



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, CHICAGO DISTRICT
231 SOUTH LASALLE STREET SUITE 1500
CHICAGO, IL 60604

February 16, 2024

Environmental & Cultural Resources
Planning Branch

SUBJECT: Request for Federal Consistency Determination for the Great Lakes and Ohio River Division Regional Categorical Permission in Lake and Cook Counties, Illinois

Mr. Cody Eskew
Illinois Coastal Management Program
160 North LaSalle Street, Suite S-703
Chicago, Illinois 60601

Dear Mr. Eskew:

The Great Lakes and Ohio River Division (LRD) of the U.S. Army Corps of Engineers (USACE) has recently issued a Regional Categorical Permission (RCP) for certain categories of alterations that have been determined to, individually and cumulatively, be similar in nature, have less than significant impacts to USACE projects and the environment, not impair the usefulness of USACE projects, and not be injurious to the public interest. The USACE Chicago District is the sole LRD district with Civil Works responsibility within the Illinois Coastal Management Program boundaries. This RCP would authorize alterations to USACE federal civil works projects under Section 14 of the Rivers and Harbors Act of 1899, 33 USC 408 (Section 408) as implemented by the procedural guidance in Engineer Circular 1165-2-220.

The purpose of the RCP is to expedite and streamline qualifying Section 408 reviews by eliminating the need for alteration-specific public notices and review plans, and by programmatically making certain findings under the National Environmental Policy Act. The process starts with a request to the USACE Chicago District like all other alterations and ends with a validation letter from USACE that serves as the final Section 408 authorization for the alteration. Alterations that are reviewed under this RCP receive the same technical review and historic preservation and tribal consultations as they would without an applicable categorical permission. The RCP is applicable to proposed alterations to USACE federally authorized levees, channel modification projects, ecosystem restoration projects, dredging projects, and navigation projects.

The RCP includes nine categories of alterations to USACE projects. For alteration descriptions, qualifying conditions, and disqualifying circumstances of the RCP, see the 2023 RCP document (Enclosure 1). The nine categories of RCP are:

- Utility line activities
- Vertical drilling activities
- Development activities

- Linear transportation activities
- Water-based activities
- Operations, maintenance, and safety improvements to federal projects
- Activities meeting a USACE categorical exclusion from the National Environmental Protection Act
- Environmental research, measurement, or enhancement activities
- Resolution of enforcement actions

The RCP has been signed by the LRD Commanding General and will be effective for an initial period of five years, ending November 17, 2028. The Chicago District is requesting concurrence from the Illinois Coastal Management Program with the District's determination that the proposed activity (validation that individual proposed alterations comply with the Section 408 RCP and therefore have Section 408 permission) complies with Illinois approved coastal management program and will be conducted in a manner consistent with such policies. Concurrence would last for a period of five years from the receipt of the notification of concurrence and can be revoked at any time during that period by either party.

For any questions regarding this certification, please contact Mr. Andrew J. Miller, Landscape Architect, by phone at [REDACTED] or by e-mail at [REDACTED]

Sincerely,



Alex R. Hoxsie
Chief, Environmental & Cultural Resources
Planning Branch

Enclosure

- 1 – Regional Categorical Permission for Section 408 Requests
- 2 – Regional Categorical Permission Programmatic Environmental Assessment

ENCLOSURE 1

Regional Categorical Permission for Section 408 Requests

**REGIONAL CATEGORICAL PERMISSION FOR SECTION 408 REQUESTS
U.S. ARMY CORPS OF ENGINEERS GREAT LAKES AND OHIO RIVER DIVISION**



September 2023

Prepared by:

U.S. Army Corps of Engineers
Great Lakes and Ohio River Division
550 Main Street
Cincinnati, OH 45202

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1.0 INTRODUCTION

The purpose of this document is to establish a regional categorical permission (RCP) for use throughout the U.S. Army Corps of Engineers (USACE) Great Lakes and Ohio River Division (LRD) to expedite and streamline qualifying Section 408 reviews. In this document the Division Engineer is establishing certain categories of alterations that have been determined, individually and cumulatively, to be similar in nature, have similar less than significant impacts to USACE projects and the environment, and do not impair the usefulness of USACE projects nor are injurious to the public interest.

Each year, the seven USACE districts within LRD receive numerous requests from private, public, tribal, and other federal entities (requesters) to alter USACE federal projects pursuant to Section 14 of the Rivers and Harbors Act of 1899, as amended, codified at 33 U.S.C. 408 ("Section 408"). The establishment of a regional categorical permission is intended to increase consistency and efficiency in USACE reviews of Section 408 requests, and to manage expectations of the requester.

Alterations that are reviewed under this RCP receive the same technical review and historic preservation and tribal consultations as they would without an applicable categorical permission. The USACE can expedite and streamline qualifying reviews under this RCP by eliminating the need for alteration-specific public notices and review plans, and by programmatically making certain findings under the National Environmental Policy Act. The process starts with a request like all other alterations and ends with a validation letter that serves as the final Section 408 authorization for the alteration.

2.0 AUTHORITY

The authority to grant permission for temporary or permanent use, occupation, or alteration of any USACE Civil Works project is contained in Section 408. Section 408 authorizes the Secretary of the Army, on the recommendation of the Chief of Engineers, to grant permission for the alteration, occupation, or use of a USACE project if the Secretary determines that the activity will not be injurious to the public interest and will not impair the usefulness of the project.

The Secretary of the Army's authority to implement Section 408 has been delegated to the USACE, Chief of Engineers. Within USACE, the Chief of Engineers has further delegated that authority to the Directorate of Civil Works, Division Commanders, and District Commanders depending upon the nature of the proposed activity.

Section 408 permissions are reviewed according to Engineering Circular (EC) 1165-2-220, *Policy and Procedural Guidance for Processing Requests to Alter US Army Corps of Engineers Civil Works Projects Pursuant to 33 USC 408*, current edition. To streamline the review process, EC 1165-2-220, paragraph 10.a. states that USACE divisions (as well as districts and USACE Headquarters) can develop categorical

permissions to cover potential alterations that, when considered individually and cumulatively, are similar in nature and have similar less than significant impacts to the USACE project and environment.

3.0 GEOGRAPHIC AND TEMPORAL SCOPE OF THE CATEGORICAL PERMISSION

This RCP is applicable to USACE federally authorized levees, channel modification projects, ecosystem restoration projects, dredging projects, and navigation projects located in Wisconsin, Illinois, Indiana, Michigan, Ohio, Pennsylvania, New York, West Virginia, Kentucky, and Tennessee within the LRD boundary, as shown in Figure 1. USACE dredged material management facilities, flood control reservoir projects, and aquatic nuisance species control projects are excluded from the RCP. The initial temporal scope of the RCP is five years from the date of approval by the Division Engineer; prior to the expiration of five years the Division Engineer will conduct a review or audit of the RCP, at which point the Division Engineer may renew, modify, suspend, or revoke the RCP.

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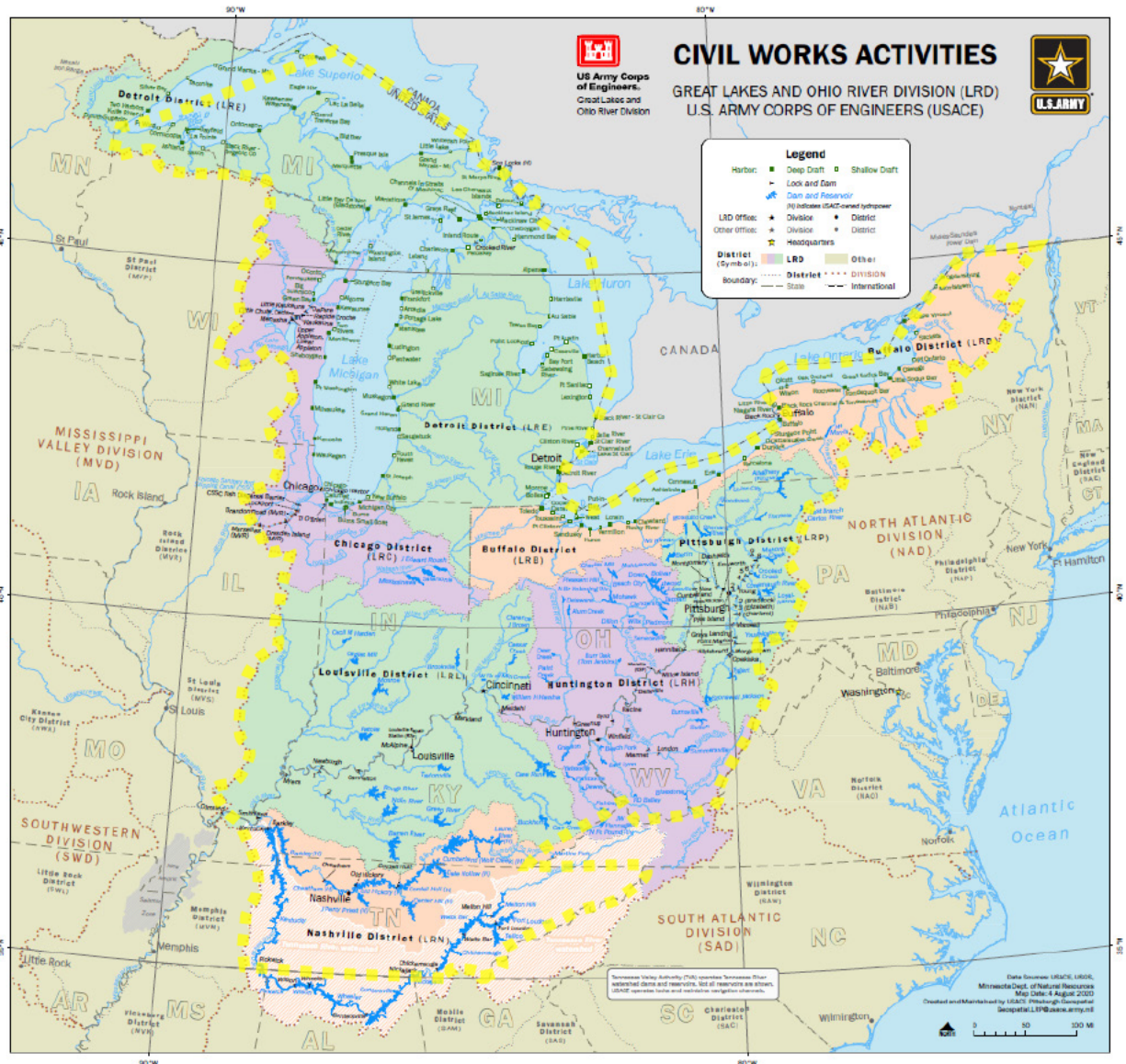


Figure 1. USACE Great Lakes and Ohio River Division Civil Works Boundary. The geographic scope of this RCP is shown in a dashed yellow line.

4.0 DISQUALIFYING CIRCUMSTANCES

The following circumstances will require full Section 408 analysis, and will not qualify for use of this categorical permission (even if otherwise qualified):

1. Proposed alterations in designated Critical Habitat for one or more federally-listed threatened or endangered species; and proposed alterations that USACE determines may affect and are likely to adversely affect one or more threatened or endangered species.
2. Proposed alterations that USACE determines would have an adverse effect on one or more historic properties: (a) that are listed (or eligible for listing) on the National Register of Historic Places; or (b) to which any Indian tribe attaches religious and cultural significance. See 36 CFR 800.5(a).
3. Proposed alterations that may cause more than minimal adverse effects on tribal rights (including treaty rights), protected tribal resources, or tribal lands.
4. Proposed alterations that would induce development in the floodplain.
5. Proposed alterations with total direct and indirect emissions of air pollutants that exceed *de minimis* emissions levels.
6. Proposed alterations that would construct new structure(s) for human habitation within the USACE Section 408 geographic jurisdiction as defined in USACE EC 1165-2-220, paragraph 9(a).
7. Proposed alterations requiring a Safety Assurance Review (SAR), that is, design and construction activities where potential hazards pose a significant threat to life safety.
8. Proposed alterations requiring a standard individual permit under the USACE Regulatory Program (i.e., Section 10 of the Rivers and Harbors Act of 1899 ("Section 10") and/or Section 404 of the Clean Water Act ("Section 404")). See 33 CFR 325.2.
9. Proposed alterations for which the non-federal sponsor for a USACE project is seeking potential credit under Section 221 of the Flood Control Act of 1970, as amended.
10. Proposed alterations that affect the formulation, evaluation, or selection of alternatives for a current study under the Investigations account or other USACE study.
11. Proposed alterations that change how the USACE project will meet its authorized purpose.

12. Proposed navigation alterations for which federal assumption of operation and maintenance under Section 204(f) of Water Resources Development Act of 1986, as amended, is also being sought.
13. Proposed alterations where there is one or more non-federal sponsor(s) for the location being impacted, and the impacted non-federal sponsor(s) have declined to provide a letter of no objection, or where the impacted non-federal sponsor(s) cannot be located or do not respond to attempted communication by the requester.
14. Proposed alterations where the District Engineer has determined that a RCP is not appropriate, either because it is not within the geographic scope of the RCP, or because the District Engineer has elected to exercise discretionary authority to review the proposed alteration under the full Section 408 procedures (examples of situations where a District Engineer may exercise discretionary authority include, but are not limited to, expected controversy, unprecedented proposed alterations, or unique USACE Civil Works projects).

5.0 GENERAL CONDITIONS

The following engineering and environmental conditions must be met to qualify for this RCP. Proposed alterations that do not meet these conditions will be evaluated under the single-phased or multi-phased review process. USACE may impose project specific conditions in addition to the conditions below.

5.1 ENGINEERING CONDITIONS

1. Appropriate property rights must be acquired as needed for construction, operation, and maintenance of the alteration. However, any easements or property transfers or swaps involving any lands acquired by a non-federal sponsor in fulfillment of a Project Partnership Agreement must continue to meet the terms of the Project Partnership Agreement and the project's OMRR&R manual and require USACE approval.
2. Construction or other work must be coordinated with other work in the area.
3. Excavations and drilling must meet federal, state, and local criteria.
4. Levee-Specific Engineering Conditions:
 - a. The requester is responsible for protecting the levee from being damaged by construction vehicles, equipment, construction activities, and storage of materials. The requester must find the best construction access to minimize impacts to the levee from construction access.

- b. All material used for fill on levee slopes and the crown must be acceptable cohesive material (Unified Soil Classification System CL, CL-ML, or SC) and free of organics or other materials harmful to the levee consistent with USACE EM 1110-2-1913, *Design and Construction of Levees*, current edition.
 - c. The proposed alteration must be backfilled as required by USACE EM 1110-2-2902, *Conduits, Pipes, and Culverts Associated with Dams and Levee Systems*, current edition, as well as USACE EM 1110-2-1913.
 - d. All structures, facilities, related equipment, and other appurtenances must be removable or properly anchored to prevent flotation within the floodway in the event of high water.
 - e. The preferred method for abandoning existing utilities is complete removal from the influence zone of the USACE Civil Works project. See Figures 2 and 3, below.
- 5. Any damage to any component of the USACE project caused by construction, removal or modification of any alteration must be repaired as part of the authorized Section 408 activity.
 - 6. The proposed alteration must not result in any increase in operation and maintenance costs to the federal government.
 - 7. The requester shall provide construction as-built documentation and survey data, along with any other information required to update the project's Operation, Maintenance, Repair, Replacement, and Rehabilitation (OMRR&R) manual to USACE and the sponsor (if applicable) within 60-days of completion of construction.

5.2 ENVIRONMENTAL CONDITIONS

- 1. Access to the proposed alteration site must occur in previously disturbed areas, such as existing roads, access ramps, driveways, closure facilities, or the levee crown, unless the USACE authorizes new disturbance areas under this RCP (or other Section 408 permission).
- 2. Upland areas (and waters of the United States if authorized by the USACE Regulatory Program) may be temporarily cleared or disturbed for staging of equipment and materials during construction. Temporarily cleared or disturbed areas must be disclosed on the alteration plans and returned to pre-construction conditions following construction.

3. Vegetation may be removed during construction; however, the proposed alteration must be designed to minimize the amount of woody vegetation removal, and such removal must be disclosed on the alteration plans.
4. Excess material from construction must be removed from the floodway and floodplain and disposed in an area outside of the federal project footprint/easement in an area that does not include waters of the United States (unless authorized by the USACE Regulatory Program), wetlands, cultural resource sites, or locations that would require tree clearing.
5. Borrow material necessary for construction must be free of trash, debris, and toxic or hazardous constituents.
6. Proposed alterations must be designed to minimize the introduction of exotic and invasive species (both plant and animal) and any seed mixes used in site restoration must consist only of native species. All construction equipment must be cleaned prior to being brought to the construction site, to minimize the chance of accidental transmission of invasive species.
7. Proposed alterations must incorporate Best Management Practices (BMPs) to control any point source discharges or storm water runoff, erosion, and contaminant spills (e.g., diesel fuel spills) in accordance with any required National Pollutant Discharge Elimination System (NPDES) permits or equivalent state permits. All exposed soils must be permanently stabilized at the earliest practicable date.
8. In the event of an environmental spill (or inadvertent return or “frac-out” during horizontal drilling), the requester must notify the USACE, the non-federal sponsor and the appropriate state and/or federal spill response agency immediately. Cleanup and repair are the requester’s responsibility.
9. In the event any previously unknown historic or archaeological sites or human remains are uncovered while accomplishing the activity authorized by this Section 408 categorical permission, the requester must cease all work immediately and contact local, state and county law enforcement offices (only contact law enforcement on findings of human remains) and the USACE. The USACE or the appropriate lead federal agency will initiate the federal, state, and tribal coordination required to comply with the National Historic Preservation Act and applicable state and local laws and regulations. Federally recognized tribes are afforded a government-to-government status as sovereign nations and consultation is required under Executive Order 13175 and 36 CFR Part 800.
10. Any other applicable federal, state, or local permits must be secured by the requester before work can begin.

11. Alterations that are below the OHWM and/or within wetlands will require USACE Regulatory Review and Section 404 permitting, as appropriate. See 33 CFR 328. Alterations involving navigable waters of the United States will also require USACE Regulatory Review and Section 10 permitting, as appropriate. See 33 CFR 329.
12. For alterations which may result in a discharge into waters of the United States, a Section 401 Water Quality Certification (WQC) covering the alteration must be granted, granted with conditions or waived by the affected state(s), tribes, and/or U.S. Environmental Protection Agency (USEPA), as applicable. Any LRD Districts with programmatic WQC or waivers for any of the categories of alterations covered by the RCP will post such document(s) on their Section 408 webpage.
13. For alterations within a designated Coastal Zone Management area that require a Coastal Zone Management Act (CZMA) consistency determination or waiver from the applicable state agency, requesters are responsible for making the initial CZMA consistency certification, pursuant to the 15 CFR 930 Subpart D regulations. Any LRD Districts with programmatic CZMA consistency determinations or waivers for any of the categories of alterations covered by the RCP will post such documents on their Section 408 webpage.

6.0 CATEGORICAL PERMISSION IMPLEMENTATION

6.1 ALTERATION REQUEST

The proponent for a proposed alteration must submit a request in writing to the USACE District(s) where the proposed alteration will occur. There is no required format for this request, and if the request also has an associated USACE Regulatory Program application, the Regulatory application may be accepted as a request for Section 408 validation under this RCP. Requesters must identify the category or categories of the RCP that they believe cover the proposed alteration, along with the information listed in USACE EC 1165-2-220, Paragraph 11, which is:

- Non-federal Sponsor Statement of No Objection;
- Full description of the proposed alteration;
- Necessary drawings, sketches, maps, or plans (See Engineering General Conditions 1 and 2);
- Necessary supporting information for technical analyses, as required by the USACE district. Note the exact analyses required may not be known until the USACE district has reviewed the initial request;
- All supporting information and documentation that the district identifies as necessary to assess environmental and cultural resources compliance;
- A description of the real property required to support the proposed alteration;

- Any projected requirements for Operation, Maintenance, Repair, Replacement, and Rehabilitation (OMRR&R) needed throughout the life of the proposed alteration and the responsible entity;
- If operation and maintenance of the USACE project is affected by the alteration, the requester, if not the non-federal sponsor, must provide written documentation that the non-federal sponsor agrees to assume responsibility for the changed OMRR&R of the USACE project at no cost to the federal government.

The Section 408 request must also include, at a minimum, construction drawings that show details of all proposed activities within the Section 408 geographic jurisdiction, as defined in USACE EC 1165-2-220, paragraph 9(a), including any excavation details.

- a. For alterations affecting a levee or floodwall, a cross section of the levee and/or channel affected by the proposed alteration and associated appurtenances, a plan view of the existing floodwall/levee showing associated features and the levee centerline with stationing with the proposed alteration, and a plan view of the existing levee easement with the proposed alteration shown.
- b. For navigation channels and structures, a plan view and cross section showing the ordinary high water mark (“OHWM”) and the channel limits, if known, in relation to the proposed alteration. In charted navigation areas, a copy or excerpt of the chart with the proposed alteration location is required. Profile views must include the chart datum and the authorized project depth.
- c. For ecosystem restoration projects, the proposed planting list and monitoring plan for vegetated areas are required and must be consistent with the USACE Civil Works project unless an alternate plan for restoring vegetated area is approved by the district.

All companies/agencies whose existing utilities are located in the intended construction area(s) must be contacted by the requester to determine whether those utilities need to be relocated or modified to accommodate the proposed alteration, or whether they would pose any hazards to alteration construction workers or equipment. Requesters must provide documentation of this coordination in their request, as the USACE district may require these materials.

For proposed alterations to USACE Civil Works levee projects, design and construction specifications should be signed and sealed by a Registered Professional Engineer and, if applicable, a Registered Geologist from the respective state where the work would be performed. For proposed alterations to non-levee USACE projects, the requester may submit plans without an engineer and/or geologist seal; however, the USACE district may inform the requester that professional design and sealed drawings are required to complete a particular review.

For proposed alterations to USACE Civil Works levee projects that disturb any existing soil on USACE Civil Works project, to ensure compliance with USACE Tribal Policy Principles, the requester may be required to determine where the soil originated from using original construction contract documents such as as-built drawings, design document reports, and specifications.

USACE COMPLETENESS DETERMINATION

The lead USACE District will review each request for a validation under this RCP within 30 days to determine if the request is complete, and whether the request will be reviewed under the terms of this RCP. The USACE District will notify the Requester by letter of its determination, and if the request is incomplete, a list of outstanding items will be identified. Re-submittals will also be evaluated within 30 days of submission to the USACE lead district.

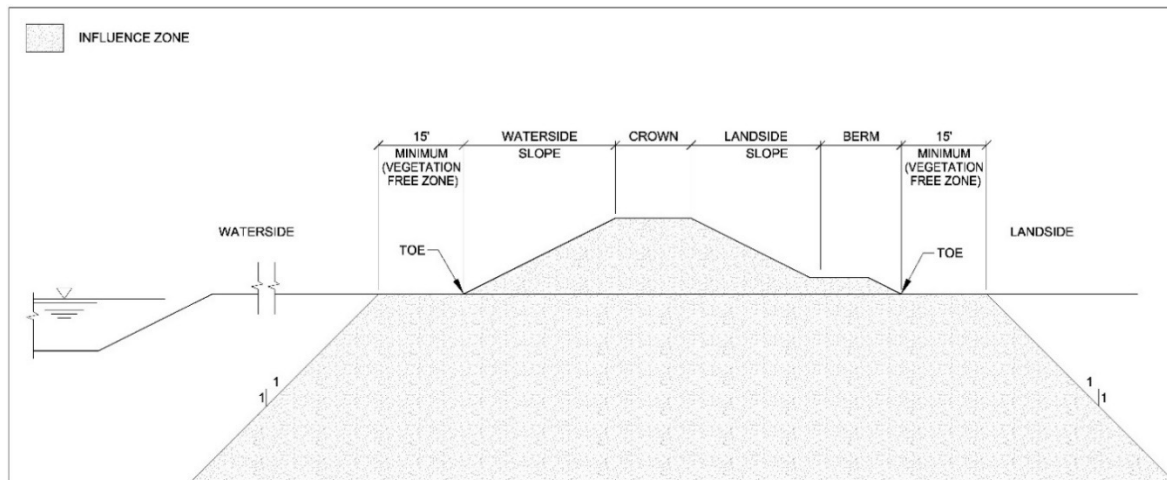


Figure 2. Illustration of common terms for features of Levee Projects.

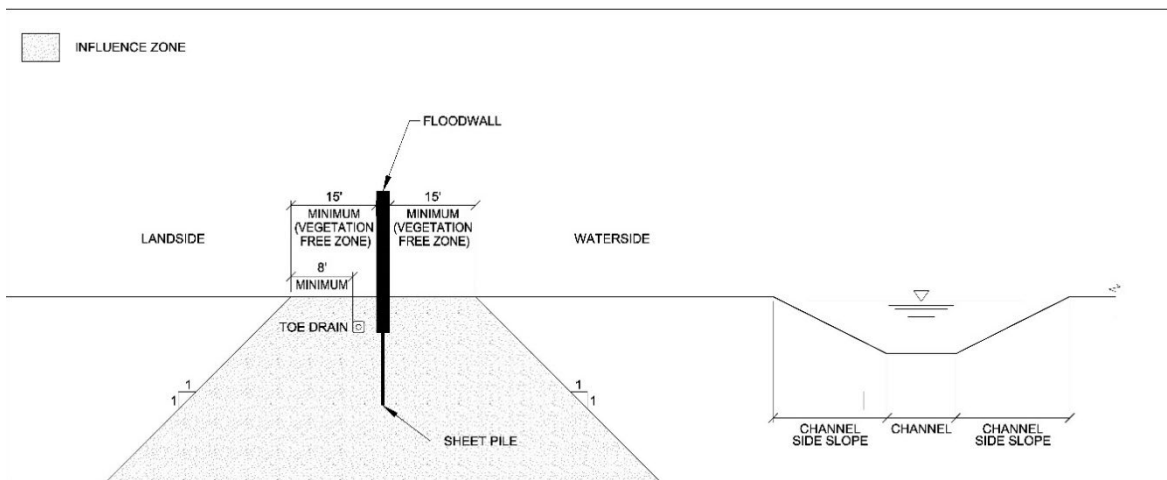


Figure 3. Illustration of common terms for features of Floodwall Projects.

