Mitigation planning (design and siting) can be improved through application of a watershed-based (or some other appropriate region, e.g., ecoregion) approach that considers past and current aquatic resource conditions. A watershed or regional approach can be enabled through:

- Development of watershed or regional plans (e.g., Special Area Management Plans) or priorities and strategies that identify aquatic resource needs and appropriate compensatory mitigation sites.
- Establishment of regionally based mitigation ventures sited according to the watershed or regional needs and permitted impacts, e.g., mitigation banks and in-lieu fee arrangements.

S.10.3.2 Other options for Securing More Successful Compensatory Mitigation

Other potential approaches to achieving more successful mitigation could involve other agencies or might require congressional action. These include transferring mitigation monitoring and compliance to other Federal agencies or designated non-governmental organizations.

Two other options would require use of watershed plans or priority lists for mitigation. These options would also require other agency involvement and/or congressional action.

- Contract some or all of the compensatory projects (e.g., for off-site compensation in regions of the country where mitigation banks or in-lieu fee compensation arrangements are not available) to an entity other than the Corps or the permittee. This approach would make use of state grants or other designated Federal monies to fund the compensatory mitigation program. For example, the National Fish and Wildlife Foundation could be contracted to provide the compensatory mitigation. Applicants would then reimburse the Federal Treasury or designated fund.
- Implement a competitive bid process. The Corps and appropriate resource agencies, funded by grants, etc, would solicit proposals from commercial mitigation credit sellers for quality-assured wetland projects that provide the requested watershed priority wetland projects. Contracts would be awarded using the capitalized fund. The sellers would not have to wait to receive funds from applicants. Permit applicants would reimburse the designated fund. This approach could be accomplished in pilot programs for rapidly suburbanizing and urbanizing watersheds.