6.2 TECHNICAL AND ENVIRONMENTAL REVIEWS

TECHNICAL REVIEWS

Proposed alterations under consideration for validation under the Section 408 RCP will receive a technical review by the appropriate USACE office(s) (e.g., Engineering, Operations, Planning, Real Estate, Office of Counsel etc.) to ensure that the proposed alteration is within the category/categories contemplated by this RCP and therefore is not injurious to the public interest and will not impair the usefulness of USACE Civil Works project. These technical reviews will be conducted with the same rigor and scope as with any Section 408 review.

ENVIRONMENTAL REVIEWS

Each proposed alteration under consideration for validation under this RCP will also receive an environmental review to ensure compliance with all applicable federal laws and policies and to ensure the Programmatic Environmental Assessment developed for this RCP is applicable. While District Engineers or the Division Engineer may pursue programmatic compliance with certain environmental laws, this RCP does not establish Division-wide programmatic compliance with, for example, the Endangered Species Act, the National Historic Preservation Act, or USACE Tribal Policy Principles, and case-specific consultations may be necessary. Where possible, one federal agency (or the USACE office) will be designated as the lead for environmental compliance and will perform all required consultations, if necessary, for adoption in a validation review under this RCP.

Many environmental laws require official consultations. These consultations must be performed by the USACE (or other lead federal agency). If a requester coordinates with other agencies such as the State Historic Preservation Office, tribal governments, or fish and wildlife agencies, the results of that coordination will be advisory in nature and the USACE (or other lead federal agency) will initiate any necessary consultations.

For alterations with the potential to affect communities with environmental justice concerns, the USACE office reviewing the request (or other lead federal agency) will evaluate on a case-by-case basis to determine whether the proposed alteration would have a disproportionate or adverse effect, and if so, what measures are warranted to avoid, minimize, rectify, or compensate for adverse impacts. The USACE office (or lead federal agency) will work with the requester to prepare and execute an outreach plan when necessary and is encouraged to use resources such as the USEPA's *Promising Practices Report* and the US Department of Energy's *Community Guide to EJ and NEPA Methods* to appropriately engage in meaningful, targeted community outreach, and to analyze impacts in order to inform a decision as to the appropriateness of exercising discretionary authority to conduct a full Section 408 review, including a full public interest analysis.

6.3 VALIDATION

1. For all projects that cross USACE LRD District boundaries and require Section 408 review under this RCP and Regulatory Program review(s), one lead USACE district will be designated in accordance with USACE Director's Policy Memorandum Civil Works Programs (DPM CW) No. 2018-06, *Designation of a Lead USACE District for Permitting of Non-USACE Projects Crossing multiple Districts or States*.
2. In cases that require Section 408 review under this RCP and Section 10/404 review(s), the lead USACE district will ensure these evaluations are conducted in a coordinated manner in accordance with DPM CW No. 2018-10, *Strategy for Synchronization of the Regulatory and 408 Programs*.
3. Where appropriate, the USACE will review a proposed alteration that may rely on more than one category under this RCP (also known as "stacking"). Where there are limitations such as a limit on total disturbance area, the limits will also "stack."

For example, construction of a stormwater basin (Category 3), which is limited to two acres, could have up to 5 acres of temporary access impacts (also Category 3) within the Corps' Section 408 jurisdiction. Similarly, a utility line (Category 1) which is limited to 5 acres within the Corps' Section 408 jurisdiction, could also have up to 5 acres of temporary access impacts (Category 3) within the Corps' Section 408 jurisdiction.

4. The lead USACE district will conduct the reviews outlined in paragraph 6.2 within 90 days of a complete request, unless the USACE lead district notifies the Requester of a delay.
5. The USACE District Engineer of the lead district or their designee will send a written validation letter, which the Requester must receive before proceeding with the alteration. The validation letter will include the required standard terms and conditions (e.g., indemnification and hold harmless) in Appendix K of EC 1165-2-220.

7.0 CATEGORICAL PERMISSION ALTERATIONS (DESCRIPTIONS AND CONDITIONS)

For an alteration to be approved under this RCP, the proposed design, construction, or replacement must meet the alteration descriptions and associated conditions, have no disqualifying circumstances, and adhere to applicable standard engineering and environmental conditions (see General Conditions Section). See Figures 2 and 3 for illustrations of common terms used throughout the alteration descriptions. The term “total disturbance area” in the category descriptions and conditions refers to all work (temporary or permanent) within the Corps’ Section 408 geographical jurisdiction (as defined in USACE EC 1165-2-220, paragraph 9(a), current edition).

7.1 CATEGORY 1 – UTILITY LINE ACTIVITIES

This RCP category covers the installation, replacement, maintenance, or abandonment of utility lines, such as electric lines, telecommunication lines, fiber optic cables, and lines for water, sewage, and other substances, excluding oil and natural gas pipelines. Other activities in this category includes overhead and underground pipes and cables and any related appurtenances such as headwalls, pipe slip-lining, corrosion and backflow prevention devices, outfalls, intakes, and fish screens.

7.1.1 NON-LEVEE PROJECTS

UTILITY LINES AND POLES

This RCP category covers utility lines and poles in which the total disturbance area for the proposed alteration work must not exceed 5 acres and no more than 25 new utility posts/poles that penetrate the surface.

UTILITY PIPES

This RCP category covers pipes and related appurtenances in which the total disturbance area for the proposed alteration work must not exceed 5 acres.

FISH SCREENS

This RCP category covers fish screens and all associated facilities.

When possible, fish screens may be required to be positioned in a sweeping, eddy-free flow capable of moving fish and debris along and past the facility under all flow conditions. Screens must be durable such that no individual component will detach from the structure or substructure of the screen during high water events.

Screens must be equipped with a manual or automatic apparatus to remove sediment and debris. With either type of apparatus, screens must be periodically cleared of accumulated debris which must be disposed of outside the limits of the USACE Section 408 geographic jurisdiction as defined in USACE EC 1165-2-220, paragraph 9(a).

If heavy debris loading is anticipated, a trash rack must be installed in front of the screen. Screens must be designed in a way to prevent them from being hazardous to recreational activities (e.g., boating, swimming) in the vicinity of the screens.

If screens are proposed for installation on existing intake pipes, the pipes must be inspected to ensure that they are in good condition prior to retrofitting. Maintenance requirements will vary depending on the type of equipment installed, but generally will include:

- Inspection of the screen and associated structure(s) for corrosion, wear, or other deterioration;
- Maintenance of mechanical components and seals, with repair or replacement, as needed;
- Checking the screen cleaning system for effectiveness;
- Debris and sedimentation removal;
- Inspection of the area around the screen for erosion and scour.

The total disturbance area for the proposed fish screen and supporting facilities work must not exceed 1 acre.

TRENCHLESS UTILITY INSTALLATIONS

This RCP category covers the installation of pipes and utility lines installed via trenchless installation methods, including Horizontal Directional Drilling (HDD). The total disturbance area for the proposed alteration work must not exceed 5 acres.

7.1.2 LEVEE PROJECT SPECIFIC

UTILITY LINES

This RCP category covers utility lines and pipes on or near levee projects.

All new and replacement utility lines other than essential pipes as defined in USACE EM 1110-2-2902 must be installed overhead or by open trench methods and must go up and over the levee design water surface elevation (DWSE). This RCP category covers trenchless methods for installation of essential pipes, with specific provisions below for Horizontal Directional Drilling (HDD).

Proposed alteration must be in accordance with USACE EM 1110-2-2902, current edition.

The total disturbance area for proposed utility alteration work must not exceed 5 acres excluding utility poles (which may not exceed 25 new poles) and fish screens (which may not exceed 1 acre) as discussed below.

UTILITY POLES

This categorial permission covers the installation, modification, and replacement of utility poles on or near levee projects when there is no alternative location available. The requester must submit a seepage and stability analysis for USACE

review in accordance with USACE EM 1110-2-1913 that supports the request if poles are within the levee embankment or are adjacent to the levee toe. The analysis must include boring logs of the area adjacent to the proposed pole location identifying the stratigraphy.

To avoid vibration that can cause cracking, new poles within the levee embankment and within 15 feet of the levee toe must be installed in pre-drilled holes. After installation, the entire hole must be filled with a cement-bentonite grout slurry. The slurry must fill the hole to the surrounding ground surface. When poles are removed the holes must be backfilled with concrete or CLSM. Alternatively, the upper 2 feet may be compacted soil. Soil must be mounded immediately adjacent to the pole to direct the water away from the pole.

Guy wires must be anchored with concrete. Exceptions and alternate pole installation techniques may be approved by the USACE under some circumstances, but only after appropriate engineering review.

The minimum clearance allowed between the levee crown and the lowest point of the proposed utility wire crossing must meet the most recent National Electric Code and Standards.

During regular levee maintenance, which is typically performed by the Levee Sponsor (but see Paragraph 6.1, above), ensure that:

- Poles near the levee do not deteriorate and create holes in the impervious layer;
- Poles near the levee do not lean or fall over and cause utility lines or poles to interfere with levee inspections, operations, maintenance, or flood-fighting;
- The bases of the poles are kept clear of debris;
- Any necessary supports or anchors are maintained to prevent overturning by wind or water;
- Needed repairs are completed as soon as possible.

The total disturbance area for the proposed alteration work must not exceed 1 acre associated with utility posts/poles and no more than 25 new utility posts/poles that penetrate the levee surface.

FISH SCREENS

This RCP category covers fish screens and all associated facilities as described and subject to the conditions in Section 7.1.1.

Additionally, if piles must be placed in the levee or the riverbank near the levee to support the fish screen structure, those piles must be auger cast to the bottom of the impervious layer in the levee foundation. Beyond that point, piles may be driven.

The total disturbance area for fish screen and any support facilities must not exceed 1 acre.

HORIZONTAL DIRECTIONAL DRILLING (HDD)

This RCP category covers the installation of utility lines installed via HDD consistent with USACE ER 1110-1-1807, *Drilling in Earth Embankment Dams and Levees*, current edition. In general, the entry and exit points of the HDD pipe must be located no less than 300 feet from the landside toe of the levee.

Subsurface information to determine soil stratigraphy along the proposed directional drilling alignment must be provided. Pertinent information may also be obtained from the design documents of the flood risk management project.

Other information necessary for USACE review includes:

- Pipe material (e.g., concrete, steel), length, diameter, wall thickness;
- Proposed method for monitoring drilling fluids, including drilling fluid type;
- Proposed method for monitoring ground surface movement (settlement or heave) caused by the drilling operation.

The pumping rate, pressure at the drill rig, pressure in the annular space behind the drill bit and viscosity of drilling fluid must be monitored during drilling. In addition, as appropriate, density during the pilot bore, back reaming, and/or pipe installation stages must be monitored. Drilling mud pressure in the borehole must not exceed levels that can be supported by the levee foundation soils to prevent heaving or hydraulic fracturing of the soil.

Positive closure devices must be included on pipes that carry liquids and gasses and penetrate the foundation of the levee.

A contingency plan must be submitted with the Section 408 application and, at a minimum, include procedures for the following:

- How to contain, clean up, and repair areas subject to spills of drilling or hydraulic fluids;
- How, when, and to whom to report information of impending danger to the flood risk management project;
- Who is responsible for monitoring the river stage;
- Whom to contact for all other levee-related emergency notifications.

The requester is responsible for the restoration of a levee damaged by hydrofracturing or any other aspect of the directional drilling operation. Plans for restoration or repair work must be approved before the repair work begins.

If a drill hole beneath a levee must be abandoned, the hole must be backfilled and disturbed area restored in accordance with USACE appropriate technical guidance.

The total disturbance area for the proposed alteration work must not exceed 5 acres.

7.2 CATEGORY 2 - VERTICAL DRILLING ACTIVITIES

This RCP category covers installation, development, maintenance, and abandonment of vertical features such as geophysical or geotechnical investigation borings, measurement devices (i.e., monitoring wells and piezometers), and foundation work (i.e., piles, caissons, drilled shafts, and footings).

7.2.1 NON-LEVEE PROJECTS

This RCP category covers vertical drilling features with a maximum of 25 geotechnical borings, measurement devices, and foundations per proposed alteration.

7.2.2 LEVEE PROJECT SPECIFIC

GEOTECHNICAL INVESTIGATIONS

This RCP category covers geotechnical investigations. Borings in or near the levee and/or the levee foundation requires a Drilling Program Plan in accordance with USACE ER 1110-1-1807, as part of the technical review of the proposed alteration.

All drilling must be designed to minimize the need for drilling fluid in levees and/or the levee foundations, reducing the possibility of damage.

The requester must discontinue drilling and place grout or bentonite seals in all open borings, trenches, and other excavations if the river approaches flood stage. Drilling or other explorations must not begin if the river is approaching flood stage. The requester must keep borehole sealing materials and equipment at the site before drilling begins, in preparation for unexpected river stage increases.

Open boreholes and excavations cannot be left unattended for more than 24 hours and all open boreholes must be sealed before leaving the construction site.

Boreholes that are awaiting backfill must be covered due to safety considerations.

The requester must verify that drilling equipment will not disrupt existing utilities.

The total disturbance area for the proposed alteration work must not exceed 25 vertical drilling features per proposed alteration.

7.3 CATEGORY 3 - DEVELOPMENT ACTIVITIES

This RCP category covers the construction and modification of development activities to include buildings (shelters, sheds, and outbuildings), appurtenances (dumpster and trash areas, decks, patios, storage containers and sites), decorative, recreational or aesthetic features (including signage/billboards, lighting, pools, ponds, fire pits, sculptures, fencing, cattle crossings, and retaining walls), access structures (including stairs, ramps, walkways, gangways, landings, and pads), landscaping activities (including trees, bushes, and other vegetation, soil grading, fill, and other structural geofforming), stormwater control features (including catch basins, energy dissipation measures, rip rap, and other BMPs), and related temporary construction activities (including staging areas, borrow areas, stockpiles, and access roads), as described and subject to the conditions below.

7.3.1 NON-LEVEE PROJECTS

BUILDINGS AND APPURTENANCES

This RCP category covers buildings (shelters, sheds, and outbuildings) and appurtenances (dumpster and trash areas, decks, patios, storage containers and sites).

New buildings and appurtenances authorized under this RCP category must not be used for human habitation. Modifications to existing habitable buildings can be allowed so long as the habitable area of the structure is not increased.

The total disturbance area for the proposed alteration work must not exceed 2 acres.

DECORATIVE, RECREATIONAL, OR AESTHETIC FEATURES

This RCP category covers decorative, recreational, or aesthetic features (including signage/billboards, lighting, pools, ponds, fire pits, sculptures, fencing, cattle crossing, and retaining walls) within the USACE Section 408 geographic jurisdiction as defined in USACE EC 1165-2-220, paragraph 9(a).

The total disturbance area for this proposed alteration must not exceed a total disturbance area of 100 square feet per ground penetration for a sign / billboard and a maximum of 25 new ground penetrations for light poles.

For swimming pools/ponds, fire pits, and sculptures the total disturbance area for the proposed alteration work must not exceed 2000 square feet.

For fencing and cattle crossings, the total disturbance area for the proposed alteration work must not exceed 1 acre.

For retaining walls, the total disturbance area for the proposed alteration work

must not exceed 2 acres.

ACCESS STRUCTURES, LANDSCAPING ACTIVITIES, STORMWATER CONTROL FEATURES, TEMPORARY CONSTRUCTION ACTIVITIES

This RCP category covers access structures (including stairs, ramps, walkways, gangways, landings, and pads), landscaping activities (including trees, bushes, other vegetation and soil grading, filling, and other structural geo-forming), stormwater control features (including catch basins, energy dissipation measures, rip rap, and other BMPs), bank stabilization, and related temporary construction activities (including staging areas, borrow areas, stockpiles, and access roads).

The total disturbance area for each of following proposed alterations covered under this categorial permission must not exceed the following:

- Access structures – 2 acres;
- Landscaping activities – 5 acres;
- Stormwater control features – 2 acres;
- Bank Stabilization – 3,000 linear feet;
- Bioengineered bank stabilization – 6,000 linear feet;
- Temporary construction activities – 5 acres.

7.3.2 LEVEE PROJECT SPECIFIC

BUILDINGS AND APPURTENANCES

This RCP category covers buildings (shelters, sheds, and outbuildings) and appurtenances (dumpster and trash areas, decks, patios, storage containers and sites).

New buildings and appurtenances authorized under this RCP category must not be used for human habitation. Modifications to existing habitable buildings can be allowed so long as the habitable area of the structure is not increased.

New buildings within 15 feet of the levee toe are not included in this RCP category. For buildings outside the levee embankment, but within 300 feet of the levee (typically on the waterside of the levee), the requester may be required to complete a geotechnical analysis that includes slope stability and seepage analyses to ensure that the proposed building does not pose a serious risk to the levee. If a geotechnical investigation is not possible, the following general guidance may be appropriate: add 10 feet of lateral distance from the levee toe for each foot of excavation. That is, at 10 feet from the toe, excavation is limited to one foot; 20 feet from the toe, two feet deep, and so on. A geotechnical analysis is not needed if the building is constructed on fill.

If an existing building or structure within the USACE Section 408 geographic jurisdiction as defined in USACE EC 1165-2-220, paragraph 9(a) is damaged due

to any cause and the cost of repair exceeds 50% of its market value, the building or structure may not be reconstructed or replaced without the approval of the non-federal sponsor. If a damaged building or structure is not repaired or replaced, the entire building or structure, including all associated materials, must be completely removed within a period of time not to exceed 6 months and the area restored so that there is no interference with the flood risk management project's function, operation, inspection, or flood-fighting.

Removals of existing structures are authorized by this RCP category, provided that the non-federal sponsor must be notified of the removal of any building that is within the levee easement. Following removal, the area must be restored to pre-building conditions by filling any hole(s) with compacted material similar to the adjacent soil.

The total disturbance area for the proposed alteration work must not exceed 2 acres.

DECORATIVE, RECREATIONAL, OR AESTHETIC FEATURES

Signage, Billboards and Lighting

This RCP category covers signage/billboards and lighting. Ground penetrations proposed under this RCP category must not exceed a total disturbance area of 100 square feet per ground penetration for a sign / billboard and a maximum of 25 new ground penetrations for light poles.

Swimming Pools and Ponds

This RCP category covers swimming pools and ponds. For swimming pools and ponds within 300 feet of the levee embankment, the requester may be required to provide a geotechnical analysis to ensure that the pool/pond will not pose an unacceptable risk to the levee.

A slope stability analysis and seepage analysis for both through-seepage and underseepage are also to be provided by the requester. If a geotechnical investigation, slope stability or seepage analysis are not possible, the following general guidance is recommended: add 10 feet of lateral distance from the levee toe for each foot of depth. That is, the pool/pond can be no deeper than 1 foot, 10 feet from the toe; 2 feet deep, 20 feet from the toe, and so on. To be conservative, use the pool's/pond's deepest proposed depth in the calculation. During construction of new in-ground pools or ponds, every precaution must be taken to avoid puncturing the impervious layer which could facilitate seepage and lead to sand boils and potential levee instability.

For existing in-ground landside swimming pools and ponds built within the USACE Section 408 geographic jurisdiction as defined in USACE EC 1165-2-220, paragraph 9(a), a geotechnical analysis is required to determine whether

the risks can be mitigated or whether the pool or pond must be removed. Pools and ponds must remain full to minimize the potential for buckling and slope failure.

Above-ground pools are prohibited in the levee easement area because they can obstruct levee operations, maintenance, and flood-fighting activities.

The maximum disturbance area for this proposed alteration must not exceed 2000 square feet.

Fencing

This RCP category covers fencing in which the following requirements apply when working within the levee easement:

- Fences must be constructed of durable, see-through materials (e.g., chain link, wrought iron, barbed wire) to ensure adequate levee visibility;
- Where the USACE and the non-federal sponsor determine appropriate, fences must include gates for access;
- All fences, including all pertinent features, on the waterside must be completely removable.

Gates must be wide enough to allow personnel, equipment, and/or vehicle access where appropriate. In general, swing gates are preferred to rolling gates. The USACE, non-federal sponsor, and local maintaining agency must be given keys to all gates that lead to the floodway, levee ramps, levee toes, and the levee crown. When required by the USACE, non-federal sponsor, or the local maintaining agency, gates must remain open for levee inspections, maintenance, construction, high water patrol, and flood-fighting. After each period of high water, all debris caught by fences must be cleared and disposed of by the requester outside the limits of the USACE Section 408 geographic jurisdiction as defined in USACE EC 1165-2-220, paragraph 9(a).

The maximum disturbance area for this proposed alteration must not exceed 1 acre.

Cattle Crossings

This RCP category covers cattle crossings that are greater than 15 feet from the levee toe. No livestock are permitted to be penned or corralled on the levee. Grazing practices must be discontinued if the USACE determines there is excessive damage to the levee. Native grasses (maximum 12-inch height) are acceptable on levees from a flood risk management perspective.

The USACE may require that non-compliant vegetation as well as all roots greater than a half inch in diameter be removed from the levee easement. Holes caused by removal of vegetation must be backfilled with suitable

material and compacted in 4- to 6-inch lifts to at least the same density and elevation as the adjacent undisturbed soil.

The maximum disturbance area for this proposed alteration must not exceed 1 acre.

Retaining Walls

This RCP category covers retaining walls within the levee embankment and toe in which the following must apply:

- Be constructed of reinforced concrete or equivalent durable material;
- Ensure proper drainage;
- Have a foundation adequate to prevent slides;
- Meet USACE requirements for stability demonstrated by appropriate modeling (including overturning, sliding, shear failure, global slope stability failure, seepage, and soil bearing capacity);
- Be designed by a licensed civil engineer regardless of height.

Retaining walls must not reduce the existing design flow capacity or the flowage area; if the intended wall is near the waterside or landside levee toe, a detailed geotechnical evaluation may be required. If a determination cannot be made of the impact of an existing retaining wall on the levee by visual inspection alone, a detailed geotechnical evaluation may be required.

Any excavation of the levee for installation of the retaining wall must be backfilled with material similar to the adjacent levee in 4- to 6-inch lifts and compacted to at least the same density and elevation as the adjacent undisturbed embankment or underlying foundation.

The maximum disturbance area for this proposed alteration must not exceed 2 acres.

ACCESS STRUCTURES, LANDSCAPING ACTIVITIES, STORMWATER CONTROL FEATURES, TEMPORARY CONSTRUCTION ACTIVITIES

This RCP category covers access structures (including stairs, ramps, walkways, gangways, landings, and pads), landscaping activities (including trees, bushes, other vegetation and soil grading, filling, and other structural geo-forming) stormwater control features (including catch basins, energy dissipation measures, rip rap and other BMPs except ponds), bank stabilization, and related temporary construction activities (including staging areas, borrow areas, stockpiles, and access roads).

Stairs and Handrails and Other Access Structures

This RCP category covers access structures. For stairs on USACE projects, federal Occupational Safety and Health Administration (OSHA)

rules apply. Stairs must be made of concrete, rock, brick, or other sufficiently durable inorganic materials. Wooden or wood-based products must not be used. Waterside stairs must be built into the levee, flush with the slope to avoid creating eddy currents in the adjoining channel. The profile of the stairs must not protrude above the face of the slope. Handrails are not allowed on the waterside levee slope or on the levee crown. No part of the stairs or its foundation may extend deeper than 12 inches into the levee.

The total disturbance area for the proposed stairs and handrail alteration work must not exceed 1 acre.

The total disturbance area for other access related structures alteration work (including ramps, walkways, gangways, landings, and pads) must not exceed 2 acres.

Landscaping Activities

This RCP category covers landscaping related activities. Native grasses (maximum 12-inch height) are acceptable on levees from a flood risk management perspective. Plantings are not permitted within 15 feet of the levee toes. The USACE may require that non-compliant vegetation as well as all roots greater than a half inch in diameter be removed from the levee easement. Holes caused by removal of vegetation must be backfilled with suitable material and compacted in 4- to 6-inch lifts to at least the same density and elevation as the adjacent undisturbed soil.

The total disturbance area for the proposed alteration work must not exceed 5 acres.

Agricultural Activities

This RCP category covers agricultural activities (including crops and orchard installation, installation of temporary or permanent irrigation lines) in which the permission coverage is limited to work on land previously used for agriculture (fallow fields, row crops, etc.) and does not cover conversion of native habitat to cultivated land. No crops or plantings are permitted within 15 feet of the levee toe.

The total disturbance area for the proposed alteration work must not exceed 350 acres.

Stormwater Control Features

This RCP category covers stormwater control features (including catch basins, energy dissipation measures, and other BMPs except ponds).

For pipes through levee systems, design and construction must be in accordance with USACE EM 1110-2-2902, current edition.

The total disturbance area for the proposed alteration work must not exceed 5 acres.

Bank Stabilization

This RCP category covers rock slope protection, such as riprap, and other types of erosion control and bank stabilization materials.

The following must be considered when determining the rock type and quality for proposed erosion control:

- Asphalt and other petroleum-based products, floatable and refuse material must not be used for erosion control on a levee or within a floodway;
- Riprap must be sound and durable, free from cracks, seams, shale parting, and soil material. The rocks must be blocky and angular and be relatively free from thin slab-like pieces. Deleterious substances which include soft, friable particles, gravels (3 inches and smaller), inappropriate materials, and other foreign matter must not exceed 5% of the total material placed for erosion control;
- Riprap must be obtained from appropriate sources, which must be disclosed in the request;
- Other types of erosion control, such as bioengineering, are encouraged.

The following must be considered regarding the method for placing riprap:

- Rocks must be placed to full layer thickness measured normal to the slope by any method that will avoid segregation by rock size and avoid displacing the underlying material, consistent with USACE EM 1110-2-1913;
- The finished revetment must be free of pockets of small or large rocks. Larger rocks must be well distributed throughout;
- All rocks must be contained reasonably well within the riprap layer to provide maximum resistance against erosion;
- Abrupt bank line changes must be avoided;
- Rocks must not be grouted.

For bank stabilization projects (including revetment, bulkhead, biotechnical, vegetated / natural) included in this RCP category, the total disturbance length must not exceed 3,000 linear feet (6,000 linear feet for bioengineered bank stabilization), and the total disturbance area including temporary access and construction areas must not exceed 5 acres.

Related Temporary Construction Activities

This RCP category covers temporary construction activities (including staging

and borrow areas, stockpiles, and access roads) near the levee. These activities require a geotechnical investigation to determine if the proposed borrow activity would increase seepage beneath the levee or expose soils susceptible to erosion. Special geotechnical requirements may apply to borrow areas proposed near a bridge, riverbank, pipeline or cable crossing beneath the channel, or a water control structure (e.g., a weir).

The minimum distance of the borrow area to the levee toe is 300 feet. A geotechnical investigation is required before initiating any borrow activity within the USACE Section 408 geographic jurisdiction as defined in USACE EC 1165-2-220, paragraph 9(a).

If the borrow material will be used to build or modify a levee, the borrow area must be cleared and grubbed to the extent needed to obtain fill material free of inappropriate matter including any type of vegetation. The proposed borrow area must not contain riparian habitat or woody vegetation. The borrow site must be revegetated with native species or returned to the previous use after material is removed.

Waterside borrow areas must be designed to fill slowly on a rising river and drain fully on a falling river. The borrow area must have side slopes of 3H:1V or flatter and a bottom that is sloped to drain away from the levee in a downstream direction. No ponding is permitted at the levee toe.

Excavation depth is determined by factors such as (1) depth to groundwater, (2) location of undesirable borrow material, (3) preservation of an adequate thickness of impervious layer, and (4) environmental considerations. An impervious layer of the thickness determined by geotechnical analysis must be left at the bottom of the borrow area in locations where the seepage gradients are critical.

Areas that contain soils exhibiting hazardous or toxic characteristics, even if naturally occurring, must not be used for borrow material. Areas where known historic or cultural resources are located or where removal of material may adversely affect endangered and threatened species must not be used for borrow.

Borrow areas must be located far enough away from the channel to prevent migration of water into the borrow area.

Borrow-related materials and equipment must not be stored:

- On the levee or within the waterside or landside easements;
- In a way that could destabilize the riverbank;
- Within the river flowage area during flood season;
- In a way that could impede access to the levee.

Levee patrolling, operation, maintenance, and flood-fighting take precedence over borrow-related hauling operations.

The levee must not be used as a staging area or for stockpiles for any alteration.

The total disturbance area for the proposed alteration work must not exceed 5 acres.

7.4 CATEGORY 4 – LINEAR TRANSPORTATION ACTIVITIES

This RCP category covers the construction, maintenance, modification, or removal of linear transportation projects such as roads and driveways (including crossings, culverts, ditches, canals, roadway markings, guard railings, ramps, noise barriers, shoulders, sidewalks), bridges (including pedestrian, recreational, vehicular, railroad), and recreational trails (including pedestrian, bicycle, and other off-road vehicles) within the USACE Section 408 geographic jurisdiction as defined in USACE EC 1165-2-220, paragraph 9(a).

7.4.1 NON-LEVEE PROJECTS

This RCP category includes linear transportation projects and would only be permitted if the proposed alterations do not impair the usefulness of the existing USACE Civil Works project.

The total disturbance areas for each of following proposed alterations covered under this categorial permission must not exceed the following:

- Roads and driveways – 5 acres;
- Bridges – 5 acres;
- Recreational Trails – 2 miles.

7.4.2 LEVEE PROJECT SPECIFIC

ROADS, DRIVEWAYS, AND RECREATIONAL TRAILS

This RCP category includes roads, driveways and recreational trails. In preparation for construction, the levee crown must not be excavated beyond minimal stripping. The stripped crown must be proof rolled to check for imperfections before placing aggregate for the trail or road subbase. To facilitate construction, all vegetation must be removed from the levee crown to a width two feet beyond the intended trail/road width.

For roads and driveways, the total disturbance area for the proposed alteration work must not exceed 5 acres.

For recreational trails, the total disturbance area for the proposed alteration work must not exceed 2 miles.

Culverts, Ditches, Canals

This RCP category includes culverts, ditches, and canals associated with roads, driveways, or recreational trails, which are located outside the levee embankment. The requester must prepare a geotechnical analysis including seepage (through and underseepage) analysis and stability analysis to

determine an appropriate location and depth proposed for the drainage feature. Levees must meet requirements of USACE EM 1110-2-1913 following construction of ditches or canals.

The requester must take every precaution to avoid puncturing the impervious layer during construction. An alternative option may be to line the drainage feature with concrete. The concrete must be placed on a drainage layer to prevent it from cracking due to uplift. Weep holes must be added to the concrete lining to relieve any pressure buildup. Other accommodations may be necessary to prevent damage to the levee from underseepage.

Drainage features must be maintained to ensure that the feature is not obstructed by heavy vegetation growth or sedimentation. Ditches must be cleared at regular intervals to restore the original channel design, grade, and cross section. Concrete-lined canals must be routinely inspected for worn joint seals and damage to the concrete or weep holes to ensure they are functioning as designed.

If a ditch is to be filled, the area must be restored by filling the depression in 4- to 6-inch lifts with compacted material similar to the adjacent soil and at the same elevation as the adjacent soil. The requester is responsible for repairing any damage to the levee caused by removal of the ditch.

The maximum length of culverts, ditches, and canals covered under this RCP category is 3,000 linear feet, and the total disturbance area for the proposed alteration work must not exceed 5 acres.

BRIDGES

This RCP category covers bridges in which the construction and use does not compromise the structural integrity of the levee or flow capacity of the adjacent river channel. Drainage from the bridge must be directed away from the levee and channel bank. Adequate bank protection must be placed upstream, downstream, and under the bridge.

The area in and around the construction site must be kept clear to prevent erosion and/or a reduction in channel capacity. The requester must prepare a scour analysis if bridge piers are proposed in the channel. The requester must prepare a slope stability analysis for review by the USACE for any modification(s) to the levee. Excavation of the levee crown that causes depression(s) is prohibited.

Piers and pile bents must be parallel to channel flow. No pile driving is allowed in the levee, but piles may be auger cast/cast-in-drilled-hole to the bottom of the impervious layer. Analysis of debris loading is required for piers and piles. The USACE may require debris deflectors be placed on bridge piers and pile bents.

Survey control point(s) installed along the levee crown prior to construction may be necessary for monitoring levee elevation and cross section. The requester must repair any changes to the levee crown elevation or cross section.

Necessary bridge maintenance is the responsibility of the requester and includes, but is not limited to, debris removal and inspections. Maintenance activities cannot impede access to the flood risk management project. Damage to a bridge or debris accumulation that threatens channel capacity must be repaired or removed prior to the next flood season.

If the requester proposes to replace a bridge, the existing structure must be completely removed and disposed of outside the floodway and levee easement. When an existing bridge is to be widened, the new bridge piers and bents must be installed in line with existing piers and bents.

The total disturbance area for the proposed alteration work must not exceed 5 acres.

7.5 CATEGORY 5 – WATER-BASED ACTIVITIES

This RCP category covers the installation, maintenance, replacement, modification, and removal of activities incident to water-based development, such as access structures (including piers, docks, mooring buoys and dolphins, boat hoists, boat storage), protective structures (including dolphins, fenders, and piles), aids to navigation, removal of wrecks and obstructions, maintenance dredging to previously authorized depths or controlling depths for ingress/egress, whichever is less.

7.5.1 NON-LEVEE PROJECTS

The RCP category covers water-based developments, such as access structures, protective structures, aids to navigation, removal of wrecks and obstructions, and maintenance dredging.

The total disturbance area for this proposed alteration must not exceed 4,000 square feet. Dredging is covered to previously authorized depths or controlling depths for ingress/egress, whichever is less.

7.5.2 LEVEE PROJECT SPECIFIC

ACCESS STRUCTURES

For water-based access structures that penetrate more than 12 inches into the levee, a seepage and stability analysis must be completed. This analysis must demonstrate that the footings will not have a negative effect on the levee. Grated gangways are recommended because they allow easy visual inspection of the levee. The requester must demonstrate that the dock design will prevent debris from accumulating at the dock. Possible ways to prevent the accumulation of debris include adding a debris deflector or removing the gangway during flood season. After each period of high water, all debris caught by the boat dock must be removed and disposed of outside the limits of the USACE Section 408 geographic jurisdiction as defined in USACE EC 1165-2-220, paragraph 9(a). If material must be added by the requester to the levee crown (e.g., to cover a concrete footing), the added material must be sloped at a ratio of 10H:1V horizontal to vertical, in the upstream/downstream direction to prevent a “speed bump” effect and facilitate vehicle access.

In the event that levee or bank erosion injurious to the levee occurs at or adjacent to the dock, the eroded area must be repaired with adequate bank protection to prevent further erosion. Any damage caused to the levee by removal or modification of a dock must be repaired as part of the removal or construction process.

No part of the floating platform or pilings may penetrate into the levee or be within 15 feet of the waterside levee toe. However, gangway supports may be located

within the levee embankment. The dock anchoring must be sufficient to prevent the dock from floating into the channel during high water.

The total disturbance area for the proposed alteration work must not exceed 4,000 square feet.

PROTECTIVE STRUCTURES

This RCP category covers protective water-based structures such as dolphins, fenders, and piles in which the total number of new individual structures must not exceed 25.

7.6 CATEGORY 6 – OPERATIONS, MAINTENANCE AND SAFETY IMPROVEMENTS TO FEDERAL PROJECTS

This RCP category covers any proposed alterations to improve operations, maintenance, or safety at a USACE Civil Works project.

7.6.1 NON-LEVEE PROJECTS

This RCP category covers alterations that improve operations, maintenance, or safety at a USACE Civil Works project in which the total disturbance areas does not exceed 2 acres. Examples include installing safety hardware on navigation structures such as piers, installing reference signs such as mileposts on trails at ecosystem restoration projects to aid in emergency response.

7.6.2 LEVEE PROJECT SPECIFIC

PUMP STATIONS

This RCP category covers the installation, modification, and replacement of water supply or discharge pump stations and associated facilities. A geotechnical report that includes a seepage and stability analysis may be required. Positive closure devices are required and must be accessible from the waterside hinge point.

Operation and maintenance of the pump station must ensure that (a) the pump continues to function properly and (b) it does not pose a threat to the levee.

The total disturbance area for the proposed alteration work must not exceed 5 acres.

SEEPAGE AND STABILITY BERMS

This RCP category covers the construction, modification, and replacement of seepage and stability berms within the USACE Section 408 geographic jurisdiction as defined in USACE EC 1165-2-220, paragraph 9(a). The construction site must be cleared and grubbed to a sufficient depth to remove vegetation, roots, and soil containing roots. This material must be removed from the USACE Section 408 geographic jurisdiction as defined in USACE EC 1165-2-220, paragraph 9(a) and must not be used as fill. The resulting ground surface in the area(s) where the berm is to be located must be scarified to a depth of at least six inches or the full depth of shrinkage cracks, whichever is deeper. If soft or yielding soils are encountered during subgrade preparation, they must be scarified, moisture-conditioned, and compacted or removed by excavation to expose firm, competent soil.

Berms must be constructed of material that is as permeable as, or more permeable, than the adjacent existing ground and designed in accordance with USACE standards. Seepage and stability berms may be drained or undrained.

Both berm types must be constructed at a 2% minimum slope to drain surface water away from the berm and the levee.

Proper maintenance of berms by the non-federal sponsor is necessary to ensure continued competency of the berm and associated levee. The Requester is responsible for preparing updates to the OMRR&R manual, and as required by USACE EC 1165-2-220, the non-federal sponsor must agree in writing to accept these future OMRR&R obligations.

The total disturbance area for the proposed alteration work must not exceed 10 acres.

OTHER REMAINING ITEMS

For all other alterations listed under this category, this RCP category covers disturbance areas that do not exceed 2 acres.

7.7 CATEGORY 7 – ACTIVITIES MEETING A USACE CATEGORICAL EXCLUSION FROM NEPA

Activities meeting the following USACE-promulgated categorical exclusions from the National Environmental Policy Act (NEPA):

- 33 CFR 230.9(b): Activities at completed Corps projects which carry out the authorized project purposes;
- 33 CFR 230.9(c): Minor maintenance dredging using existing disposal sites;
- 33 CFR 325 Appendix B Paragraph 6(a)(1): Fixed or floating small private piers, small docks, boat hoists and boathouses;
- 33 CFR 325 Appendix B Paragraph 6(a)(2): Minor utility distribution and collection lines including irrigation;
- 33 CFR 325 Appendix B Paragraph 6(a)(4): Boat launching ramps.

7.8 CATEGORY 8 – ENVIRONMENTAL RESEARCH, MEASUREMENT, OR ENHANCEMENT ACTIVITIES

This RCP category covers research, measurement, restoration, establishment, or enhancement of the environment with activities such as habitat improvement activities (green breakwaters, fish habitat structures, bird nesting features, floating gardens, and reestablishment of aquatic vegetation) and research and monitoring purposes (including wildlife tracking equipment and observation blinds).

7.8.1 NON-LEVEE PROJECTS

This RCP category covers alterations associated with enhancement of the environment including floating structures such as floating gardens and trash collectors on authorized navigation channels with no permanent pilings, additions of material with different textures and/or sizes to increase fish and wildlife habitat on federal breakwaters and similar navigation structures, submerged fish habitat structures in areas outside of designated navigation channel limits, and reestablishment of aquatic vegetation and ecologically-appropriate shoreline or streambank restorations outside of designated navigation channel limits.

The total disturbance area must not exceed 500 acres, or the total length of channel disturbance must not exceed 5,000 linear feet.

RESEARCH AND MONITORING

This RCP category covers the installation, operation, and replacement of scientific devices whose purpose is to measure and record data, to include but not limited to staff gauges, tide and current gauges, meteorological stations, water quality and chemical and biological observation devices. Monitoring wells, piezometers, and other vertical drilling activities are covered in Category 2.

Also covered by the RCP category are sonar, seismic, and other acoustic surveys, including installation, operation, replacement, and removal of equipment. Monitoring and exploration for natural resources are included. Fish and wildlife harvesting, enhancement, and study activities are covered, including fyke and screw fish traps, electrofishing, and netting.

All installation and operation must be designed to minimize adverse effects to the federal project and environment. For example, floating measuring devices must be securely anchored or tethered; deployment must be for the shortest time possible to achieve the desired goal; for longer term projects/research, regular inspections are necessary to ensure that the device(s) remain serviceable and intact. A device inspection schedule and a plan for navigational aids must be provided.

Upon completion of monitoring, the measuring device(s) and any associated structures and equipment (e.g., foundations, anchors, buoys, and lines) must be removed and the site restored to pre-alteration conditions.

To prevent damage to sensitive environmental areas, heavy equipment (e.g., backhoes) required for research and monitoring activities is not allowed without protection measures such as timber mats or low-pressure equipment in sensitive environmental areas when heavy rainfall has occurred or if the ground is saturated.

The requester must verify that monitoring devices and associated equipment would not disrupt overhead wires or interfere with the public's access to navigation and/or recreation.

7.8.2 LEVEE PROJECT SPECIFIC

This RCP category covers research and monitoring as described and subject to the conditions in Paragraph 7.8.1 above.

The total disturbance area for the proposed alteration work must not exceed 2 acres.

7.9 CATEGORY 9 – RESOLUTION OF ENFORCEMENT ACTIONS

This RCP category covers alterations of a USACE Civil Works project remaining in place that resulted from unauthorized activities and/or alterations resulting from activities undertaken for mitigation, restoration, or environmental benefit, in compliance with the conditions set forth in one of the two following sub-categories.

7.9.1 NON-JUDICIAL SETTLEMENTS

The terms of a final written USACE non-judicial settlement agreement resolving a violation of Section 14 of the Rivers and Harbors Act of 1899 or its implementing regulations, provided that:

- a. The total disturbance area for the alteration authorized by this RCP category must not exceed 5 acres;
- b. The settlement agreement provides for environmental and/or USACE Civil Works project-related benefits, to an equal or greater degree, than the environmental and/or USACE Civil Works project-related detriments caused by the unauthorized alteration that is authorized by this RCP category; and
- c. The District Engineer issues a validation letter authorizing the alteration subject to the terms and conditions in the validation letter, this RCP, USACE EC 1165-2-220, and the settlement agreement, including a specified completion date.

7.9.2 JUDICIAL SETTLEMENTS

The terms of a final federal court decision, consent decree, or other judicial settlement agreement resulting from an enforcement action brought by the United States under Section 14 of the Rivers and Harbors Act of 1899.

Non-compliance with the terms and conditions of this RCP category or its associated validation may result in an additional enforcement action, including criminal penalties. Any authorization under this RCP category is automatically revoked if the requester does not comply with the terms of this RCP category or the terms of the court decision, consent decree, or judicial/non-judicial settlement agreement. This RCP category does not apply to any alterations occurring after the date of the decision, decree, or agreement that are not for the purpose of mitigation, restoration, environmental benefits, or USACE Civil Works project-related benefits. Before reaching any settlement agreement, the Corps will ensure compliance with the provisions of USACE EC 1165-2-220, as updated or amended.

DIVISION COMMANDER DECISION:

I have reviewed this regional categorical permission and determined that the proposed alterations and verification of the technical reviews, and the validation and decision process is consistent with USACE guidance. This regional categorical permission is effective immediately for all current and future qualifying alterations.

I hereby delegate authority to the District Engineers in LRD to validate that a Section 408 request is consistent with this categorical permission and to authorize the requested alterations under this categorical permission within their respective geographical areas of responsibility. I also delegate authority to the District Engineers to disqualify a proposed alteration from coverage under this categorical permission. The District Engineer may further delegate this authority to his/her designee in accordance with EC 1165-2-220 Para 8(d).

MARK C. QUANDER
Brigadier General, USA
Commanding

ENCLOSURE 2
Regional Categorical Permission
Programmatic Environmental Assessment



U.S. Army Corps of Engineers

Final Programmatic Environmental Assessment

Regional Categorical Permission for Section 408 Requests – NEPA Compliance

**United States Army Corps of Engineers
Great Lakes and Ohio River Division**

Prepared by
U.S. Army Corps of Engineers
Great Lakes and Ohio River Division
550 Main Street
Cincinnati, OH 45202

September 2023

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Appendix D – Draft Programmatic EA Distribution List
Appendix E – Draft Programmatic EA Public Notice and Public Responses

LIST OF ACRONYMS

ARPA	Archaeological Resources Protection Act	NRCS	Natural Resources Conservation Service
BMP	Best Management Practice	NRHP	National Register of Historic Places
BNSF	Burlington Northern Santa Fe	OSHA	Occupational Safety and Health Administration
CAA	Clean Air Act	PL	Public Law
CEQ	Council on Environmental Quality	ppt	Parts Per Thousand
CFR	Code of Federal Regulations	SAR	Safety Assurance Review
CP	Categorical Permission	SHPO	State Historic Preservation Office
CTA	Chicago Transit Authority	THPO	Tribal Historic Preservation Office
CWA	Clean Water Act	TMDL	Total Mass Daily Load
CZMA	Coastal Zone Management Act	UP	Union Pacific
dB	Decibel	USACE	U.S. Army Corps of Engineers
dBA	Decibel A-Weighted	USC	United States Code
EA	Environmental Assessment	USEPA	U.S. Environmental Protection Agency
EC	Engineering Circular	USFS	U.S. Forest Service
EIS	Environmental Impact Statement	USFWS	U.S. Fish and Wildlife Service
EM	Engineer Manual		
EO	Executive Order		
ER	Engineering Regulation		
ERS	Economic Research Service		
ESA	Endangered Species Act		
FHWA	Federal Highway Administration		
FPPA	Farmland Protection Policy Act		
FWCA	Fish and Wildlife Coordination Act		
HQUSACE	Headquarters U.S. Army Corps of Engineers		
LMA	Local Maintaining Agency		
NAAQS	National Ambient Air Quality Standards		
NAGPRA	Native American Graves and Repatriation Act		
NEPA	National Environmental Policy Act		
NHL	National Historic Landmark		
NHPA	National Historic Preservation Act		
NPDES	National Pollutant Discharge Elimination System		
NMFS	National Marine Fisheries Service		

FINAL PROGRAMMATIC ENVIRONMENTAL ASSESSMENT
REGIONAL CATEGORICAL PERMISSION FOR SECTION 408 REQUESTS –
NEPA COMPLIANCE
United States Army Corps of Engineers
Great Lakes and Ohio River Division

September 2023

1.0 PURPOSE OF AND NEED FOR ACTION

1.1 INTRODUCTION

There are numerous United States Army Corps of Engineers (USACE) civil works projects within the boundaries of the Great Lakes and Ohio River Division (LRD). These projects have been federally authorized by the U.S. Congress; after construction, some are turned over to a non-federal sponsor to operate and maintain. Project purposes include navigation, flood risk management, ecosystem restoration, emergency response, recreation, hydropower, and water supply. The LRD’s civil works boundary includes portions of the states of Minnesota, Wisconsin, Illinois, Indiana, Michigan, Ohio, Pennsylvania, New York, Maryland, West Virginia, Virginia, North Carolina, Kentucky, Tennessee, Georgia, Alabama, and Mississippi (Figure 1). Districts within LRD include Buffalo District, Chicago District, Detroit District, Huntington District, Louisville District, Nashville District, and Pittsburgh District.

Each year the seven USACE districts within LRD receive numerous requests from private, public, tribal, or other federal entities (requesters) to alter USACE federal projects pursuant to Section 14 of the Rivers and Harbors Act of 1899, as amended, codified at 33 United States Code (U.S.C.) 408 (Section 408). When a District receives a request to alter a USACE project, the District follows a review and approval process outlined in the 2018 Engineering Circular (EC) 1165-2-220, *Policy and Procedural Guidance for Processing Requests to Alter US Army Corps of Engineers Civil Works Projects Pursuant to 33 U.S.C. 408*. This process can be lengthy; to help streamline the review process, EC 1165-2-220 states that USACE can develop categorical permissions at the district, division, or headquarters levels to cover potential alterations that are “similar in nature and that have similar impacts to the USACE project and the environment.”

The LRD proposes to implement a regional categorical permission (RCP) to streamline the districts’ review processes for requests for minor alterations to USACE projects within several states within the civil works boundary of LRD. Alterations that are reviewed under the RCP will still receive the same technical review and historic preservation and tribal consultations as they would without an applicable RCP. The USACE can expedite and streamline qualifying reviews under the RCP by eliminating the need for alteration-specific public notices and review plans, and by programmatically making certain findings under the National Environmental Policy Act (NEPA). The process starts with a request like all other alterations and ends with a validation letter that serves as the final Section 408 authorization for the project alteration.

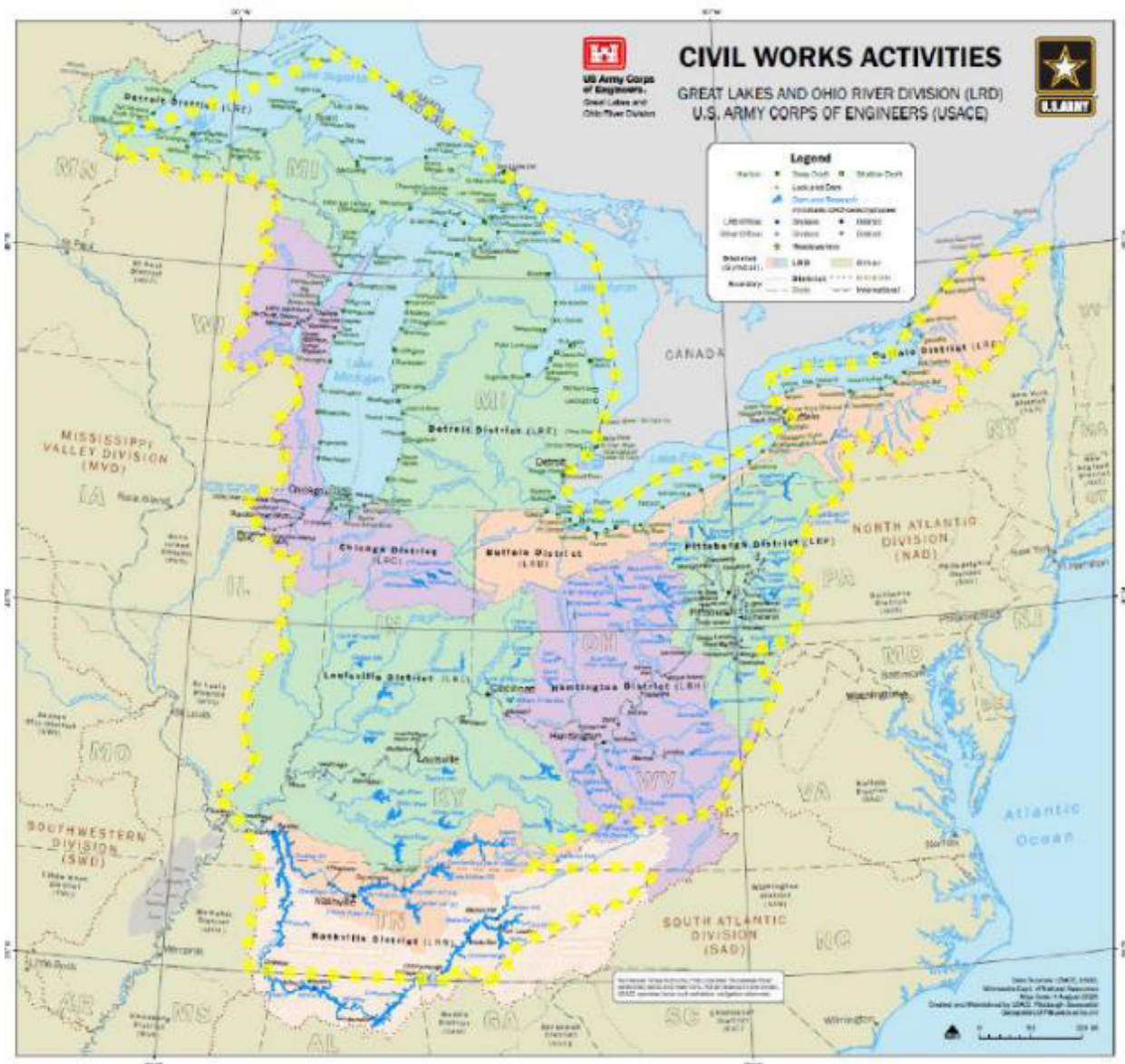


Figure 1. USACE LRD Civil Works Boundary.
The geographic scope of the RCP is shown in a dashed yellow line.

In order to address the potential environmental impacts of implementing a RCP, as required under NEPA of 1969, as amended (42 U.S.C. 4321 *et seq.*), USACE has prepared this Programmatic Environmental Assessment (PEA) following the Council on Environmental Quality (CEQ), NEPA Regulations (40 Code of Federal Regulations [C.F.R.] 1500-1508), USACE Engineer Regulation (ER) 200-2-2 (33 C.F.R. 230), and CEQ guidance on the *Effective Use of Programmatic NEPA Reviews* (CEQ, 2014).

1.2 33 U.S.C. SECTION 408 AUTHORITY AND GUIDANCE

The authority to grant permission for temporary or permanent use, occupation, or alteration of any USACE federally authorized project is contained in Section 14 of the Rivers and Harbors Act of 1899, as amended, codified at 33 U.S.C. 408 (Section 408). Section 408 authorizes the Secretary of the Army, on the recommendation of the Chief of Engineers, to grant permission for the alteration, occupation, or use of a USACE project if the Secretary determines that the activity will not be injurious to the public interest and will not impair the usefulness of the project. An alteration is “any action by any entity other than USACE that builds upon, alters, improves, moves, obstructs, or occupies an existing USACE project” (EC 1165-2-220). Section 408 authority only applies to alterations proposed within the lands and real property interests identified and acquired for the USACE project and to lands available for USACE projects under the navigation servitude. According to EC 1165-2-220, “[m]aintenance and repair activities conducted by non-federal sponsors on the USACE project for which they have operation and maintenance responsibilities do not require Section 408 permission but may require coordination or concurrence from the USACE district.” The Secretary of the Army’s authority under Section 408 has been delegated to the USACE, Chief of Engineers. Within USACE, the Chief of Engineers has further delegated the authority to the Directorate of Civil Works, Division Commanders, and District Commanders depending upon the nature of the proposed activity.

In EC 1165-2-220, USACE has issued a policy and guidance for processing Section 408 requests. EC 1165-2-220 clarifies that a decision on a Section 408 request is a federal action, subject to NEPA and other environmental compliance requirements. Additionally, EC 1165-2-220 outlines the options for requesting Section 408 permission and the process by which Section 408 requests will be reviewed. A USACE review team will review the Section 408 request and determine if the proposed alteration would impair the usefulness of the project, be injurious to the public interest, and if the proposal meets all legal and policy requirements. The review team will determine if the proposed alteration would limit the ability of the USACE project to function according to its authorized purpose, or would compromise or change any authorized project conditions, purposes, or outputs. For an alteration to be approved, the requestor must demonstrate that the alteration does not impair the usefulness of the federally authorized project. The decision whether to approve an alteration will be determined by the consideration of whether benefits are commensurate with risks. Following the technical review, the relevant district will develop a Summary of Findings (content and format scalable to the alteration) to summarize the district rationale and conclusions for recommending approval or denial.

When processing Section 408 requests where the decision will be made at the relevant district level, the relevant district currently implements single-phased reviews in the following way:

- Section 408 requests are submitted by the non-federal sponsor or a third party to the relevant district 408 Coordinator.

- The Section 408 Coordinator conducts an initial review of the request package and determines what technical reviews are needed.
- A Public Notice is issued for all proposed alterations as required by EC 1165-2-220.
- Environmental technical reviews for all relevant federal laws are conducted or coordinated by USACE natural resource specialists.
- All requests that require a levee safety review are sent to the relevant district's Levee Safety Section for a technical review.
- All requests that require a hydraulics review are sent to the relevant district's Hydraulics Section for a technical review.
- Once all technical reviews are complete, the 408 Coordinator prepares a summary of findings, and compiles the engineering technical reviews and environmental compliance documentation into a routing package.
- The routing package is reviewed and signed by the appropriate USACE supervisory officials, with the final decision made by the District Commander. Current guidance allows for the relevant District Commander to delegate decision authority for Section 408 alterations to a Supervisory Division Chief in the District.
- Following signature of the Section 408 permission letter, the final notification is typically transmitted to the requestor via email and/or mail.

1.3 PURPOSE OF AND NEED FOR DECISION

The seven districts within LRD receive numerous Section 408 requests each year. Some of these requests are determined to be located on non-federally authorized projects; however, many are located on USACE projects. Most of these requests are for relatively minor alterations to the project, such as installation of a sidewalk, horizontal directional drilling for the placement of utility lines, and private recreational docks. Many of the project descriptions for proposed alterations are similar and the effects on the project and the environment tend to be minor or negligible. However, the current review and decision-making process is time and labor intensive, and the review process for many Section 408 requests for minor alterations could be more efficient. The purpose and need for the proposed action is to streamline the review process of Section 408 requests for minor alterations that are similar in nature and have similar less than significant impacts, both individually and cumulatively, to USACE projects and the environment.

1.4 SCOPE OF THE DECISION TO BE MADE

The alternatives being considered are to continue with the current process of reviewing Section 408 requests, as described in Section 1.2 of this PEA, or to approve a RCP to streamline the review process of Section 408 requests that fit under one or more of the 9 types of alteration categories described in Section 2.3 of this PEA. The LRD's area of responsibility covers a wide geographic area as described above and depicted in Figure 1. The geographic scope of the decision to be made or the federal action under consideration is limited to USACE projects within the following states or commonwealths in LRD's boundaries: Illinois, Indiana, Kentucky, Michigan, New York, Ohio, Pennsylvania, Tennessee, West Virginia, and Wisconsin. The decision would not apply to civil works projects within the following states or commonwealths in LRD's

boundary — Alabama, Mississippi, Georgia, North Carolina, Maryland, Minnesota, and Virginia — or to any other USACE Division. The decision would only apply to federally authorized levees, channel modification projects, ecosystem restoration projects, dredging projects, and navigation projects. The temporal scope is five years; after five years the decision would be reevaluated and may be renewed or revised, if appropriate.

1.5 SCOPING AND ISSUES

Per NEPA requirements and USACE guidance in EC 1165-2-220, two separate public notices were prepared (Appendix C and Appendix E). The first public notice was a project scoping notice and described the alternatives, the activities covered by the proposed RCP, and the potential environmental effects. The second public notice was a notice of availability of the Draft RCP/PEA for public review and comment. The scoping public notice was posted on the seven district websites located within LRD from March 14, 2022, through April 13, 2022. The second public notice was posted on the seven district websites located within LRD from July 5, 2023, through August 4, 2023.

Members of the public who had previously self-identified as having interest in USACE permitting actions in Illinois, Indiana, Kentucky, Michigan, New York, Ohio, Pennsylvania, Tennessee, West Virginia, or Wisconsin were notified by email of each public notice location on LRD's website [<https://www.lrd.usace.army.mil/Missions/Public-Services/Section-408/>] and invited to comment. Additionally, state and federal agencies, tribes, city and county governments, reclamation districts, local maintaining agencies (LMAs), flood control districts, special interest groups, nonprofit organizations, and other potentially interested entities were notified of the public notices.

Specifically, the following federal agencies were notified: National Oceanic and Atmospheric Agency – National Marine Fisheries Service, U.S. Coast Guard (USCG), U.S. Environmental Protection Agency (USEPA), U.S. Fish and Wildlife Service (USFWS), U.S. Forest Service (USFS), Federal Emergency Management Agency (FEMA), and Natural Resources Conservation Service (NRCS). For a list of state agencies and tribal nations notified refer to Appendix B.

USACE received 19 responses to the March 14, 2022, through April 13, 2022, public notice. Agencies that provided comments included Monroe County Department of Transportation [New York]; Pennsylvania Department of Transportation; Bradford District Flood Control Authority [Pennsylvania]; Metropolitan Water Reclamation District of Greater Chicago; USEPA, Region 5; New York Department of Natural Resources; Kentucky Division of Water; and Ohio Department of Transportation. Of the 19 responses received, 10 were from the following Tribal Nations—Eastern Shawnee Tribe, Little Traverse Bay Bands of Odawa Indians, Miami Tribe of Oklahoma, Nottawaseppi Huron Band of the Potawatomi, Osage Nation, Peoria Tribe of Indians of Oklahoma, Pokégnek Bodéwadmik Pokagon Band of Potawatomi, and Winnebago Tribe of Nebraska. The comments in their entirety can be found in Appendix C.

During scoping, the project delivery team (PDT) identified issues associated with the following fourteen resources: air quality, noise, water quality, physiography and soils, wetlands, fish and wildlife, invasive species, threatened and endangered species,

vegetation, aesthetics and recreation, cultural resources, farmland and agriculture, and transportation and traffic.

Streamlining the Section 408 review process would not involve any on-the-ground work, consequently no anticipated effects to environmental resources resulting from the issuance of the RCP would be expected. However, the types of alterations that USACE would review under the proposed RCP have the potential to beneficially or adversely impact the relevant resources listed above. Section 3 of this PEA discusses the major broad and general issues relating to these relevant resources.

The PDT identified the following resources that are not expected to be affected by the proposed action: climate and climate change, hazardous materials, and socioeconomics/environmental justice. These resources are discussed briefly at the beginning of Section 3 along with the reasons as to why the proposed action was not anticipated to have an effect on these resources.

2.0 ALTERNATIVES

2.1 SUMMARY

This chapter both describes the alternatives and compares them in terms of their environmental impacts. Per CEQ NEPA guidance, only reasonable alternatives should be discussed in detail (40 C.F.R. § 1502.14). Additionally, EC 1165-2-220 clarifies that for Section 408, reasonable alternatives should focus on two scenarios: 1) no action (No Action Alternative) and 2) action (Preferred Alternative).

2.2 NO ACTION ALTERNATIVE

Under the No Action Alternative, the districts within LRD would continue to review all Section 408 requests using the same process that is currently used. Currently, the districts within LRD review all 408 requests for alterations following the single-phase or multi-phase procedures outlined in EC 1165-2-220. LRD review and Headquarters USACE (HQUSACE) review are not required for alterations that can be approved at the USACE district level.

Proposed alterations that require LRD and HQUSACE review are not further discussed in this PEA as they would not qualify for this RCP. Currently, Section 408 requests that can be approved at the district level undergo an environmental compliance review as well as engineering reviews, including hydraulics and/or levee safety. Upon the completion of these technical reviews, a summary of findings is assembled and undergoes reviews by multiple divisions (i.e., functional areas) within the relevant district as well as a legal review by Office of Counsel before final signature by the Engineering Division Chief.

2.3 PREFERRED ALTERNATIVE

Under the Preferred Alternative, in accordance with EC 1165-2-220, a RCP would be utilized to streamline the review process of qualifying Section 408 requests. This RCP would encompass a list of potential alterations that are similar in nature and have similar less than significant impacts, both individually and cumulatively, on the environment. The specific alterations are described in Section 7 of the RCP document (including engineering standards). For a proposed alteration to be evaluated under the RCP, it must fit one or more of the alteration types included in the RCP, it must be designed in accordance with the standards described in Section 7.0 of the RCP document, it must not have any disqualifying circumstances (refer to the RCP document), and it must implement the engineering and environmental conditions described in the RCP document.

The alterations described under the proposed RCP could be stacked. A single proposed project could combine multiple categories of alterations (for examples, a utility pole, a fence, and a maintenance shed) and still fit under the proposed RCP. Each individual alteration type contained within the overall project must adhere to the size limitations for that specific type of alteration. The total area of disturbance associated with the overall project must not exceed the largest alteration size limit.

The proposed RCP decision process would be implemented as follows:

- Under the RCP, the 408 Coordinator within the relevant district would receive the Section 408 requests for alterations to USACE federal projects from requesters, following current procedures.
- The 408 Coordinator would then verify that the proposed alteration qualifies for the RCP. In addition, the environmental technical lead would verify that the proposed alteration fits under this PEA.
- If a proposed alteration does not qualify for the RCP and the PEA, then the Section 408 request would be reviewed following the current process, as described in EC 1165-2-220. The current process also includes the development of an alteration specific environmental assessment.
- If a proposed alteration qualifies for the RCP, the engineering technical reviews may be completed either by the appropriate USACE technical section (e.g. Levee Safety, Hydraulics, etc.), or if delegated by that section, certain types of technical reviews may be completed by the Section 408 Coordinator.
- The section that would be responsible for conducting the technical review would depend upon the applicable federal project, the type of alteration, and technical details specific to the proposed alteration.
- Efficiencies would be gained in this process by shifting the technical review(s) of select types of alterations to the 408 Coordinator and limiting the number of individuals needed to validate applicability of the RCP, and by eliminating the need for a project-specific Public Notice
- The 408 Coordinator would work with USACE staff to complete additional environmental reviews and coordination as necessary. This may include, but would not be limited to, consultation pursuant to Section 7 of the Endangered Species Act (ESA), consultation pursuant to the Fish and Wildlife Coordination Act (as appropriate), consultation pursuant to the Coastal Zone Management Act, and consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA).
- Following completion of the technical review(s) and synchronization with Regulatory Program, the 408 Coordinator would prepare a routing package. This routing package would be reviewed by the appropriate USACE supervisory officials. Depending on the level of engineering technical review needed, final validation would be made by the appropriate Supervisory Division Chief of the District (or their designee).

For details on the disqualifying circumstances, general conditions (including engineering and environmental), technical and environmental reviews, validation process, and detailed descriptions of the categories of alterations the RCP would cover, refer to the RCP document.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 OVERVIEW

This chapter will discuss both the existing conditions in the analysis area and the environmental consequences of the alternatives. This chapter is organized by resource, with physical resources listed first, followed by biological resources, and social resources, and will only discuss relevant resources (those resources that would be affected by the alternatives or that would affect the alternatives). Relevant physical resources are land use, air quality, noise, water quality, physiography and /soils, and wetlands/other waters. Relevant biological resources are fish and wildlife, invasive species, threatened and endangered species, and vegetation. Relevant social resources are aesthetics and /recreation, cultural resources, farmland and /agriculture, and transportation and /traffic. The PDT identified several resources that are not expected to be affected by the proposed action and thus are only discussed briefly in Section 3.2. These resources are climate and climate change, economic factors, hazardous materials, population dynamics, and socioeconomics.

This programmatic EA was prepared in accordance 40 CFR parts 1500-1508, as amended by the Phase I Final Rule -National Environmental Policy Act Implementing Regulations Revisions that became effective May 20, 2022.

3.1.1 AFFECTED ENVIRONMENT SUMMARY

CEQ guidance directs agencies to succinctly describe the environment of the area(s) to be affected by the alternatives and to then discuss the environmental impacts of the alternatives (40 C.F.R. 1502.15). CEQ instructs agencies to avoid “useless bulk,” keeping the description of the affected environment only as long as necessary to understand the effects of the alternatives (40 C.F.R. 1502.15). Because of the broad geographical scope of this document, it is not practical to describe the affected environment or detailed environmental consequences for each specific USACE project. For programmatic NEPA reviews, CEQ guidance states that a broad regional or landscape description may suffice for characterizing the affected environment. Following this guidance, the affected environment will describe the existing conditions in a general sense and will provide the baseline for the comparisons in the environmental consequences section.

Table 1 provides a brief overview of the regional resources within LRD’s civil work’s boundary. The affected environment is the baseline condition and is synonymous with the future without project conditions (i.e., No Action Alternative). The baseline/future without project conditions/No Action Alternative provide the basis for what the Preferred Action Alternative is compared against. A more detailed discussion of the affected environment is provided in Appendix A – Affected Environment which also includes source citations for the information summarized in Table 1.

Table 1. Overview of the current resources within LRD’s civil works boundary.

Resource	Overview
Resources with No Impact	
<p>Hazardous Materials (Section 3.2.1)</p>	<p>The status of existing HTRW within each state is difficult to define at a high level. HTRW at specific sites where alterations could potentially be proposed under the RCP could have potential impacts through utilization of hazardous materials. However, requestors utilizing the RCP would be required to follow all applicable federal and state laws in handling and managing any hazardous materials related to construction activities.</p>
<p>Socioeconomics/ Environmental Justice (Section 3.2.2)</p>	<p>Of the states included under the proposed RCP, population estimates range from 1,778,156 (West Virginia) to 19,677,151 (New York) (U.S. Census Bureau, 2023). In general, percent of the population within each state that is under 18 years of age is similar with the average being 21.7%. New York has the greatest diversity in terms of race with approximately 50.3% of the total population identifying as belonging to a race other than white. Conversely, West Virginia has the least diversity in terms of race with approximately 8.8% of the total population identifying as belonging to a race other than white. Regarding education level, the states under the proposed RCP generally have a similar percentage of the population that has achieved a high school and graduate degree or higher, with the average being 89.87%. In terms of a bachelor’s degree or higher, New York has the greatest percentage of the population with a bachelor’s degree or higher (i.e., 38.1%), while West Virginia has the least percentage of the population with a bachelor’s degree or higher (i.e., 21.8%). Regarding percentage of the population under the poverty line, most of the states included under the proposed RCP range between 12% and 13%. Kentucky and West Virginia are higher than the range with an average of 16.7% of each state’s total population falling under the poverty line. Conversely, Wisconsin is lower than the range with 10.8% of the state’s total population falling under the poverty line (U.S. Census Bureau, 2023).</p>
Resources with a Potential Impact	
<p>Climate and Climate Change (Section 3.3.1)</p>	<p>The Midwest Region within LRD’s civil works boundary is experiencing increased rainfall from April to June and an increase in daily minimum temperatures across all seasons (Angel et al., 2018). Future projections for the region include an increase in warm-season temperatures and an increase in extreme rainfall events and flooding (Angel et al., 2018). The Southeast Region within LRD’s civil works boundary is experiencing increased average daily minimum temperatures as opposed to average daily maximum temperatures (Carter et al., 2018). Future projections for the region include an increase in extreme rainfall events</p>

Resource	Overview
	and temperature (Carter et al., 2018). The Northeast Region within LRD’s civil works boundary is experiencing increased rainfall intensity (Dupigny-Giroux et al., 2018). Future projections for the region include further increases in rainfall intensity, with increases in total precipitation primarily during the spring and winter (Dupigny-Giroux et al., 2018).
Air Quality (Section 3.3.2)	The portion of Illinois within LRD’s civil works boundary has one area in nonattainment status for ozone 8-hr (USEPA, 2019). Indiana has two areas in nonattainment status for ozone 8-hr and one area in nonattainment status for sulfur dioxide. Kentucky has one area in nonattainment status for ozone 8-hr and one area in nonattainment status for sulfur dioxide. Michigan has four areas in nonattainment status for ozone 8-hr and two areas in nonattainment status for sulfur dioxide. The portion of New York within LRD’s civil works boundary has one area in nonattainment status for ozone 8-hr, one area in nonattainment status for particulate matter (PM10), and one area in nonattainment status for sulfur dioxide. Ohio has two areas in nonattainment status for ozone 8-hr and one area in nonattainment status for sulfur dioxide. The portion of Pennsylvania within LRD’s civil works boundary has three areas in nonattainment status for lead, one area in nonattainment status for PM2.5, one area in nonattainment status for ozone 8-hr, and four areas in nonattainment status for sulfur dioxide. The portion of Tennessee within LRD’s civil works boundary has one area in nonattainment status for sulfur dioxide. West Virginia has one area in nonattainment status for sulfur dioxide. Lastly, the portion of Wisconsin within LRD’s civil works boundary has four areas in nonattainment status for ozone 8-hr (USEPA, 2019).
Noise (Section 3.3.3)	The baseline noise levels for potential project sites within LRD’s civil works boundary vary greatly depending on location. In general, the baseline noise levels for project sites located within urban environments likely range between 60-70 dBA, with traffic noise and noise associated with residential and commercial operations being contributing noise sources. The baseline noise levels for project sites located within agricultural and rural-residential environments likely range between 30-40 dBA, with higher noise levels attributed to vehicles and farm equipment.
Water Quality (Section 3.3.4)	Illinois generally has more square miles of good water quality than impaired within the Great Lakes for swimming, aquatic life and drinking water use (USEPA, 2022). Lakes and reservoirs within Illinois generally have more acres of good water quality than impaired for swimming, aquatic life, and drinking water use. Rivers and streams within Illinois generally have more miles of good water quality than impaired for aquatic life use. Indiana’s Great

Resource	Overview
	<p>Lakes shoreline generally has more miles of good water quality than impaired for aquatic life use. Lakes and reservoirs within Indiana generally have more acres of good water quality than impaired for swimming use. Rivers and streams within Indiana generally have more miles of good water quality than impaired for drinking water use. Kentucky lakes and reservoirs generally have more acres of good water quality than impaired for swimming, eating fish, aquatic life use, and drinking water. Rivers and streams within Kentucky generally have more miles of good water quality than impaired for swimming and drinking water use. Michigan's Great Lakes waters generally has more square miles of good water quality than impaired for drinking water use. Great Lakes shoreline within Michigan generally has more square miles of good water quality than impaired for swimming and aquatic life use. Coastal waters within Michigan generally have more square miles of good water quality than impaired for aquatic life use. Lakes and reservoirs within Michigan generally have more acres of good water quality than impaired for aquatic life and drinking water use. Lakes and reservoirs shoreline within Michigan generally have more miles of good water quality than impaired for swimming use. Rivers and streams within Michigan generally have more acres of good water quality than impaired for aquatic life and drinking water use. New York coastal waters generally have more square miles of good water quality than impaired for swimming use. Lakes and rivers within New York generally have more acres of good water quality than impaired for aquatic life use. Rivers and streams within New York generally have more miles of good water quality than impaired for swimming and aquatic life use. Ohio's Great Lakes waters generally have more square miles of good water quality than impaired for swimming use. Pennsylvania's lakes and reservoirs generally have more acres of good water quality than impaired for swimming, eating fish, aquatic life, and drinking water use. Similarly, rivers and streams within Pennsylvania generally have more miles of good water quality than impaired for swimming, eating fish, aquatic life, and drinking water use. Tennessee lakes and reservoirs generally have more acres of good water quality than impaired for swimming, aquatic life, and drinking water use. Rivers and streams within Tennessee generally have more miles of good water quality for aquatic life and drinking water use. West Virginia in general has lakes/reservoirs and rivers/streams with more acres and miles, respectively, of impaired water quality than good. Wisconsin Great Lakes shoreline has more miles of good water quality than impaired for swimming and aquatic life use. Coastal waters shoreline within Wisconsin generally has more miles of</p>

Resource	Overview
	<p>good water quality than impaired for swimming use. Lakes and reservoirs within Wisconsin generally have more acres of good water quality than impaired for swimming, eating fish, and aquatic life use. Lastly, rivers and streams within Wisconsin generally have more miles of good water quality than impaired for swimming and aquatic life use (USEPA, 2022).</p>
<p>Physiography and Soils (Section 3.3.5)</p>	<p>Level III Ecoregions were used to describe the general physiography and types of soils found in the portions of State's within LRD's civil works boundary (Bryce et al., 2010; Griffith et al., 2022a; Omernick et al., 2000a; Woods et al., 1999; Woods et al., 2002a; Woods et al., 2003a; and Woods et al., 2006a). The portion of Illinois within LRD's civil works boundary is comprised of the following Level III Ecoregions: Central Corn Belt Plains, Interior Plateau, Interior River Valleys and Hills, Mississippi Alluvial Plain, and Southwestern Wisconsin Till Plain. Indiana is comprised of the following Level III Ecoregions: Central Corn Belt Plains, Eastern Corn Belt Plains, Interior Plateau, Interior River Lowland, and Southern Michigan/Northern Indiana Drift Plains. Kentucky is comprised of the following Level II Ecoregions: Central Appalachians, Interior Plateau, Interior River Valleys and Hills, Mississippi Alluvial Plain, Mississippi Valley Loess Plain, Southwestern Appalachians, and Western Allegheny Plateau. Michigan is comprised of the following Level III Ecoregions: Central Corn Belt Plains, Huron/Erie Lake Plains, North Central Hardwood Forests, Northern Lakes and Forests, and Southern Michigan/Northern Indiana Drift Plains. The portion of New York within LRD's civil works boundary is comprised of the following Level III Ecoregions: Eastern Great Lakes Lowlands, Erie Drift Plain, North Central Appalachians, Northeastern Highlands, and Northern Allegheny Plateau. Ohio is comprised of the following Level III Ecoregions: Eastern Corn Belt Plains, Erie/Ontario Drift and Lake Plain, Huron/Erie Lake Plains, and Western Allegheny Plateau. The portion of Pennsylvania within LRD's civil works boundary is comprised of the following Level III Ecoregions: Central Appalachians, Eastern Great Lakes and Hudson Lowlands, Erie/Ontario Hills and Lake Plain, North Central Appalachians, and Western Allegheny Plateau. The portion of Tennessee within LRD's civil works boundary is comprised of the following Level III Ecoregions: Blue Ridge Mountains, Interior Plateau, Ridge and Valley, Southeastern Plains, and Southwestern Appalachians. The portion of West Virginia within LRD's civil works boundary is comprised of the following Level III Ecoregions: Central Appalachians, Ridge and Valley, and Western Allegheny Plateau. Lastly, the portion of Wisconsin within LRD's civil works boundary is comprised of the following Level III Ecoregions: Central Corn Belt</p>

Resource	Overview
	Plains, North Central Hardwood Forests, Northern Lakes and Forests, and Southwestern Wisconsin Till Plain (Bryce et al., 2010; Griffith et al., 2022a; Omernick et al., 2000a; Woods et al., 1999; Woods et al., 2002a; Woods et al., 2003a; and Woods et al., 2006a).
Wetlands (Section 3.3.6)	Wetlands in the states within LRD's civil works boundary have decreased significantly in acreage since European settlement. As of the 1980's, approximately 1.25 million acres of wetland remained in Illinois (USGS, 1996a). Most of Illinois's wetlands are either palustrine emergent wetlands such as marshes and wet prairies or palustrine forested wetlands such as bottom-land hardwood forests and bald cypress swamps (USGS, 1996a). In Indiana, wetlands cover approximately 813,000 acres or 3.5% of the State. Palustrine wetlands are the most abundant wetlands in Indiana (USGS, 1996b). In Kentucky, only about 2.5% of the surface area of the state is wetland (USGS, 1996c). Most Kentucky wetlands are palustrine and include areas lying shoreward of rivers and lakes (USGS, 1996c). In the 1980's it was estimated that the State of Michigan had approximately 5.6 million acres of wetland with much of the acreage being coastal wetlands (USGS, 1996d). In New York, about 75% of the State's existing wetlands occupy areas of less than six acres (USGS, 1996e). The five most common freshwater-wetland types in New York are flooded deciduous trees (palustrine forested wetland), flooded shrubs (palustrine scrub-shrub wetland), flooded coniferous trees (palustrine forested wetland); drained muckland, and emergent (palustrine emergent wetlands or lacustrine or riverine nonpersistent-emergent wetlands) (USGS, 1996e). In Ohio, only about 1.8% of the surface area of the State is covered by wetlands (USGS, 1996f). Palustrine wetlands such as swamps (forested wetlands), wet prairies (emergent wetlands), coastal and embayment marshes (emergent wetlands), peatlands (wetlands that have organic soils), and wetlands along stream margins and backwaters collectively are the most important wetland types in Ohio (USGS, 1996f). In Pennsylvania, about 1.4% of the state's surface area (i.e., 404,000 acres) is covered by wetlands. About 97% of these wetlands are palustrine (USGS, 1996g). In Tennessee, approximately 640,000 to 787,000 acres are wetlands. Bottom-land hardwood forests are the most common wetlands in Tennessee (USGS, 1996h). In West Virginia, wetlands constitute less than 1% of the State's surface area. Most wetlands within the State are forested wetlands (USGS, 1996i). In Wisconsin, it is estimated that wetlands cover more than 5 million acres of the State (USGS, 1996j). Common types of wetlands in Wisconsin include swamps, marshes, and peatlands (USGS, 1996j).

Resource	Overview
<p>Fish and Wildlife (Section 3.3.7)</p>	<p>In terms of general fish and wildlife species, Illinois has about 60 mammal species, more than 400 bird species (resident and migratory), about 192 fish species, and about 104 species of amphibians and reptiles (ILDNR, 2021; ILDNR, 2022; INHS, 2022a; and INHS, 2022b). Indiana has about 60 mammal species, more than 413 bird species (resident and migratory), about 200 fish species, 60 freshwater mussel species, about 41 amphibian species, and 54 reptile species (INDNR, 2022a; Indiana Audubon, 2022; INDNR, 2022b; INDNR, 2022c). Kentucky is home to about 27 small mammal species, over 350 bird species (resident and migratory), about 248 native fish species, about 103 native freshwater mussel species, about 65 native aquatic snail species, about 56 reptile species, and about 57 amphibian species (KYDFW, 2022a; Murray State university, 2022; KYDFW, 2022b; KYDFW, 2022c; KYDFW, 2022d; KYDFW, 2022e; and KYDFW, 2022f). Michigan is home to approximately 71 mammal species, over 270 species of birds (resident and migratory), about 153 fish species, and about 58 species of amphibians and reptiles (iNaturalist, 2022; Petrucha and Buecking, 2009; MIDNR, 2002; and Phillips, 2016). New York is home to approximately 70 mammal species, 503 bird species, 165 fish species, and 70 species of amphibians and reptiles (NYNHP, 2021; New York State Ornithological Association, 2021; NYDEC, n.d.a; and NYDEC, n.d.b). Ohio is home to about 65 native mammal species, over 433 bird species (resident and migratory), more than 160 freshwater fish species, about 60 freshwater mussel species, nearly 50 reptile species, and about 40 amphibian species (OHDW, 2016; Clifford, 2021; Atassi, 2019; Sasson, 2020; OHDW, 2018; and OhioAmphibians.com, n.d.). Pennsylvania is home to about 66 mammal species, about 414 bird species (resident and migratory), about 113 native fish species, and about 78 native species of amphibians and reptiles (Pennsylvania Game Commission, 2022; Native Fish Coalition, n.d.; Pennsylvania Fish and Boat Commission). Tennessee is home to about 79 mammal species, about 423 bird species (resident and migratory), about 280 native fish species, about 130 freshwater mussel species, and about 130 species of amphibians and reptiles (TWRA, n.d.a; Tennessee Bird Records Committee, n.d.; TWRA, 2012; TWRA n.d.b; TWRA, n.d.c; TWRA, n.d.d; and TWRA, n.d.e). West Virginia is home to about 67 native mammal species, about 366 bird species (resident and migratory), about 178 fish species, about 60 native freshwater mussel species, and 87 species of amphibians and reptiles (WVDNR, 2022a; WVDNR, 2022b; WVDEP, 2022; USFWS, 2020c; and Marshall University, 2022). Wisconsin is home to about 72 mammal species, about 300 bird species</p>

Resource	Overview
	(resident and migratory), about 160 fish species, about 52 native freshwater mussel species, and about 56 species of amphibians and reptiles (University of Wisconsin-Stevens Point, 2022; WDNR, 2022; WDNR, n.d.a; Wisconsin Aquatic and Terrestrial Water Resources Inventory, n.d.; WDNR, n.d.b; and WDNR, n.d.c).
Invasive Species (Section 3.3.8)	There are numerous invasive species in the states within LRD’s civil works boundary. Illinois has over 1,318 different invasive species (EDD, n.d.). Indiana has over 1,078 different invasive species. Kentucky has over 994 different invasive species. Michigan has over 1,233 different invasive species. New York has over 1,127 different invasive species. Ohio has over 911 different invasive species. Pennsylvania has over 1,004 different invasive species. Tennessee has over 747 different invasive species. West Virginia has over 717 different invasive species. Wisconsin has over 1,187 different invasive species. For all the states discussed above, most invasive species are Forbs/Herbs, followed by shrubs or subshrubs, grasses or grass-like plants, and piercing and sucking insects (EDD, n.d.).
Threatened and Endangered Species (Section 3.3.9)	Illinois has the following threatened and endangered (T&E) species: three mammals, three birds, one reptile, one fish, 13 invertebrates, four insects, and eight plants (USFWS, 2019; USFWS, 2020a; USFWS, 2020b; USFWS, 2022a; USFWS, 2022b; USFWS, 2022c; USFWS, 2022d; USFWS, 2022e; USFWS, 2022f; and USFWS, 2022g). Additionally, Illinois has designated critical habitat for four T&E species. Indiana has the following T&E species: three mammals, three birds, two reptiles, 12 invertebrates, three insects, and five plants. Additionally, Indiana has designated critical habitat for four T&E species. Kentucky has the following T&E species, four mammals, seven fish, 27 invertebrates, and eight plants. Additionally, Kentucky has designated critical habitat for 22 T&E species. Michigan has the following T&E species: three mammals, three birds, two reptiles, five invertebrates, five insects, and seven plants. Additionally, Michigan has designated critical habitat for two T&E species. New York has the following T&E species: two mammals, three birds, two reptiles, five invertebrates, one insect, and eight plants. Additionally, New York has designated critical habitat for two T&E species. Ohio has the following T&E species: two mammals, two birds, two reptiles, 12 invertebrates, four insects, and five plants. Additionally, Ohio has designated critical habitat for three T&E species. Pennsylvania has the following T&E species: two mammals, two birds, two reptiles, nine invertebrates, and three plants. Additionally, Pennsylvania has designated critical habitat for four T&E species. Tennessee

Resource	Overview
	<p>has the following T&E species: five mammals, one bird, one reptile, 22 fish, 54 invertebrates, once insect, and 19 plants. Additionally, Tennessee has designated critical habitat for 34 T&E species. West Virginia has the following T&E species: four mammals, one bird, one amphibian, two fish, 17 invertebrates, one insect, and six plants. Additionally, West Virginia has designated critical habitat for seven T&E species. Lastly, Wisconsin has the following T&E species: two mammals, three birds, one reptile, six invertebrates, four insects, and seven plants. Additionally, Wisconsin has designated critical habitat for two T&E species. All of the aforementioned states have the potential for the Monarch Butterfly, a candidate species, to be present (USFWS, 2019; USFWS, 2020a; USFWS, 2020b; USFWS, 2022a; USFWS, 2022b; USFWS, 2022c; USFWS, 2022d; USFWS, 2022e; USFWS, 2022f; and USFWS, 2022g).</p>
<p>Vegetation (Section 3.3.10)</p>	<p>Vegetation is described very broadly and is based on vegetation descriptions for Level III Ecoregions within LRD's Civil Works boundary. The portion of Illinois within LRD's Civil Works boundary historically contained prairie, oak-hickory forest, bottomland deciduous forest, and bottomland swamps. Indiana historically contained beech forest, beech forest, oak-hickory forest, bottomland hardwood forests, swamp, pond, slough communities, and western mixed mesophytic forest (Bryce et al., 2010; Griffith et al., 2002a; Omernick et al., 2000a; Woods et al., 1999; Woods et al., 2002a; Woods et al., 2002c; Woods et al., 2003a; and Woods et al., 2006a). Kentucky historically contained mixed mesophytic forest, oak-hickory forest, mosaic of oak-hickory forests and bluestem prairies, and forested wetlands. Michigan historically contained extensive natural tree cover, beech-sugar maple and other northern hardwoods, hardwood-conifer forest of white pine, hemlock, northern white cedar, black ash, basswood, and sugar maple, and oak-hickory forest northern swamp forest, sphagnum bogs, and tamarack swamps. The portion of New York within LRD's Civil Works boundary historically contained native forest, Appalachian oak forest, and northern hardwoods (maple-beech-birch). Ohio historically contained natural tree cover, lakes, wetlands, swampy streams, elm-ash swamp, beech forest, oak-hickory forest, and mixed mesophytic forest. The portion of Pennsylvania within LRD's Civil Works boundary historically contained beech-maple forest, northern hardwoods, Appalachian oak forest, and mixed mesophytic forest. The portion of Tennessee within LRD's Civil Works boundary historically contained varied native vegetation, oak-hickory forest, Appalachian oak forest, and mixed mesophytic forest. The portion of West Virginia within LRD's Civil Works</p>

Resource	Overview
	<p>boundary historically contained Appalachian oak forest, and mixed mesophytic forest. The portion of Wisconsin within LRD's Civil Works boundary historically contained prairies, beech-sugar maple forest, hardwood-conifer forest, hardwood forests, and oak savannas. In general, much of the areas that were forested within states are either still mostly forested, have had a shift in forest species assemblage, have experienced timber harvesting, and/or conversion of forest to farmland. Much of the areas that were prairie were converted into farmland for agricultural purposes (Bryce et al., 2010; Griffith et al., 2002a; Omernick et al., 2000a; Woods et al., 1999; Woods et al., 2002a; Woods et al., 2002c; Woods et al., 2003a; and Woods et al., 2006a).</p>
<p>Aesthetics and Recreation (Section 3.3.11)</p>	<p>The portion of Illinois within LRD's civil works boundary includes 17.1 miles of Wild and Scenic River, five National Scenic Byways, 12 National Natural Landmarks, and four National Wilderness Areas (National Forest Foundation, n.d.; DOT-FHA, n.d.a; NPS, n.d.; and University of Illinois, n.d.). Indiana includes three National Scenic Byways, 30 National Natural Landmarks, one National Forest, and one National Wilderness Area (BLM et al., n.d.a; DOT-FHA, n.d.b; NPS, n.d.; and USFS, n.d.a). Kentucky includes 19.1 miles of Wild and Scenic River, six National Scenic Byways, six National Natural Landmarks, two National Forests, and one National Wilderness Area (BLM et al., n.d.b; DOT-FHA, n.d.c; NPS, n.d.; and USFS, n.d.b). Michigan includes 656.4 miles of Wild and Scenic River, three National Scenic Byways, 12 National Natural Landmarks, three National Forests, one National Park, and 14 National Wilderness Areas (BLM et al., n.d.c; BLM et al., n.d.d; BLM et al., n.d.f; BLM et al., n.d.g; BLM et al., n.d.h; BLM et al., n.d.i; BLM et al., n.d.k; BLM et al., n.d.l; BLM et al., n.d.m; BLM et al., n.d.n; BLM et al; n.d.o; BLM et al., n.d.p; BLM et al., n.d.q; BLM et al., n.d.r; DOT-FHA, n.d.d; and NPS, n.d.). The portion of New York within LRD's civil works boundary includes one National Scenic Byway, 16 National Natural Landmarks, and one National Forest (DOT-FHA, n.d.e and NPS, n.d.). Ohio includes 212.9 miles of Wild and Scenic River, five National Scenic Byways, 23 National Natural Landmarks, one National Forest, and one National Park (BLM et al., n.d.s; BLM et al., n.d.t; BLM et al., n.d.u; BLM et al., n.d.v; DOT-FHA, n.d.f; and NPS, n.d.). The portion of Pennsylvania within LRD's civil works boundary includes 138.3 miles of Wild and Scenic River, two National Scenic Byways, nine National Natural Landmarks, one National Forest, and one National Wilderness Area (BLM et al., n.d.w; BLM et al., n.d.x; DOT-FHA, n.d.g; and NPS, n.d.). The portion of Tennessee within LRD's civil works boundary includes 45.3</p>

Resource	Overview
	<p>miles of Wild and Scenic River, four National Scenic Byways, 11 National Natural Landmarks, one National Forest, and 11 National Wilderness Areas (BLM et al., n.d.y; DOT-FHA, n.d.h; and NPS, n.d.). The portion of West Virginia within LRD’s civil works boundary include 32,260 miles of Wild and Scenic River, six National Scenic Byways, 11 National Natural Landmarks, one National Forest, and one National Park (BLM et al., n.d.z; DOT-FHA, n.d.i; and NPS, n.d.). The portion of Wisconsin within LRD’s civil works boundary includes 56,884 miles of Wild and Scenic River, 11 National Natural Landmarks, one National Forest, one National Lakeshore, and six National Wilderness Areas (BLM et al., n.d.aa; BLM et al., n.d.bb; and NPS, n.d.).</p>
<p>Cultural Resources (Section 3.3.12)</p>	<p>The portion of Illinois within LRD’s civil works boundary has over 1,200 archaeological sites, properties, and districts listed on the National Register of Historic Places (NRHP), of which 66 are National Historic Landmarks (NHL’s) (Wikipedia, 2022a and NPS, 2022). Indiana has over 1,900 archaeological sites, properties, and districts listed on the NRHP, of which 43 are NHLs (Wikipedia, 2022b and NPS, 2022). Kentucky has over 3,400 archaeological sites, properties, and districts listed on the NRHP, of which 32 are NHLs (Wikipedia, 2022c and NPS, 2022). Michigan has over 1,900 archaeological sites, properties, and districts listed on the NRHP, of which 43 are NHLs (Wikipedia, 2022d and NPS, 2022). The portion of New York within LRD’s civil works boundary has over 2,200 archaeological sites, properties, and districts listed on the NRHP, of which 55 are NHLs (Wikipedia, 2022e and NPS, 2022). Ohio has over 4,000 archaeological sites, properties, and districts, of which 76 are NHLs (Wikipedia, 2022f and NPS, 2022). The portion of Pennsylvania within LRD’s civil works boundary has over 900 archaeological sites, properties, and districts listed on the NRHP, of which 36 are NHLs (Wikipedia, 2022g and NPS, 2022). The portion of Tennessee within LRD’s civil works boundary has over 1,800 archaeological sites, properties, and districts listed on the NRHP, of which 26 are NHLs (Wikipedia, 2022h and NPS, 2022). The portion of West Virginia within LRD’s civil works boundary has over 700 archaeological sites, properties, and districts listed on the NRHP, of which 15 are NHLs (Wikipedia, 2022i and NPS, 2022). The portion of Wisconsin within LRD’s civil works boundary has over 1,400 archaeological sites, properties, and districts listed on the NRHP, of which 19 are NHLs (Wikipedia, 2022j and NPS, 2022).</p>
<p>Farmland and Agriculture (Section 3.3.13)</p>	<p>Illinois has a total of 27,381,000 acres in agriculture (FIC, 2022a). Of the total acreage of land in agriculture, 23,084,100 acres are considered nationally significant agricultural land</p>

Resource	Overview
	<p>and 17,174,200 acres are considered best agricultural land (FIC, 2022a). Indiana has a total of 16,362,500 acres in agriculture (FIC, 2022b). Of the total acreage of land in agriculture, 12,026,000 acres are considered nationally significant agricultural land and 9,824,000 acres are considered best agricultural land (FIC, 2022b). Kentucky has a total of 12,286,800 acres in agriculture (FIC, 2022c). Of the total acreage of land in agriculture, 5,690,500 acres are considered nationally significant agricultural land and 5,987,900 acres are considered best agricultural land (FIC, 2022c). Michigan has a total of 11,740,400 acres in agriculture (FIC, 2022d). Of the total acreage of land in agriculture, 7,785,900 are considered nationally significant agricultural land and 6,147,800 acres are considered best agricultural land (FIC, 2022d). New York has a total of 9,194,800 acres in agriculture (FIC, 2022e). Of the total acreage of land in agriculture, 4,923,800 acres are considered nationally significant agricultural land and 4,760,000 acres are considered best agricultural land (FIC, 2022e). Ohio has a total of 15,279,800 acres in agriculture (FIC, 2022f). Of the total acreage of land in agriculture, 10,983,800 acres are considered nationally significant agricultural land and 8,268,600 acres are considered best agricultural land (FIC, 2022f). Pennsylvania has a total of 9,034,700 acres in agriculture (FIC, 2022g). Of the total acreage of land in agriculture, 4,724,000 acres are considered nationally significant agricultural land and 4,688,500 acres are considered best agricultural land (FIC, 2022g). Tennessee has a total of 12,299,200 acres in agriculture (FIC, 2022h). Of the total acreage of land in agriculture, 4,455,900 acres are considered nationally significant agricultural land and 6,403,800 acres are considered best agricultural land (FIC, 2022h). West Virginia has a total of 2,819,700 acres in agriculture (FIC, 2022i). Of the total acreage of land in agriculture, 583,900 acres are considered nationally significant agricultural land and 1,381,400 acres are considered best agricultural land (FIC, 2022i). Wisconsin has a total of 14,996,300 acres in agriculture (FIC, 2022j). Of the total acreage of land in agriculture, 9,106,600 acres are considered nationally significant agricultural land and 7,451,700 acres are considered best agricultural land (FIC, 2022j).</p>
<p>Transportation and Traffic (Section 3.3.14)</p>	<p>Illinois has approximately 2,185 interstate miles of roadway, and a rail network consisting of approximately 9,982 miles of railroad tracks (ILDOT, n.d.a and ILDOT, n.d.b). Illinois has approximately 107 public/private airports, 1,095 miles of navigable waterways and about 63 public transit operators/providers (ILDOT, n.d.c; ILDOT, n.d.d; and ILDOT, n.d.e). Indiana has about 97,553 public roadway miles, and a rail network consisting of about 4,075 miles</p>

Resource	Overview
	<p>of railroad tracks (INDOT, 2018 and INDOT, 2021a). Indiana has about 118 public-use aviation facilities, three public ports, and about 63 urban and rural public transit systems (INDOT, 2012; INDOT, 2018; and INDOT 2021b). Kentucky has about 80,006 miles of public roads and about 3,191 miles of railroad tracks. Kentucky has about 60 airports, 1,983 miles of navigable waterways, and about 34 public transportation systems (KYTC, 2021a; KYTC, 2021b; and KYTC, 2017). Michigan has about 120,256 miles of paved roadway and about 3,600 miles or railroad tracks (MIDOT, 2022a and MIDOT, 2022b). Michigan has about 230 airports, more than 36,000 miles of navigable waterways, and about 81 transit agencies (MIDOT, 2021 and MCMP, 2010). New York has about 240,000 miles of roadways and about 3,500 miles of railroad track (American Society of Civil Engineers, 2015; Burns, 2022a; and NYDOT, n.d.). New York has 18 larger commercial service airports, approximately 500 miles of navigable waterways, and over 100 transit systems (World Port Source, n.d., NPS, 2020; and American Society of Civil Engineers, 2015). Ohio has about 121,000 miles of roadways and about 4,989 miles of railroad tracks (OHDOT, n.d.a and OHDOT, n.d.b). Ohio has 104 publicly owned airports, about 736 miles of navigable waterways, and about 61 public transit systems (OHDOT, n.d.c; OHDOT, n.d.d; and OHDOT, n.d.e). Pennsylvania has about 120,852 miles of roadway and about 5,600 miles of railroad tracks (PDOT, 2021 and Burns, 2022b). Pennsylvania has 122 public-use aviation facilities, three major ports, and over 44 public transit systems (PDOT, 2022a; Pennsylvania Department of Community and Economic Development, 2022; and PDOT, 2022c). Tennessee has about 96,187 miles of highway and about 2,138 miles of railroad track (TNDOT, n.d.). Tennessee has about 71 general aviation and six commercial airports, about 976 main channel miles of commercially navigable waterways, and about 28 transit systems (TNDOT, n.d.). West Virginia has about 38,850 miles of roads and about 2,401 miles of railroad tracks (WVDOT, n.d.a and WVDOT, n.d.b). West Virginia has about 34 public-use airports, about 680 miles of navigable inland waterways, and about 18 public transit agencies (WVDOT, n.d.c; McCoy, n.d.; and West Virginia Public Transportation Association, n.d.). Lastly, Wisconsin had about 122,177 miles of highways and local roadways, and about 3,500 miles of railroad tracks (WDOT, n.d.). Wisconsin has 134 public-use airport systems, about 15 ports, and about 71 public bus and shared-ride taxi systems (WDOT, n.d.).</p>

3.1.2 ENVIRONMENTAL CONSEQUENCES SUMMARY

CEQ guidance directs agencies to focus reviews on the broad environmental consequences that are relevant at the programmatic level (CEQ, 2014). CEQ guidance also states that “site- or project-specific impacts need not be fully evaluated at the programmatic level when the decision to act on a site development or its equivalent is yet to be made (CEQ, 2014).” Additionally, CEQ guidance states that “the depth and detail in programmatic analyses will reflect the major broad and general impacts that might result from making broad programmatic decisions (CEQ, 2014).”

As the implementation of a RCP to streamline the Section 408 review process would not involve any on-the-ground work, there are no anticipated direct effects to environmental resources resulting from the issuance of the RCP. It is important to note that the decision to be made on the RCP would not authorize any specific Section 408 requests or any ground disturbing work. Although the decision on whether to implement the proposed RCP would not have direct impacts on resources, the types of alterations described under the proposed RCP have the potential to impact relevant resources. Therefore, the environmental consequences will reflect the major broad and general impacts that could result from the types of alterations described under the proposed RCP. In accordance with CEQ guidance, the description of the scope and range of impacts will be more qualitative in nature than standard project specific NEPA reviews (CEQ, 2014).

The environmental consequences will be discussed in terms of direct, indirect, and cumulative effects. CEQ defines direct effects as those effects caused by the action and occurring at the same time and place (40 C.F.R. 1508.1(g)(1)). Indirect effects are those effects which are caused by the action but are later in time or farther removed in distance but are still reasonably foreseeable (40 C.F.R. 1508.1(g)(2)). The severity of an environmental impact is characterized as none/negligible, less than significant, significant, or beneficial. The impact may also be short-term or long-term in nature.

- **None/Negligible** – This effect would cause no discernible change in the environment as measured by the applicable significant criteria; therefore, no mitigation would be required.
- **Less than Significant** – This effect would cause no substantial adverse change in the environment as measured by the applicable significance criteria; in general, no mitigation would be required (but in some cases may be incorporated as a best practice or to meet other regulatory requirements).
- **Significant** – This effect would cause a substantial adverse change in the physical conditions of the environment or as otherwise defined based on the significance criteria. Effects determined to be significant fall into two categories: those for which there is feasible mitigation available that would avoid or reduce the environmental effects to less than significant levels, and those for which there is either no feasible mitigation available or for which, even with implementation of feasible mitigation measures, there would remain a significant adverse effect on the environment. Those effects that cannot be reduced to a less than significant level by mitigation are identified as significant and unavoidable.

- **Beneficial** – This effect would provide benefit to the environment as defined for that resource.
- **Short-term** – Temporary in nature and does not result in permanent long-term beneficial or adverse effect to a resource. For example, temporary construction-related effects (such as, an increase in dust, noise, traffic congestion) that no longer occur once construction is complete. May be less than significant, significant, adverse, or beneficial in nature.
- **Long-term** – Permanent (or for most of the project life) beneficial or adverse effects to a resource. For example, permanent conversion of a wetland to a parking lot. May be less than significant, significant, adverse, or beneficial in nature.

Cumulative effects are impacts which result from the “incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions (40 C.F.R. 1508.1(g)(3)).” Reasonably foreseeable future actions are actions that are planned and likely to occur. For the purposes of this document, the terms effects and impacts are synonymous and used interchangeably.

3.1.3 CUMULATIVE EFFECTS SUMMARY

The purpose of the cumulative effects analysis is “to ensure that federal decisions consider the full range of consequences of actions (CEQ, 1997).” The premise of the cumulative effects analysis is that “cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 C.F.R. 1508.1(g)(3)).” Cumulative effects are the total effect of all actions taken, no matter who (federal, nonfederal, or private entities) has taken the action, and may be additive or interactive. Cumulative effects must be analyzed in terms of the specific resource, ecosystem, and/or human community being affected. To accomplish this, one of the first steps of the cumulative effects analysis is to define the geographic and temporal scope. The boundaries for cumulative effects analysis generally do not line up with political or administrative boundaries, such as agency jurisdictional area, and must instead use natural ecological or sociocultural boundaries that are appropriate to each specific resource (CEQ, 1997). Additionally, the “boundaries for evaluating cumulative effects should be expanded to the point at which the resource is no longer affected significantly, or the effects are no longer of interest to affected parties (CEQ, 1997).” For example, the cumulative effects analysis geographic scope for water resources may be an entire watershed.

The cumulative effects analysis in this document will consider past, present, and reasonably foreseeable future actions that influence the geographic areas where USACE projects exist. Per CEQ guidance, the geographic scope for cumulative effects analysis in this document may vary by resource. The temporal scope of analysis for all resources extends five years into the future (the proposed initial length of the RCP before it is re-evaluated) and fifty years into the past. In accordance with CEQ guidance, the cumulative effects analysis in this PEA will focus on major broad and general impacts and will be qualitative in nature. Table 3 summarizes the past, present, and

reasonably foreseeable activities that may contribute to cumulative effects, as well as the general effects that these activities may have on the three major resource categories. Cumulative effects will be further discussed for each specific resource.

Table 2. Summary of activities contributing to cumulative effects. Table 2 summarizes the past, present, and reasonably foreseeable future actions that are likely to occur in the geographic areas where USACE projects exist, as well as the general effects that they may have on the major resource categories. Table 2 includes actions regardless of who has taken, or may take the action.

Past, Present, and Reasonably Foreseeable Future Actions	General Effects on Physical Resources	General Effects on Biological Resources	General Effects on Social Resources
Agricultural Activities	<ul style="list-style-type: none"> -Generation of criteria air pollutants -Increased dust -Increased noise -Loss of wetland habitat 	<ul style="list-style-type: none"> -Direct mortality or injury -Behavioral disturbance -Noise effects -Habitat loss -Habitat disturbance -Introduction of invasive species 	<ul style="list-style-type: none"> -Visual effects -Disturbance of cultural resources -Effects on recreation -Effects on farmland
Construction Activities	<ul style="list-style-type: none"> -Generation of criteria pollutants -Increased dust -Increased noise -Water contamination -Loss of wetland habitat 	<ul style="list-style-type: none"> -Direct mortality or injury -Behavioral disturbance -Noise effects -Habitat loss -Habitat disturbance -Introduction of invasive species 	<ul style="list-style-type: none"> -Visual effects -Disturbance of cultural resources -Increased vehicle traffic -Effects on recreation -Effects on farmland

Past, Present, and Reasonably Foreseeable Future Actions	General Effects on Physical Resources	General Effects on Biological Resources	General Effects on Social Resources
Hunting and Fishing (including commercial and recreational fishing)	<ul style="list-style-type: none"> -Generation of criteria pollutants -Increased noise -Increased turbidity -Water contamination -Generation of debris 	<ul style="list-style-type: none"> -Direct mortality or injury -Behavioral effects -Noise effects -Habitat disturbance -Altered or reduced prey sources -Behavioral disturbance -Introduction of invasive species 	<ul style="list-style-type: none"> -Increased recreation
Industry (not including construction activities)	<ul style="list-style-type: none"> -Generation of criteria pollutants -Increased dust -Increased noise -Increased turbidity and sedimentation -Water contamination -Loss of wetland habitat 	<ul style="list-style-type: none"> -Direct mortality or injury -Behavioral disturbance -Noise effects -Habitat loss -Habitat disturbance 	<ul style="list-style-type: none"> -Visual effects -Disturbance of cultural resources -Increased vehicle traffic -Effects on recreation -Effects on farmland

Past, Present, and Reasonably Foreseeable Future Actions	General Effects on Physical Resources	General Effects on Biological Resources	General Effects on Social Resources
Levee and Channel Operations and Maintenance	<ul style="list-style-type: none"> -Generation of criteria pollutants -Increased dust -Increased noise -Increased or decreased turbidity and sedimentation -Water contamination 	<ul style="list-style-type: none"> -Direct mortality or injury -Behavioral disturbance -Noise effects -Habitat loss -Habitat disturbance -Introduction and/or removal of invasive species 	<ul style="list-style-type: none"> -Visual effects -Disturbance of cultural resources -Effects on recreation -Effects on farmland
Locks and Dams and Maintenance	<ul style="list-style-type: none"> -Generation of criteria pollutants -Increased noise -Increased turbidity and sedimentation -Water contamination 	<ul style="list-style-type: none"> -Direct mortality or injury -Behavioral disturbance -Noise effects -Habitat loss -Habitat disturbance -Introduction of invasive species 	<ul style="list-style-type: none"> -Visual effects -Disturbance of cultural resources -Effects on recreation -Effects on navigation

Past, Present, and Reasonably Foreseeable Future Actions	General Effects on Physical Resources	General Effects on Biological Resources	General Effects on Social Resources
Navigation (including recreational and commercial)	<ul style="list-style-type: none"> -Generation of criteria pollutants -Increased noise -Increased turbidity -Water contamination -Generation of debris -Loss of wetland habitat 	<ul style="list-style-type: none"> -Direct mortality or injury -Behavioral effects -Noise effects -Habitat disturbance -Behavioral disturbance -Introduction of invasive species 	<ul style="list-style-type: none"> -Increased recreation -Increased vessel traffic
Recreation	<ul style="list-style-type: none"> -Generation of criteria pollutants -Increased noise -Increased turbidity -Water contamination 	<ul style="list-style-type: none"> -Direct mortality or injury -Behavioral disturbance -Noise effects -Habitat loss -Habitat disturbance -Altered or reduced prey sources -Introduction of invasive species 	<ul style="list-style-type: none"> -Disturbance of cultural resources -Increased recreation

3.2 RESOURCES WITH NO IMPACT

3.2.1 HAZARDOUS MATERIALS

The Preferred Alternative is the implementation of the RCP which does not include any ground disturbing activities that could disturb any existing hazardous contamination. Proposed alterations submitted for evaluation under the RCP could have potential impacts through utilization of hazardous materials. The RCP requires a requester to follow all applicable federal and state laws in handling and managing any hazardous materials related to construction of an alteration to avoid adverse environmental impacts. Environmental spills must be reported to appropriate authorities. Also, the requester must submit any information required by USACE regarding the use of hazardous materials. Implementation of the RCP only streamlines the review process for qualifying Section 408 requests. Overall, the Preferred Alternative is expected to have no impact on hazardous materials for the reasons stated above.

3.2.2 SOCIOECONOMICS/ENVIRONMENTAL JUSTICE

The Preferred Alternative is not expected to have an impact to socioeconomics or environmental justice. While implementation of the proposed alterations might require hiring skilled workers, the number of workers likely hired, and the temporary nature of the jobs would have a negligible impact on income and poverty within a state.

Regarding environmental justice, the Preferred Alternative is not expected to have an impact since the project would not disproportionately impact a minority population, low-income population, or children. A disproportionate impact could occur if the minority population is greater than 50% or substantially greater than the minority population in the U.S. The only state with a minority population greater than 50% and a greater minority population than the U.S. is New York at 50.3%. The U.S. has a minority population of 43.1%; therefore, New York is not substantially higher than the U.S. minority population. All the other states covered by the proposed RCP do not have minority populations that are greater than 50% nor is the minority population within the other states substantially greater than the minority population in the U.S.

A disproportionate impact could occur if the low-income population is substantially greater than the U.S.'s low-income population. The low-income population for the U.S. is 11.6%. Most of the states are within range of 11.6%. The only two states with slightly higher low-income populations are Kentucky (16.5%) and West Virginia (16.8%). The difference in percentage of these two states from the U.S. is about 5% which is not a substantial difference.

A disproportionate impact could occur if the population of children within a state is substantially greater than the population of children within the U.S. The percent of the population within the U.S. that are children under five years of age is 5.7% while the percent of the population within the U.S. that are children under 18 years old is 22.2%. Three states have a slightly higher percentage of their state population that are children under five years of age when compared to the U.S.: Indiana (6.0%), Kentucky (5.9%), and Tennessee (5.8%). The difference in percentage between these three states and

the U.S. is less than or equal to 0.3% which is not a substantial difference. Indiana is the only state with a slightly higher percentage (i.e., 23.3%) of their state population that are children under 18 years of age when compared to the U.S. The difference in percentage between this state and the U.S. is 1.1% which is not a substantial difference.

Looking at the broad analysis above on environmental justice (EJ), the Preferred Alternative of implementing the proposed RCP would have no impact to socioeconomics or EJ. The Preferred Alternative is the implementation of the proposed RCP which only streamlines the review process for qualifying Section 408 requests. However, a proposed alteration implemented under the proposed RCP could have a potential impact to an EJ community, but this would be dependent on the demographics of the area where the proposed alteration is being implemented. Therefore, a more focused evaluation by the district receiving an alteration request would need to occur once a submittal package is received. The District Engineer has discretionary authority to require processing under EC 1165-2-220 and public notice if the alteration could result in a disparate impact on an EJ community. Therefore, less than significant impacts to EJ are anticipated for alterations implemented under the proposed RCP.

3.3 RESOURCES WITH A POTENTIAL IMPACT

3.3.1 CLIMATE AND CLIMATE CHANGE

DIRECT AND INDIRECT EFFECTS

NO ACTION ALTERNATIVE

Under the No Action Alternative, USACE districts within LRD would not implement a RCP and would continue to review Section 408 requests using the same process that is currently followed. Each Section 408 request would be individually evaluated for compliance with environmental laws and NEPA documentation would be prepared at the appropriate level (categorical exclusion, environmental assessment [EA], or environmental impact statement [EIS]). The potential effects on climate and climate change that proposed alterations processed under the No Action Alternative could have, would be like the effects as those described for the Preferred Alternative.

PREFERRED ACTION ALTERNATIVE

The Preferred Alternative is not expected to have an impact to climate or climate change since the project would not cause a permanent or long-term change to climate or introduce a major greenhouse gas emission source. Short-term, the use of potentially heavy construction equipment to construct an alteration would result in short-term temporary GHG emissions from diesel and/or gasoline powered equipment. However, it would only be short-term and negligible since any construction emissions that would be above *de minimis* would not be implementable under the proposed RCP or this PEA. It is important to note that construction equipment typically represents a relatively small fraction of petroleum use when compared to road vehicles such as passenger cars. The transportation industry (i.e., trucks and cars) uses approximately 77% of diesel fuel in

the U.S., while the entire industrial sector (including all factories, commercial uses, and construction equipment) uses approximately 13% (USEIA, 2022). Therefore, in general, construction equipment emissions are a small fraction of GHG emissions.

Furthermore, any proposed alterations that would exceed the U.S. Environmental Protection Agency's (USEPA) source permitting applicability threshold of 75,000 carbon dioxide equivalents (CO₂e) tons per year for GHG emissions would not be implementable under the proposed RCP or this PEA. Long-term, implemented alterations may require the temporary use of construction equipment for repairs. The operation of the alterations is not anticipated to create a major greenhouse gas emission source, as alterations that would produce long-term emissions above *de minimis* would not be implementable under the proposed RCP or this PEA. Therefore, the Preferred Alternative would have a short-term minor/negligible impact and a long-term negligible impact on climate or climate change.

CUMULATIVE EFFECTS

The major past activities affecting climate and climate change in this geographic analysis area are agriculture, construction, industry, navigation (including recreational and commercial), and vehicle traffic. The major present, and reasonably foreseeable future activities that could potentially affect climate and climate change in LRD's Civil Works boundaries are agriculture, construction, hunting and fishing (including commercial and recreational fishing), industry, levee and channel operations and maintenance, locks and dams and maintenance, navigation (including recreational and commercial), recreation, restoration, scientific research, and vehicle traffic. All these activities, except restoration activities, could generate GHG emissions.

Streamlining the Section 408 review process through implementation of the proposed RCP could result in the issuance of a slightly higher number of Section 408 permissions per year. The general direct and indirect effects of the types of alterations described in the RCP are discussed above in Section 3.3.1. As the RCP would only apply to alterations with emissions below *de minimis* levels, implementation of the proposed RCP would result in either no contribution, or a minor negative contribution to cumulative effects on climate and climate change due to increased GHG emissions in the geographic analysis area. Given that the potential effects on climate and climate change that the No Action Alternative could have, would be similar to the effects as those described for the Preferred Alternative, both the No Action Alternative and the Preferred Alternative are expected to result in either no contribution, or a minor negative contribution to cumulative effects on climate and climate change due to GHG emissions within LRD's Civil Works boundary.

3.3.2 AIR QUALITY

DIRECT AND INDIRECT EFFECTS

NO ACTION ALTERNATIVE

Under the No Action Alternative, USACE districts within LRD would not implement a RCP and would continue to review Section 408 requests using the same process that is currently followed. Each Section 408 request would be individually evaluated for compliance with environmental laws and NEPA documentation would be prepared at the appropriate level (categorical exclusion, EA, or EIS). The potential effects on air quality that proposed alterations processed under the No Action Alternative could have, would be like the effects as those described for the Preferred Alternative. Currently, USACE Districts within LRD conduct a General Conformity review for each individual Section 408 alteration request. Under the No Action Alternative, USACE Districts within LRD would continue to conduct a General Conformity review for each individual Section 408 alteration request and would conduct General Conformity analyses as appropriate.

PREFERRED ALTERNATIVE

Most of the alterations described under the proposed RCP (Section 2.3) have relatively short construction timeframes and use a minimal amount of construction equipment. Emissions from these types of alterations are generally minor and limited to construction and thus temporary. Alterations of similar scale and scope that have received Section 408 permissions in the past have generally had emissions below *de minimis* levels. Under the Preferred Alternative, USACE Districts within LRD would continue to conduct a General Conformity review for each individual Section 408 alteration request. The proposed RCP would only be applicable to proposed alterations that have emissions below the *de minimis* levels for criteria air pollutants and are thus exempted by 40 C.F.R. 93.153. If emissions from a proposed alteration are expected to exceed *de minimis* levels, then the proposed RCP would not apply, and the Section 408 alteration request would undergo a standard review process as described under Section 2.2.

CUMULATIVE EFFECTS

The major past activities affecting air quality in this geographic analysis area are agriculture, construction, industry, navigation (including recreational and commercial), and vehicle traffic. The major present, and reasonably foreseeable future activities that could potentially affect air quality in LRD's Civil Works boundaries are agriculture, construction, hunting and fishing (including commercial and recreational fishing), industry, levee and channel operations and maintenance, locks and dams and maintenance, navigation (including recreational and commercial), recreation, restoration, scientific research, and vehicle traffic. All these activities, except restoration activities, could generate emissions of criteria pollutants and some could result in increased dust.

Streamlining the Section 408 review process through implementation of the proposed RCP could result in the issuance of a slightly higher number of Section 408 permissions per year. The general direct and indirect effects of the types of alterations described in the RCP are discussed above in Section 3.3.2. As the RCP would only apply to alterations with emissions below *de minimis* levels, implementation of the proposed RCP would result in either no contribution, or a minor negative contribution to cumulative effects on air quality in the geographic analysis area. Given that the potential

effects on air quality that the No Action Alternative could have, would be similar to the effects as those described for the Preferred Alternative, both the No Action Alternative and the Preferred Alternative are expected to result in either no contribution, or a minor negative contribution to cumulative effects on air quality in LRD's Civil Works boundary.

3.3.3 NOISE

DIRECT AND INDIRECT EFFECTS

NO ACTION ALTERNATIVE

Under the No Action Alternative, USACE districts within LRD would not implement a RCP and would continue to review Section 408 requests using the same process that is currently used. Each Section 408 request would be individually evaluated for compliance with environmental laws and NEPA documentation would be prepared at the appropriate level (categorical exclusion, EA, or EIS). The potential effects from noise that proposed alterations processed under the No Action Alternative could have, would be similar to the effects as those described for the Preferred Alternative.

PREFERRED ALTERNATIVE

All the alterations described under this CP would result in some level of noise during construction that would rise above the existing conditions. Elevated noise levels could have different types of impacts depending on where the proposed alteration is located. If the proposed alteration is located near a sensitive receptor, usually common in urban and suburban settings, noise could directly impact that receptor. Noise has several effects on human health and well-being. Excessive exposure to elevated noise levels can result in hearing loss, interfere with communication, disturb sleep, and can act as a biological stressor, resulting in non-auditory physiological responses (USEPA, Office of Noise Abatement and Control, 1981).

Fish and wildlife can also be affected by elevated noise levels. Species differ in their sensitivities and responses to noise exposure, and there can even be differences in sensitivity within species due to life-history stage and behavioral context. Noise stimuli may act as a distraction, startle animals into fleeing or hiding, and can mask biologically relevant sounds used for communication, detection of threats or prey, and spatial navigation (Francis and Barber, 2013). Fish are sensitive to loud noises in waterways, with sound generated from percussive pile driving having particularly negative impacts. Exposure to increased sound levels, either low levels over long periods of time, or high levels for shorter periods of time, may result in damage to fish auditory tissues and may even result in temporary hearing loss (Caltrans, 2015). Increased sound levels may alter fish behavior or even lead to mortality.

The effects of noise associated with alterations described under this RCP could range from non-noticeable from the existing conditions, to noticeable. Proposed alterations would be subject to local noise ordinances, which may restrict the days of the week and/or the time of day during which construction may take place. Federal regulations (29 C.F.R. Part 1910.95) safeguard the hearing of workers exposed to occupational

noise and are enforced by the Occupational Safety and Health Administration (OSHA) or relevant state agency.

CUMULATIVE EFFECTS

The geographic analysis area for cumulative effects includes all areas within one mile of a USACE federal project within LRD's Civil Works boundary. One mile is estimated to be the maximum distance that noise created by an alteration to the USACE project could be heard. The primary activities that could potentially affect noise in this geographic analysis area are agriculture, construction, fishing (including recreational and commercial), industry, levee and channel operation and maintenance, recreation, restoration, scientific research, and vehicle traffic. All these activities could result in increased levels of noise beyond the ambient condition.

Streamlining the Section 408 review process through implementation of the proposed RCP could result in the issuance of a slightly higher number of Section 408 permissions per year. The issuance of more Section 408 permissions could result in the construction of more alterations per year. The general direct and indirect effects of the types of alterations described in the RCP are discussed above in Section 3.3.3. Given these effects, implementation of the proposed RCP would result in either no contribution, or a minor negative contribution to cumulative effects on noise in the geographic analysis area. Given that the potential effects on noise that the No Action Alternative could have would be like the effects as those described for the Preferred Alternative, both the No Action Alternative and the Preferred Alternative are expected to result in either no contribution, or a minor negative contribution to cumulative effects on noise in the geographic analysis area.

3.3.4 WATER QUALITY

DIRECT AND INDIRECT EFFECTS

NO ACTION ALTERNATIVE

Under the No Action Alternative, USACE districts within LRD would not implement a RCP and would continue to review Section 408 requests using the same process that is currently used. Each Section 408 request would be individually evaluated for compliance with environmental laws, including obtaining any required permits, and NEPA documentation would be prepared at the appropriate level (categorical exclusion, EA, or EIS). The potential effects on water quality that proposed alterations processed under the No Action Alternative could have, would be like the effects as those described for the Preferred Alternative.

PREFERRED ALTERNATIVE

Some Section 408 requests that USACE Districts within LRD receive are for alterations that are not located in or near water and do not have any effect on water quality. However, many of the types of alterations described under the proposed RCP could have effects on water quality. In some cases, proposed alterations could have a

negative impact on water quality, but in other cases proposed alterations could have an overall beneficial effect.

The construction of proposed alterations could negatively affect water quality by causing erosion into aquatic resources, increasing turbidity, and decreasing water clarity. Turbidity can contribute to poor water quality and can be one of the leading causes of impaired water quality within a waterway. Erosion can also mobilize heavy metals in the soil, leading to contamination of aquatic resources. Besides contributing to erosion, construction equipment can spill fuel or other fluids, potentially leading to water contamination. However, for a proposed alteration to fit under the RCP, BMPs to control any point source discharges or storm water runoff, erosion, and contaminant spills (e.g., diesel fuel spills) would be incorporated in accordance with any required NPDES permits or equivalent state permits. The NPDES stormwater program regulates some stormwater discharges from three potential sources: municipal separate storm sewer systems, construction activities, and industrial activities. Operators of these sources may be required to obtain a permit before they can discharge stormwater. Additionally, any water quality impacts of construction of proposed alterations are expected to be temporary. The operations and maintenance of some proposed alterations may, however, also negatively affect water quality. For example, stormwater outfalls can release water contaminated by pollutants of highly turbid water into waterways, decreasing water quality. These types of water quality impacts may be temporary. In some areas, municipal stormwater discharges from these outfalls are regulated by state or federal environmental agencies through a permitting process.

Although construction activities generally have the potential to negatively affect water quality temporarily, some proposed alterations may have long-term beneficial effects on water quality. For example, erosion control and bank stabilization projects are expected to result over time in less erosion into waterways and thus are expected to contribute positively to water quality. Ecosystem restoration projects are another example of alterations that could have temporary negative impacts on water quality, but long-term beneficial effects. Overall, although less than significant impacts are anticipated through the implementation of the RCP, it is important to note that any proposed alteration would still have to undergo an environmental compliance review to ensure no significant impacts to water quality and that all necessary permits have been obtained.

CUMULATIVE EFFECTS

The geographic boundaries for the cumulative effects analysis are LRD's Civil Works boundary. The major past activities affecting water quality in this geographic analysis area are agriculture, construction, and industry. The primary activities that could potentially affect water quality in the geographic analysis area are agriculture, construction, fishing (including recreational and commercial), industry, levee and channel operation and maintenance, recreation, restoration, scientific research, and vehicle traffic.

Runoff from agricultural fields is a source of impaired water quality across the geographic analysis area. Past contamination has contributed to existing poor

conditions and present and future contamination is expected to continue influencing water quality. Past industrial runoff, including waste from mining operations, has been a major contributor to poor water quality in many areas throughout LRD's Civil Works boundary. Although industrial runoff is now more regulated, contamination from mining and other industries still contributes to poor water quality and is expected to continue. Construction activities can contribute temporarily to poor water quality by increasing sedimentation and turbidity and introducing contaminants into the water system. Additionally, construction of projects like dams, housing developments, stormwater drainage systems, etc. can lead indirectly to long term contributions to poor water quality.

Hunting and fishing, levee and channel maintenance, lock and dam operations and maintenance, recreation, and vehicle traffic are all expected to contribute to poor water quality currently and into the future. These types of activities can increase turbidity and sedimentation and can introduce contaminants, such as pesticides and vehicle fluids, into the water system. Scientific research has the potential to positively influence water quality by increasing scientific knowledge regarding water quality issues in the geographic analysis area. Habitat restoration also has the potential to positively influence water quality by restoring ecological function to degraded areas.

Streamlining the Section 408 review process through implementation of the proposed RCP could result in the issuance of a slightly higher number of Section 408 permissions per year. These types of alterations generally have minor and temporary highly localized effects on water quality; therefore, implementation of the proposed RCP would result in a minor negative contribution to cumulative effects on water quality in the geographic analysis area. Given that the potential effects on water quality that the No Action Alternative could have would be like the effects as those described for the Preferred Alternative, both the No Action Alternative and Preferred Alternative are expected to result in minor negative contribution to cumulative effects on water quality in the geographic analysis area.

3.3.5 *PHYSIOGRAPHY AND SOILS*

DIRECT AND INDIRECT EFFECTS

NO ACTION ALTERNATIVE

Under the No Action Alternative, USACE Districts within LRD would not implement a RCP and would continue to review Section 408 requests using the same process that is currently used. Each Section 408 request would be individually evaluated for compliance with environmental laws and NEPA documentation would be prepared at the appropriate level (categorical exclusion, EA, or EIS). The potential effects on geological resources and soils that proposed alterations processed under the No Action Alternative could have, would be like the effects as those described for the Preferred Alternative.

PREFERRED ALTERNATIVE

The construction of proposed alterations could negatively affect soils through ground disturbance activities (e.g., demolition, ground clearing, etc.). Ground disturbance activities can also temporarily increase the potential erosion of soils. However, for a proposed alteration to fit under the RCP, BMPs to control any point source discharges or storm water runoff, erosion, and contaminant spills (e.g., diesel fuel spills) would be incorporated in accordance with any required NPDES permits or state equivalent permits. In addition, upland areas that may be temporarily cleared for staging of equipment and materials during construction must be returned to pre-construction conditions following construction. Restoring temporarily cleared areas would minimize bare soils that erode easier than vegetated soils.

Although construction activities generally have the potential to negatively affect soils temporarily, some proposed alterations may have long-term beneficial effects on soils. For example, erosion control and bank stabilization projects are expected to stabilize soils and thus are expected to positively contribute to reduced erosion of soils over time. Ecosystem restoration projects are another example of alterations that could have temporary negative impacts on soils, but long-term beneficial effects. In addition, any borrow materials necessary for construction are required to be free of trash and debris and free of toxic pollutants; therefore, introduced material would not be expected to negatively affect soils by introducing contaminants. Overall, although no significant impacts are anticipated through the implementation of the RCP, it is important to note that any proposed alteration would still have to undergo an environmental compliance review to ensure no significant impacts to physiography and soils and that all necessary permits have been obtained.

CUMULATIVE EFFECTS

The geographic analysis for cumulative effects consists of USACE federal projects within LRD's Civil Works boundary. The major past, present, and reasonably foreseeable future activities that have affected or could potentially affect physiography and soils in this geographic analysis area are agriculture, construction, industry, levee and channel operation and maintenance, lock and dam operation and maintenance and restoration. Past construction, agricultural, and industrial activities, levee and channel operation and maintenance and lock and dam operation and maintenance activities have resulted in the disturbance of physiography and soil horizons and possibly the covering of soils with fill material throughout the geographic analysis area. These types of activities are expected to continue in the future.

Streamlining the Section 408 review process through implementation of the proposed RCP could result in issuance of a slightly higher number of Section 408 permissions per year. These types of alterations generally include ground disturbance activities that could negatively affect soils and temporarily increase erosion potential of soils. However, for a proposed alteration to fit under the RCP, BMPs to control any point source discharges or storm water runoff, erosion, and contaminant spills would be incorporated in accordance with any required NPDES permits or state equivalent permits. Additionally, the Preferred Alternative includes returning any temporarily

cleared areas for staging to their pre-existing condition following construction. Therefore, implementation of the proposed RCP would result in a minor effect to physiography and soils in the geographic analysis area. Given that the potential effects on physiography and soils the No Action Alternative could have would be like the effects as those described for the Preferred Alternative, both the No Action Alternative and Preferred Alternative are expected to result in a minor contribution to cumulative effects on physiography and soils in the geographic analysis area.

3.3.6 WETLANDS

DIRECT AND INDIRECT EFFECTS

NO ACTION ALTERNATIVE

Under the No Action Alternative, USACE districts within LRD would not implement a RCP and would continue to review Section 408 requests using the same process that is currently used. Each Section 408 request would be individually evaluated for compliance with environmental laws and NEPA documentation would be prepared at the appropriate level (categorical exclusion, EA, or EIS). The potential effects on wetlands that proposed alterations processed under the No Action Alternative could have, would be like the effects as those described for the Preferred Alternative. Section 404 of the CWA requires authorization from USACE for activities that would result in discharge of dredged or fill material into waters of the United States, including wetlands, while work proposed in navigable waters requires authorization under Section 10 of the Rivers and Harbors Act. Before a Section 408 permission is issued, it is determined if the proposed alteration requires authorization under Section 404 and/or Section 10. If a permit under Section 404 and/or Section 10 is needed, necessary coordination of the two actions occurs. Section 404 and/or Section 10 permits cannot be granted until Section 408 permission is obtained. In addition, EC 1165-2-220 specifies that if a Section 401 Water Quality Certification is necessary for an alteration, then the Section 408 permission cannot be granted until the Section 401 certification has been obtained or waived.

PREFERRED ALTERNATIVE

Some of the alterations described under this RCP could result in the discharge of fill or dredged material to wetlands or other waters of the United States. Some of these alterations could result in permanent impacts to aquatic resources, while others would result in less than significant impacts to wetlands.

Under the Preferred Alternative, USACE Districts within LRD would continue to individually evaluate each Section 408 request to ensure compliance with the CWA and Rivers and Harbors Act. If a permit under Section 404 and/or Section 10 is necessary for a proposed alteration, coordination of the two actions would occur. Section 404 and/or Section 10 permits cannot be granted until Section 408 permission is obtained. The coordination process should be synchronized with Regulatory Division. In addition, any alteration that requires an individual Section 404 permit, an individual Section 10 permit or statutory or non-statutory wetland mitigation would not be eligible for this RCP.

For any alteration requiring a Section 401 certification, the 408 Program Coordinator would ensure that this certification has been obtained or waived, as provided for by statute, before Section 408 permission is granted.

CUMULATIVE EFFECTS

The geographic analysis area for cumulative effects consists of the USACE federal project areas within LRD's Civil Works boundary. The major past, present, and reasonably foreseeable future activities that have affected or could potentially affect waters in this geographic analysis are agriculture, construction, industry, levee and channel operations and maintenance, lock and dam operations and maintenance, navigation (including recreational and commercial), recreation, restoration, and vehicle traffic. Past construction, agricultural and industrial activities, levee and channel operation and maintenance, lock and dam operations and maintenance, navigation (including recreational and commercial), recreation, and vehicle traffic have results in the loss or degradation of waters throughout the geographic analysis area. These activities continue to impact waters and impacts are expected to continue in the future.

Streamlining the Section 408 review process through implementation of the proposed RCP could result in issuance of a slightly higher number of Section 408 permissions per year. These types of alterations are generally covered by Regulatory Nationwide Permits and have minor environmental effects. Additionally, the Preferred Alternative includes conditions that would minimize the potential for adverse impacts to waters. Therefore, implementation of the proposed RCP would result in a minor contribution to cumulative effects on waters in the geographic analysis area. Given that the potential effects on wetlands that the No Action Alternative could have would be like the effects as those described for the Preferred Alternative, both the No Action Alternative and Preferred Alternative are expected to result in a minor contribution to cumulative effects on waters in the geographic analysis area.

3.3.7 FISH AND WILDLIFE

DIRECT AND INDIRECT EFFECTS

NO ACTION ALTERNATIVE

Under the No Action Alternative, USACE Districts within LRD would not implement a RCP and would continue to review Section 408 requests using the same process that is currently used. Each Section 408 request would be individually evaluated for compliance with environmental laws and NEPA documentation would be prepared at the appropriate level (categorical exclusion, EA, or EIS). The potential effects on fish and wildlife that proposed alterations processed under the No Action Alternative could have, would be like the effects as those described for the Preferred Alternative. Currently USACE Districts within LRD individually evaluate each Section 408 request for consultation needs under the FWCA and, as appropriate, consult with the USFWS and the appropriate state agency.

PREFERRED ALTERNATIVE

The alterations described under the RCP could affect fish and wildlife in several ways. Noise from construction activities could startle individuals, causing them to vacate the immediate area, these impacts are expected to be mostly temporary. However, it is important to note that any proposed alteration would undergo an environmental compliance review to ensure, for example, that noise generated from construction activities would not harm species. This would mean ensuring the proposed alteration is in compliance with the FWCA (as appropriate) and ESA (refer to Section 3.3.9 for Threatened and Endangered Species discussion). For each individual proposed alteration small areas may be temporarily cleared for staging of equipment and materials during construction, which could temporarily remove wildlife habitat. However, a condition of the RCP is that any disturbed area be returned to its pre-construction state following construction; therefore, any staging area impacts to wildlife habitat are expected to be temporary. Under the Preferred Alternative, each proposed alteration would be evaluated on a case-by-case basis for potential effects to migratory birds and bald and golden eagles. The footprints of the proposed alterations themselves may permanently affect fish and wildlife habitat. In some cases, such as in ecosystem restoration projects, the effects may result in a net positive benefit to fish and/or wildlife habitat. In other cases, the proposed alterations may result in the permanent removal or alteration of fish and/or wildlife habitat.

Some of the alterations described under the RCP could result in permanent modifications to streams or other bodies of water, which could permanently affect (potentially in positive or negative ways, depending on the type of project) habitat for both fish and wildlife species. Under the Preferred Alternative, USACE districts within LRD would individually evaluate each Section 408 request to determine if the waters of any stream or other body of water are proposed or authorized to be impounded, diverted, the channel deepened, or the stream or other body of water otherwise controlled or modified for any purpose. As appropriate, USACE Districts within LRD would consult with the USFWS and the appropriate state agency pursuant to the FWCA.

CUMULATIVE EFFECTS

The geographic analysis for cumulative effects consists of the USACE federal projects within LRD's Civil Work's boundary. The major past, present, and reasonably foreseeable future activities that have affected or could potentially affect fish and wildlife in this geographic analysis area are agriculture, construction, hunting and fishing (including recreational and commercial fishing), industry, levee and channel operation and maintenance, lock and dam operation and maintenance, navigation (including recreational and commercial), recreation, restoration, scientific research, and vehicle traffic. As previously discussed, many past activities, including agriculture, urban expansion (i.e., construction), and industry, have reduced the amount and degraded the quality of much of the natural habitat across USACE federal projects within LRD's Civil Work's boundary. Construction and the continued operation and maintenance of federal projects (i.e., levees and channels, lock, and dams, etc.) has also contributed to habitat

loss. Alternatively, past restoration activities have added or improved habitat, generally resulting in a positive impact on fish and wildlife species.

All the previously mentioned activities have the potential to kill or injure fish and/or wildlife in a variety of ways. Vehicle strikes are a common source of injury or death of individuals, although fishing and recreational hunting are also common sources of injury or death. All the activities also have the potential to alter the behavior of fish and/or wildlife. Loud noises generated by construction or vehicle traffic may alter physiology or force individuals to vacate certain areas. The presence of people may cause nesting birds to vacate their nests. Fishing or hunting activities may reduce or alter prey sources for several different species, potentially leading to decreased fitness or causing individuals to vacate an area. Scientific research generally has short-term negative effects on individuals but may result in long-term positive effects by increasing scientific knowledge about species.

Streamlining the Section 408 review process through implementation of the proposed RCP could result in the issuance of a slightly higher number of Section 408 permissions per year. These types of alterations generally have minor and temporary effects (positive and/or negative) on fish and wildlife; therefore, implementation of the proposed RCP would result in a minor negative contribution to cumulative effects on fish and wildlife in the geographic analysis area. Given that the potential effects on fish and wildlife that the No Action Alternative could have would be like the effects as those described for the Preferred Alternative, the No Action Alternative is expected to result in a minor negative contribution to cumulative effects on fish and wildlife in the geographic analysis area.

3.3.8 INVASIVE SPECIES

DIRECT AND INDIRECT EFFECTS

NO ACTION ALTERNATIVE

Under the No Action Alternative, USACE districts within LRD would not implement a RCP and would continue to review Section 408 requests using the same process that is currently used. Each Section 408 request would be individually evaluated for compliance with environmental laws and NEPA documentation would be prepared at the appropriate level (CP, EA, or EIS). The potential effects on invasive species that proposed alterations processed under the No Action Alternative could have, would be like the effects as those described for the Preferred Alternative with one exception. Currently, Section 408 permissions do not typically include a standard condition requiring requesters to design projects to minimize the introduction of exotic and invasive species and they do not require requesters to ensure that all seed mixes used consist only of native species; the exception being ecosystem restoration alterations. Individual requesters may include measures like these in their proposed project designs, but there is not currently a standard condition regarding exotic and invasive species.

PREFERRED ALTERNATIVE

All the types of alterations described under the proposed RCP have the potential to affect exotic and invasive species in some way. Many of the types of alterations may have the potential to introduce new exotic and invasive species to an area or exacerbate existing exotic and invasive populations. Noxious weed seeds may be introduced to an area through unwashed equipment or seed mixes that have not been certified as weed free. Many exotic and invasive plant species respond positively to disturbance, particularly if a population is already established in an area that is disturbed by construction (Larson, 2003). Construction of alterations often result in ground disturbance, which could lead to new invasions of construction sites, or exacerbation of existing noxious weed populations. Both aquatic and terrestrial non-plant exotic and invasive species may also be introduced to a site through construction equipment, including barges, or worker vehicles.

Some of the types of alterations, such as ecosystem restoration, may reduce exotic and invasive species populations. Many restoration projects involve exotic and invasive species removal components, usually using herbicide and/or manual removal methods. These types of projects could result in the reduction or eradication of existing exotic and invasive species populations.

Under the Preferred Alternative, all proposed alterations must be designed to minimize the introduction of exotic and invasive species (both plant and animal) and any seed mixes used in site restoration must consist only of native species. In addition, all construction equipment must be cleaned prior to being brought to the construction site, to minimize the chance of accidental transmission of invasive species.

CUMULATIVE EFFECTS

The geographic analysis area for cumulative effects consists of the USACE federal project areas within LRD's Civil Work's boundary. The major past, present, and reasonably foreseeable future activities that have affected or could potentially affect invasive species in this geographic analysis area are agriculture, construction, hunting and fishing (including recreational and commercial fishing), industry, levee and channel operation and maintenance, lock and dam operation and maintenance, navigation (including recreational and commercial), recreation, restoration, scientific research, and vehicle traffic. Human activities have introduced most invasive species infestations throughout the United States, and LRD's Civil Work's boundary is no exception. All of the aforementioned activities have contributed in some manner to current invasive species infestations on USACE projects within LRD's Civil Work's boundary and are expected to continue to contribute to infestations. All the activities have the potential to introduce new invasive species, spread invasive species, and exacerbate existing infestations. Although restoration activities have the potential to contribute to invasive species infestations, they also have the potential to diminish or fully eradicate local infestations of invasive species.

Streamlining the Section 408 review process through implementation of the proposed RCP could result in the issuance of a slightly higher number of Section 408 permissions

per year. These types of alterations generally have minor effects on invasive species. Additionally, the Preferred Alternative includes a condition that specifies that proposed alterations must be designed to minimize the introduction of exotic and invasive species (both plant and animal) and any seed mixes used in site restoration must consist only of native species. All construction equipment must also be cleaned prior to being brought to the construction site, to minimize the chance of accidental transmission of invasive species. Therefore, implementation of the proposed RCP would result in a minor negative contribution to cumulative effects on invasive species in the geographic analysis area. Given that the potential effects on invasive species that the No Action Alternative could have would be like the effects as those described for the Preferred Alternative, both the No Action Alternative and Preferred Alternative are expected to result in a minor negative contribution to cumulative effects on invasive species in the geographic analysis area.

3.3.9 THREATENED AND ENDANGERED SPECIES

DIRECT AND INDIRECT EFFECTS

NO ACTION ALTERNATIVE

Under the No Action Alternative, USACE districts within LRD would not implement a RCP and would continue to review Section 408 requests using the same process that is currently used. Each Section 408 request would be individually evaluated for compliance with environmental laws and NEPA documentation would be prepared at the appropriate level (categorical exclusion, EA, or EIS). The potential effects on threatened and endangered species that proposed alterations processed under the No Action Alternative could have, would be like the effects as those described for the Preferred Alternative. Currently, each Section 408 request is individually evaluated for potential effects to threatened and endangered species listed under the federal ESA and, as appropriate, consultation is conducted under Section 7 of the ESA with the USFWS.

PREFERRED ALTERNATIVE

The Preferred Alternative is for the USACE districts within LRD to implement a RCP that would streamline the review process of Section 408 requests for minor alterations to USACE federal projects. As the implementation of a streamlined review process would not involve any on-the-groundwork, there are no anticipated effects to threatened and endangered species resulting from the issuance of the RCP.

However, the RCP would cover a variety of actions that are similar in nature and result in less than significant effects. Many of these individual actions could affect threatened or endangered species. Due to the large geographical area covered by the RCP, as well as the large number of federally listed species that could occur in this area, it is not practical to discuss the potential project-specific impacts of each of these actions on threatened and endangered species. Under the Preferred Alternative, USACE Districts within LRD would continue to individually evaluate each Section 408 request on a case-by-case basis for potential effects to threatened and endangered species (and their

designated critical habitat) listed under the federal ESA and, as appropriate, consult under Section 7 of the ESA with the USFWS.

CUMULATIVE EFFECTS

The geographic analysis area for cumulative effects consists of the USACE federal project areas within LRD's Civil Work's boundary. The major past, present, and reasonably foreseeable future activities that have affected or could potentially affect threatened and endangered species in this geographic analysis area are agriculture, construction, hunting and fishing (including recreational and commercial fishing), industry, levee and channel operation and maintenance, lock and dam operation and maintenance, navigation (including recreational and commercial), recreation, restoration, scientific research, and vehicle traffic. Most of these activities have negatively affected, and are expected to continue to affect, threatened and endangered species, either through habitat loss or direct mortality.

Streamlining the Section 408 review process through implementation of the proposed RCP could result in the issuance of a slightly higher number of Section 408 permissions per year. These types of alterations generally are expected to have no adverse effects on threatened and endangered species, additionally, under the Preferred Alternative, the districts within LRD would individually evaluate each proposed alteration and consult under Section 7 as appropriate. Therefore, implementation of the proposed RCP would result in a minor contribution to cumulative effects on threatened and endangered species and designated critical habitat in the geographic analysis area. Given that the potential effects on threatened and endangered species that the No Action Alternative could have would be like the effects as those described for the Preferred Alternative, both the No Action Alternative and Preferred Alternative are expected to result in a minor contribution to cumulative effects on threatened and endangered species in the geographic analysis area.

3.3.10 VEGETATION

DIRECT AND INDIRECT EFFECTS

NO ACTION ALTERNATIVE

Under the No Action Alternative, USACE districts within LRD would not implement a RCP and would continue to review Section 408 requests using the same process that is currently used. Each Section 408 request would be individually evaluated for compliance with environmental laws and NEPA documentation would be prepared at the appropriate level (categorical exclusion, EA, or EIS). The potential effects on vegetation that proposed alterations processed under the No Action Alternative could have, would be like the effects as those described for the Preferred Alternative.

PREFERRED ALTERNATIVE

All the types of alterations described under the RCP could have an effect on vegetation if they occur in vegetated areas. Many of the alterations involve excavation, which would likely kill any vegetation growing in the excavated area. Some of the alterations

(e.g., borrow areas) specifically call for the clearing and grubbing of all vegetation in the proposed excavation site. One or more small areas may be temporarily cleared for staging of equipment and materials during construction. However, a condition of the proposed RCP is that the disturbed area(s) used for staging must be returned to the pre-construction state following construction. As previously discussed, any seed mixes used in site restoration must follow the recommendations in the site's operations and maintenance manual. Therefore, in staging areas there would be temporary negative effects on vegetation, but the requirement to replant (if the staging area was vegetated pre-construction) with native vegetation would offset those effects.

Many of the types of alterations may also affect vegetation through soil compaction. Soil compaction is common when heavy equipment is used and can persist for many years, this compaction can alter soil structure and hydrology. This can inhibit seed germination and seedling growth and lead to physiological effects on mature plants, including reduction in mineral absorption, reduction in photosynthesis, and growth hormone imbalances, among other effects (Kozlowski, 1999). The intensity of effects of compaction on vegetation is largely dependent on-site species, soil texture, the soil water regime, and degree of compaction (Lipiec, 1995; Gomez et al., 2002).

For alterations covered by the RCP, access to the construction area must use previously disturbed areas to minimize disturbance and soil compaction outside the alteration area. Some of the proposed alterations, such as ecosystem restoration, may have beneficial effects on vegetation. All environmental restoration alterations contain a native vegetation planting component, usually of grasses, forbs, shrubs, and trees.

CUMULATIVE EFFECTS

The geographic analysis area for cumulative effects consists of the USACE federal project areas within LRD's Civil Work's boundary. The major past present, and reasonably foreseeable future activities that have affected or could potentially affect vegetation in this geographic analysis area are agriculture, construction, industry, levee and channel operation and maintenance, lock and dam operation and maintenance, navigation (including recreational and commercial), recreation, restoration, scientific research, and vehicle traffic.

As previously discussed, agriculture and construction activities have had major impacts on native habitat throughout LRD's Civil Work's boundary. These types of activities have resulted in the loss of much of the native vegetation in the geographic analysis area. The impacts of these activities on vegetation are often direct, such as the direct removal of vegetation during a construction project or the conversion of native vegetation to agriculture. However, often the impacts to vegetation are indirect, through soil compaction, pollution, etc. Within the geographic analysis area, levee and channel maintenance has a large impact on vegetation. Local maintaining agencies are tasked with maintaining the USACE federal projects to standards specified in the O&M manual for each specific USACE project. These standards generally include maintaining sod cover, mowing vegetation, and preventing trees and brush from persisting on the levees. Although most of the activities result in negative effects to vegetation,

restoration generally results in long-term positive effects as most restoration activities involve native vegetation plantings.

Streamlining the Section 408 review process through implementation of the proposed RCP could result in the issuance of a slightly higher number of Section 408 permissions per year. These types of alterations generally have minor and temporary effects on vegetation, additionally, the Preferred Alternative incorporates a number of conditions to minimize effects to vegetation (see Section 2.3). Therefore, implementation of the proposed RCP would result in a minor contribution to cumulative effects on vegetation in the geographic analysis area. Given that the potential effects on vegetation that the No Action Alternative could have would be like the effects as those described for the Preferred Alternative, both the No Action Alternative and the Preferred Alternative are expected to result in a minor contribution to cumulative effects on vegetation in the geographic analysis area.

3.3.11 AESTHETICS AND RECREATION

DIRECT AND INDIRECT EFFECTS

NO ACTION ALTERNATIVE

Under the No Action Alternative, USACE districts within LRD would not implement a RCP and would continue to review Section 408 requests using the same process that is currently used. Each Section 408 request would be individually evaluated for compliance with environmental laws and NEPA documentation would be prepared at the appropriate level (categorical exclusion, EA, or EIS). The potential effects on aesthetics and recreation that proposed alterations processed under the No Action Alternative could have, would be like the effects as those described for the Preferred Alternative.

PREFERRED ALTERNATIVE

The types of alterations covered by the proposed RCP have the potential to affect aesthetics and recreation in a variety of ways. Construction of most of the types of alterations covered by the proposed RCP could temporarily adversely affect visual quality by degrading visual resources or obstructing or altering views. Construction equipment may obstruct or alter views. Similarly, construction noise could temporarily adversely affect recreational activities, especially passive recreational activities (e.g., such as hiking, bird watching, biking, etc.) that may be within the vicinity of a proposed alteration. Staging of construction equipment or access to a proposed alteration site could also temporarily adversely affect recreational activities if recreational trails, water trails, or ports are used for staging and/or site access.

In addition to temporary impacts, many of the alterations could have long-term adverse effects on visual resources. Although adverse effects are possible, alterations could result in long-term beneficial effects on visual quality by either enhancing visual resources or by creating better views of those resources. Effects of proposed alterations on aesthetics and recreation are expected to be minor. Potential aesthetic effects to

historic properties would be evaluated by USACE staff meeting the Secretary of the Interior's Qualifications and consulted on with the appropriate State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO) on a case-by-case basis. The types of alterations covered by the proposed CP are not expected to affect the intrinsic values of the designated National Scenic Byways, Wild and Scenic Rivers, National Forests, National Parks, or National Lakeshores that may be adjacent or intersecting USACE federal projects within LRD USACE districts. In addition, specific to designated Wild and Scenic Rivers, the USACE districts within LRD would continue to individually evaluate each Section 408 request for applicability of Section 7 of the Wild and Scenic Rivers Act and would consult with the appropriate river-administering agency as appropriate.

CUMULATIVE EFFECTS

The geographic analysis area for cumulative effects consists of the viewsheds surrounding USACE federal project areas within LRD's Civil Work's boundary. The geographic analysis area for cumulative effects also consists of the USACE federal project areas, as well as any designated recreation areas abutting USACE federal projects within LRD's Civil Work's boundary. The major past, present, and reasonably foreseeable future activities that have affected or could potentially affect aesthetics and recreation in this geographic analysis area are agriculture, construction, hunting and fishing (including recreational and commercial fishing), industry, levee and channel operation and maintenance, lock and dam operation and maintenance, navigation (including recreational and commercial), recreation, and restoration. Some of these activities have resulted in improved aesthetics and some have resulted in decreased aesthetic quality. Regarding recreation, past construction activities have resulted in numerous recreation areas located on and adjacent to USACE projects. Current and future construction activities could result in temporary closures of recreation areas in the geographic analysis area; however, some of these activities could result in new or improved recreational facilities. Besides construction, all the activities have the potential to either obstruct or enhance recreation.

Streamlining the Section 408 review process through implementation of the proposed RCP could result in the issuance of a slightly higher number of Section 408 permissions per year. As aesthetics are a subjective resource, with quality depending on the viewer, the effects of proposed alterations can be difficult to quantify; however, these types of alterations generally have minor effects on aesthetics. Regarding recreation, these types of alterations generally have minor and temporary effects on recreation; therefore, implementation of the proposed RCP would result in a minor contribution to cumulative effects on aesthetics and recreation in the geographic analysis area. Given that the potential effects on aesthetics and recreation that the No Action Alternative could have would be similar to the effects as those described for the Preferred Alternative, both the No Action Alternative and Preferred Alternative are expected to result in a minor contribution to cumulative effects on aesthetics and recreation in the geographic analysis area.

3.3.12 CULTURAL RESOURCES

DIRECT AND INDIRECT EFFECTS

NO ACTION ALTERNATIVE

Under the No Action Alternative, USACE districts within LRD would not implement a RCP and would continue to review Section 408 requests using the same process that is currently used. Each Section 408 request would be individually evaluated for compliance with environmental laws and NEPA documentation would be prepared at the appropriate level (categorical exclusion, EA, or EIS). The potential effects on cultural resources that proposed alterations processed under the No Action Alternative could have, would be similar to the effects as those described for the Preferred Alternative. Currently, Secretary of the Interior-qualified cultural resources staff (qualified staff) within the various districts of LRD individually evaluate each Section 408 request for the potential to affect cultural resources and, when there is the potential to affect, conduct consultation with the appropriate SHPO or THPO pursuant to Section 106 of the NHPA. When a proposed alteration has the potential to affect cultural resources, potentially interested federally recognized Native American tribes identified through the Native American Heritage Commission would also be included in the consultation process.

PREFERRED ALTERNATIVE

The Preferred Alternative is for USACE districts within LRD to implement a RCP that would streamline the review process of Section 408 requests for minor alterations to USACE projects. As the implementation of a simplified review process would not involve any on-the-ground work, the issuance of the RCP does not have the potential to affect historic properties. However, many alterations covered by the RCP have the potential to affect cultural resources. Due to the large geographical area proposed to be covered by the RCP, it is not practical or appropriate to discuss the potential project-specific effects of each of these actions on cultural resources. Under the Preferred Alternative, qualified staff within the various districts of LRD would continue to individually evaluate each Section 408 request on a case-by-case basis for the potential to affect cultural resources and, when there is the potential to affect, conduct consultation with the appropriate SHPO or THPO pursuant to Section 106 of the NHPA. In addition, when a proposed alteration has the potential to affect cultural resources, USACE Districts within LRD would identify and consult with all potentially interested federally recognized Native American tribes.

CUMULATIVE EFFECTS

The geographic analysis area for cumulative effects consists of the USACE federal project areas within LRD's Civil Work's boundary. The major past, present, and reasonably foreseeable future activities that have affected, or could potentially affect, cultural resources in this geographic analysis area are agriculture, construction, hunting and fishing (including recreational and commercial fishing), industry, levee and channel operation and maintenance, lock and dam operation and maintenance, navigation (including recreational and commercial), recreation, restoration, scientific research, and vehicle traffic.

Streamlining the Section 408 review process through implementation of the proposed RCP could result in the issuance of a slightly higher number of Section 408 permissions per year. These types of alterations are expected to have minor effects on cultural resources. Therefore, implementation of the proposed RCP would result in a minor contribution to cumulative effects on cultural resources in the geographic analysis area. Given that the potential effects on cultural resources that the No Action Alternative could have would be like the effects described for the Preferred Alternative, both the No Action Alternative and the Preferred Alternative are expected to result in a minor contribution to cumulative effects on resources in the geographic analysis area.

3.3.13 FARMLAND AND AGRICULTURE

DIRECT AND INDIRECT EFFECTS

NO ACTION ALTERNATIVE

Under the No Action Alternative, USACE districts within LRD would not implement a RCP and would continue to review Section 408 requests using the same process that is currently used. Each Section 408 request would be individually evaluated for compliance with environmental laws and NEPA documentation would be prepared at the appropriate level (categorical exclusion, EA, or EIS). The potential effects on farmland and agriculture that proposed alterations processed under the No Action Alternative could have, would be like the effects as those described for the Preferred Alternative.

PREFERRED ALTERNATIVE

The Preferred Alternative is for USACE districts within LRD to implement a RCP that would streamline the review process of Section 408 requests for minor alterations to USACE federal projects. As the implementation of a simplified review process would not involve any on-the-ground work, the decision to issue the RCP does not have the potential to affect farmland or agriculture. However, the RCP would be for a variety of actions that are similar in nature and effect. Some of these individual actions would have the potential to affect farmland and/or agriculture.

Some of the alterations described under the proposed RCP, particularly the construction of buildings, borrow sites, ecosystem restoration projects, could result in the conversion or private farmland to nonagricultural uses. However, some of the alterations described under the proposed RCP could positively affect farmland and agriculture. For example, alterations to ditches, pump stations, and utility pipes could all directly enhance farm irrigation systems, resulting in a positive effect to agriculture.

CUMULATIVE EFFECTS

The geographic analysis area for cumulative effects consists of the USACE federal project areas within LRD's Civil Work's boundary. The major past, present, and reasonably foreseeable future activities that have affected, or could potentially affect, farmland and agriculture in this geographic analysis are agriculture, construction,

industry, levee and channel operation and maintenance, lock and dam operation and maintenance, and restoration. These activities have both increased and decreased the amount of farmland in the geographic analysis area in the past and are expected to continue to do so into the future.

Streamlining the Section 408 review process through implementation of the proposed RCP could result in the issuance of a slightly higher number of Section 408 permissions per year. These types of alterations generally have minor effects on farmland and agriculture. Therefore, implementation of the proposed RCP would result in a minor contribution to cumulative effects on farmland and agriculture in the geographic analysis area. Given that the potential effects on farmland and agriculture that the No Action Alternative could have would be similar to the effects as those described for the Preferred Alternative, both the No Action Alternative and the Preferred Alternative are expected to result in a minor contribution to cumulative effects on these resources in the geographic analysis area.

3.3.14 TRANSPORTATION AND TRAFFIC

DIRECT AND INDIRECT EFFECTS

NO ACTION ALTERNATIVE

Under the No Action Alternative, USACE districts within LRD would not implement a RCP and would continue to review Section 408 requests using the same process that is currently used. Each Section 408 request would be individually evaluated for compliance with environmental laws and NEPA documentation would be prepared at the appropriate level (categorical exclusion, EA, or EIS). The potential effects on transportation and traffic that proposed alterations processed under the No Action Alternative could have, would be similar to the effects as those for the Preferred Alternative.

PREFERRED ALTERNATIVE

Construction of the types of alterations described under the RCP could have temporary effects on traffic during the duration of the construction. Construction of most alterations would require vehicles to transport equipment, material, and construction personnel. These vehicles would increase the amount of traffic in the vicinity of a proposed alteration. Some alterations may take place on or near roadways, potentially requiring temporary land closures or traffic detours during construction. Bridge replacement projects in particular have a high potential to disrupt traffic, including navigation, during construction, however, some types of alterations could have long-term beneficial effects on transportation. For example, bridge replacement or widening projects may have temporary negative effects on traffic during construction, but generally improve transportation once construction is complete. Alterations that involve construction of bicycle or pedestrian trails may improve traffic by providing opportunities for alternative forms of transportation, decreasing the number of vehicles on nearby roads.

Construction activities associated with the types of alterations covered by the proposed RCP are expected to affect transportation and traffic by increasing the number of vehicles using nearby roads and potentially resulting in lane or entire road closures. However, once construction is complete, the types of alterations covered by the proposed RCP are expected to have either neutral or beneficial long-term effects on transportation and traffic. Following construction, alterations are not expected to have long-term negative effects.

CUMULATIVE EFFECTS

The geographic analysis area for cumulative effects consists of the USACE federal project areas and adjacent roadways within LRD’s Civil Work’s boundary. The major past, present, and reasonably foreseeable future activities that have affected or could potentially affect transportation and traffic in this geographic analysis area are construction, industry, lock and dam operation and maintenance, navigation (including recreational and commercial), and vehicle traffic. Past construction has resulted in new and improved roadways, and additional roadways are expected to be constructed in the future. Present and future construction activities may result in temporary road closures, resulting in temporary negative impacts to traffic; however, the long-term impacts of construction on transportation and thus traffic, are expected to be positive. Industry generally results in additional traffic on the roads.

Streamlining the Section 408 review process through implementation of the proposed RCP could result in the issuance of a slightly higher number of Section 408 permissions per year. These types of alterations generally have minor and temporary effects on transportation and traffic; therefore, implementation of the proposed RCP would result in a minor contribution to cumulative effects on transportation and traffic in the geographic analysis area. Given that the potential effects on transportation and traffic that the No Action Alternative could have would be similar to the effects as those described for the Preferred Alternative, both the No Action Alternative and Preferred Alternative are expected to result in a minor contribution to cumulative effects on transportation and traffic in the geographic analysis area.

3.3.15 ENVIRONMENTAL CONSEQUENCES SUMMARY

This section summarizes the finding so the environmental consequences analysis above. Table 3 shows the potential effects of implementing the Preferred Alternative for the environmental resources evaluated versus the No Action Alternative. Overall, implementing the Preferred Alternative would result in less than significant impacts.

Table 3. Summary of environmental consequences.

Environmental Resource	No Action Alternative	Preferred Alternative
Climate and Climate Change	Less than Significant Impact	Less than Significant Impact
Air Quality	Less than Significant Impact	Less than Significant Impact

Environmental Resource	No Action Alternative	Preferred Alternative
Noise	Less than Significant Impact	Less than Significant Impact
Water Quality	Less than Significant Impact	Less than Significant Impact
Physiography and Soils	Less than Significant Impact	Less than Significant Impact
Wetlands	Less than Significant Impact	Less than Significant Impact
Fish and Wildlife	Less than Significant Impact	Less than Significant Impact
Invasive Species	Less than Significant Impact	Less than Significant Impact
Threatened and Endangered Species	Less than Significant Impact	Less than Significant Impact
Vegetation	Less than Significant Impact	Less than Significant Impact
Aesthetics and Recreation	Less than Significant Impact	Less than Significant Impact
Cultural Resources	Less than Significant Impact	Less than Significant Impact
Farmland and Agriculture	Less than Significant Impact	Less than Significant Impact
Transportation and Traffic	Less than Significant Impact	Less than Significant Impact

4.0 REGULATORY SETTING

The following federal laws, regulations, and EO's are relevant to the proposed action. The Preferred Alternative would be in compliance with all laws, regulations, and EO's, as described in the following sections.

4.1 FEDERAL LAWS

American Indian Religious Freedom Act of 1978, as amended (42 U.S.C. 1996 et seq.)

The American Indian Religious Freedom Act was created to protect and preserve the traditional religious rights, including the access of sacred sites, of American Indians, Eskimos, Aleuts, and Native Hawaiians. Under the Preferred Alternative, the USACE districts within LRD would consult with Native American tribes on proposed alterations that would have the potential to affect cultural resources. This consultation process would provide tribes with the opportunity to identify sacred sites that may be affected by proposed alterations and raise concerns.

Archaeological and Historic Preservation Act of 1974, as amended (54 U.S.C. 312501 et seq.)

The Archaeological and Historic Preservation Act requires that a federal agency must notify the Secretary of the Interior if its actions may "cause irreparable loss or destruction of significant scientific, prehistoric, historical, or archaeological data." Under the Preferred Alternative, USACE districts within LRD would evaluate each Section 408 request on a case-by-case basis for its potential effects on cultural resources. Consultation with the appropriate SHPO or THPO on any proposed alterations that would have the potential to affect historic properties would occur. If a proposed alteration is found to have the potential to cause irreparable loss or destruction of significant scientific, prehistoric, historical, or archaeological data, the relevant district within LRD would notify the Secretary of the Interior before proceeding.

Archaeological Resources Protection Act of 1979, as amended (16 U.S.C. 470 et seq.)

The Archaeological Resources Protection Act (ARPA) is intended to secure the protection of archaeological resources and sites on federal and Indian lands. ARPA states that the excavation or removal, and any activities associated with such excavation or removal, of any archaeological resource located on federal or Indian lands requires a permit, issued by the Federal land manager. Under the Preferred Alternative, the USACE districts within LRD would continue to individually evaluate each Section 408 request for compliance with ARPA and any proposed activity that would result in the excavation or removal of archaeological resources located on federal or Indian lands would be required to obtain a permit.

Bald and Golden Eagle Protection Act of 1940, as amended (16 U.S.C. 668 et seq.)

The Bald and Golden Eagle Protection Act prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" (take is defined as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb") bald or golden eagles,

including their parts, nests, or eggs. Under the Preferred Alternative, the USACE districts within LRD would continue to individually evaluate each Section 408 request for compliance with the Bald and Golden Eagle Protection Act.

Clean Air Act of 1972, as amended, (42 U.S.C. 7401 et seq.)

The CAA regulates air emissions from stationary and mobile sources. Section 176(C) of the CAA, also known as the General Conformity Rule, prohibits federal agencies from carrying out, funding, or permitting any activity in a nonattainment or maintenance area “which does not conform to an implementation plan after it has been approved or promulgated” (42 U.S.C. 7506). Under the Preferred Alternative, the USACE Districts within LRD would continue to conduct a General Conformity review for each individual Section 408 alteration request. The proposed RCP would only be applicable to proposed alterations that are expected to have emissions below the *de minimis* levels for criteria air pollutants and are thus exempted by 40 C.F.R. 93.153.

Clean Water Act (33 U.S.C. 1344 et seq.)

Section 404 of the CWA regulates the discharge of dredged or fill material into waters of the United States, including wetlands. The USEPA promulgates Section 404 regulations; however, the USACE Regulatory Program evaluates, and issues permits for proposed activities in waters of the United States. Section 401 of the CWA requires that applicants for federal permits or licenses provide certification from the state that any discharges will comply with state-established water quality standard requirements. Requesters must obtain a Section 401 certification for the proposed action before USACE can issue a Section 408 permission and before the USACE Regulatory Program can authorize a permit under Section 404. EC 1165-2-220 specifies that USACE will coordinate internally to ensure that the Section 404 permit and the Section 408 permissions are synchronized. Under the Preferred Alternative, the USACE Districts within LRD would continue to individually evaluate each Section 408 request and coordinate with the USACE Regulatory Program to ensure compliance with the CWA. In addition, activities requiring an individual Section 404 Permit do not qualify for the RCP nor to activities requiring statutory or non-statutory wetlands mitigation.

Coastal Zone Management Act of 1972

The CZMA provides for the management of the nation’s coastal resources, including the Great Lakes. The goal is to “preserve, protect, develop, and where possible, to restore or enhance the resources of the nation’s coastal zone.” The CZMA requires each Federal agency activity within or outside the coastal zone that affects any land or water use or natural resource of the coastal zone be carried out in a manner which is consistent to the maximum extent practicable with the enforceable policies of approved State management programs. Under the Preferred Alternative, the USACE districts within LRD would continue to individually evaluate each Section 408 request for consistency with the relevant state’s coastal management program’s enforceable policies and, as appropriate, conduct consistency review with the relevant state’s coastal management program. Additionally, in the future, the USACE districts within LRD may complete programmatic consistency reviews with the relevant state’s coastal management program.

Endangered Species Act of 1973, as amended, (16 U.S.C. 1531 et seq.)

The ESA requires federal agencies to consult with the USFWS and/or the National Oceanic and Atmospheric Administration-National Marine Fisheries Service (NMFS) when their actions may affect federally threatened or endangered species or their designated critical habitat. Under the Preferred Alternative, the USACE districts within LRD would continue to individually evaluate each Section 408 request for potential effects to threatened and endangered species (and their designated critical habitat) listed under the federal ESA and, as appropriate, conduct consultation under Section 7 of the ESA with the USFWS and/or the NMFS. Additionally, in the future, the USACE districts within LRD may complete programmatic consultation(s) with the USFWS and/or NMFS.

Farmland Protection Policy Act of 1984 (7 U.S.C. 4201 et seq.)

The FPPA was instituted in order to “minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, and to assure that Federal programs are administered in a manner that, to the extent practicable, will be compatible with State, unit of local government, and private programs and policies to protect farmland.” Federal permitting for activities on private or non-federal lands is not considered to be a federal program under the FPPA (7 C.F.R. 658.2).

Fish and Wildlife Coordination Act of 1934, as amended, (16 U.S.C. 661 et seq.)

The FWCA requires that federal agencies consult with the USFWS and the head of the agency exercising administration over the wildlife resources of the particular state, “whenever the waters of any stream or other body of water are proposed or authorized to be impounded, diverted, the channel deepened, or the stream or other body of water otherwise controlled or modified for any purpose whatever” (16 USC 662). Under the Preferred Alternative, the USACE districts within LRD would continue to individually evaluate each Section 408 request for the potential to impound, divert, deepen, control, or modify a stream or other body of water and, as appropriate, consult with the USFWS, as appropriate, under FWCA.

Intermodal Surface Transportation Efficiency Act of 1991 (P.L. 102-240)

The Intermodal Surface Transportation Efficiency Act established the National Scenic Byways Program, implemented by the Federal Highway Administration (FHWA). The Intermodal Surface Transportation Efficiency Act does not have regulatory authority over federal actions affecting National Scenic Byways. Additionally, the types of alterations covered by the proposed RCP are not expected to affect the intrinsic values of the designated National Scenic Byways adjacent to or intersecting USACE federal projects within LRD’s boundary.

Magnuson-Stevens Fishery Conservation and Management Act of 1976, as amended (16 U.S.C. 1801 et seq.)

The Magnuson-Stevens Fishery Conservation and Management Act is the primary law governing marine fisheries management in U.S. federal waters. It requires that fishery management councils identify as essential fish habitat those areas necessary for fish to

perform their basic life functions. The Magnuson-Stevens Fishery Conservation and Management Act also requires that federal agencies consult with NMFS when their actions may adversely impact essential fish habitat. Under the Preferred Alternative, the USACE districts within LRD would continue to individually evaluate each Section 408 request for potential adverse effects to essential fish habitat and would consult with NMFS as appropriate.

National Environmental Policy Act of 1969, as amended, (42 U.S.C. 4321 et seq.)

NEPA requires federal agencies to assess the environmental effects of their proposed actions prior to decision making. This PEA has been prepared following CEQ NEPA Regulations (40 C.F.R. 1500-1508), the USACE ER 200-2-2 (33 C.F.R. 230), and the CEQ guidance on the Effective Use of Programmatic NEPA Reviews (CEQ 2014) and satisfies the NEPA requirements. Under the Preferred Alternative, the applicability of this PEA to individual proposed alterations would be coordinated with Regulatory Division.

Native American Graves and Repatriation Act of 1990 (25 U.S.C. 3001 et seq.)

The Native American Graves and Repatriation Act (NAGPRA) provides protection for Native American burial sites and control over the removal of Native American human remains, funerary objects, sacred objects, and items of cultural patrimony on federal and tribal lands. Under the Preferred Alternative, if proposed alterations are located on federal or tribal land, they would be reviewed on a case-by-case basis for compliance under the NAGPRA. A Plan of Action for inadvertent discoveries of Native American cultural items would be prepared for all proposed alterations located on federal or tribal land. The RCP requires that inadvertent discoveries of human remains be immediately reported to local law enforcement and USACE.

Noise Control Act of 1972, as amended (42 U.S.C. 4901 et seq.)

The Noise Control Act established a national policy to promote an environment for all Americans free from noise that jeopardizes their health or welfare. The RCP proposed under the Preferred Alternative is in compliance with the Noise Control Act.

Plant Protection Act of 2000 (7 U.S.C. 7701 et seq.)

The Plant Protection Act states that “the detection, control, eradication, suppression, prevention, or retardation of the spread of plant pests or noxious weeds is necessary for the protection of the agriculture, environment, and economy of the United States.” Furthermore, the Act prohibits the import, entrance, export, or movement in interstate commerce of any plant pest, unless authorized by permit issued by the Secretary of Agriculture (7 U.S.C. 7711). The proposed RCP would not result in the import, entrance, export, or interstate movement of plant pests; additionally, under the RCP, requesters would be required to use seed mixes containing only native plant species.

Rivers and Harbors Appropriation Act of 1899 (22 U.S.C. 403 et seq.)

Section 10 of the Rivers and Harbors Appropriation Act (33 U.S.C. 403) requires that the construction of any structure in, over or under any navigable water in the United States receive a permit. This applies to all structures and any dredging or disposal of

dredged materials, excavation, filling, rechannelization, or any other modification of a navigable water of the U.S. Additionally, Section 10 applies outside of navigable water if any structure or work will affect the course, location, or condition of a navigable water. The USACE Regulatory Program is responsible for the issuance of permits under Section 10. EC 1165-2-220 specifies that USACE will coordinate internally to ensure that the Section 10 permit and the Section 408 permissions are consistent. Under the Preferred Alternative, the USACE districts within LRD would continue to individually evaluate each Section 408 request and coordinate with the USACE Regulatory Program to ensure compliance with Section 10. In addition, alterations requiring an individual Section 10 permit do not qualify for the RCP

Wild and Scenic Rivers Act of 1968 (16 U.S.C. 1273 et seq.)

The Wild and Scenic Rivers Act is intended to preserve, in a free-flowing condition, certain rivers with outstanding natural, cultural, and recreational values. Specifically, the Act prohibits federal agencies from assisting in the construction of any water resources project that would have a direct and adverse effect on a designated river or congressionally authorized study river. Under the Preferred Alternative, the USACE districts within LRD would continue to individually evaluate each Section 408 request for applicability of Section 7 of the Wild and Scenic Rivers Act and would consult with the appropriate river-administering agency as appropriate.

Docks and/or associated access structures must not be installed in a component of the National and Wild Scenic River System, or a river officially designated by Congress as a study river for possible inclusion in the system while the river is in an official study status, unless the appropriate agency with direct management responsibility for such river was determined, in writing, that the proposed dock and/or associated access structure will not adversely affect the Wild and Scenic River designation or study status.

4.2 EXECUTIVE ORDERS

EO 11988, Floodplain Management

EO 11988 requires that each agency “avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative.” The guidelines for implementing EO 11988 outline an eight-step process for complying with EO 11988 (FEMA, 2015).

A condition of the Preferred Alternative is that no proposed alteration may induce additional development within the floodplain.

EO 11990, Protection of Wetlands

EO 11990 directs federal agencies to “minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands.” Although EO 11990 does not apply to the issuance by federal agencies of permits to private parties for activities involving wetlands on non-federal property, it does apply to activities involving wetlands on federal property. Under the Preferred Alternative, the

USACE districts within LRD would continue to individually evaluate each Section 408 request and coordinate with the USACE Regulatory Program to ensure compliance with the CWA.

EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

In accordance with Title III of the Civil Rights Act of 1964 and EO 12898, the proposed RCP would neither directly or through contractual or other arrangements, use criteria, methods, or practices that discriminate on the basis of race, color, or national origin nor would it have a disproportionate effect on minority or low-income communities.

EO 13007, Indian Sacred Sites

EO 13007 requires that, when managing Federal lands, executive branch agencies shall “(1) accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and (2) avoid adversely affecting the physical integrity of such sacred sites.” Under the Preferred Alternative, the USACE districts within LRD would continue to individually evaluate each Section 408 request on a case-by-case basis for the potential to affect cultural resources and, when there is the potential to affect Indian sacred sites conduct consultation with the appropriate Native American tribes.

EO 13112, Invasive Species

EO 13112 requires that federal agencies identify their actions that may affect the status of invasive species and “not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere.” Under the Preferred Alternative, the USACE districts within LRD would require requesters to use seed mixes containing only native plant seeds. The USACE districts within LRD would not issue Section 408 permission for actions that are likely to cause or promote the introduction or spread of invasive species.

EO 13175, Consultation with Indian Tribes, Alaska Natives, and Native Hawaiians

EO 13175 requires that federal agencies seek “meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications.” Under the Preferred Alternative, the USACE districts within LRD would continue to individually evaluate each Section 408 request on a case-by-case basis for the potential to affect cultural resources and, when there is the potential to affect, coordinate with the appropriate Native American tribes.

EO 13653, Preparing the United State for the Impacts of Climate Change, as per instructions provided in Preparing Federal Agency Climate Change Adaptation Plans in Accordance with EO 13653

EO 13653 provides guidance and requirements for Federal agencies to consider climate change in planning, design, construction, and operation and maintenance of their projects. Under the Preferred Alternative, proposed alterations that result in construction emissions that would be above de minimis or that would exceed the USEPA’s source permitting applicability threshold of 75,000 CO₂e tons per year for GHG emissions would not be implementable under the proposed RCP.

EO 13751, Safeguarding the Nation from the Impacts of Invasive Species

EO 13751 states that it “is the policy of the United States to prevent the introduction, establishment, and spread of invasive species, as well as to eradicate and control populations of invasive species that are established.” Under the Preferred Alternative, the USACE districts within LRD would require requesters to use seed mixes containing only native plant species.

EO 14008, Tackling the Climate Crisis at Home and Abroad

Requires all agencies to submit a Climate Action Plan that identifies agency vulnerabilities, steps to bolster adaptation, and increase climate resilience of facilities. Implementation of the Preferred Alternative would not jeopardize USACE’s Climate Action Plan.

4.3 SUMMARY OF COMPLIANCE WITH APPLICABLE LAWS, POLICIES, AND PLANS

Table 4. Summary of compliance with applicable laws, policies, and plans discussed above.

Reference	Environmental Statutes/Regulations	Project Compliance^a
42 U.S.C. 1996, <i>et seq.</i>	American Indian Religious Freedom Act of 1978, as amended	C
54 U.S.C. 312501, <i>et seq.</i>	Archaeological and Historic Preservation Act of 1974, as amended	C
16 U.S.C. 470, <i>et seq.</i>	Archaeological Resources Protection Act of 1979, as amended	C
16 U.S.C. 668, <i>et seq.</i>	Bald and Golden Eagle Protection Act of 1940, as amended	C
42 U.S.C. 7401, <i>et seq.</i>	Clean Air Act of 1972, as amended	C
33 U.S.C. 1344, <i>et seq.</i>	Clean Water Act	C
16 U.S.C. 1531, <i>et seq.</i>	Endangered Species Act of 1973, as amended	C
7 U.S.C. 4201, <i>et seq.</i>	Farmland Protection Policy Act of 1984	C
16 U.S.C. 661, <i>et seq.</i>	Fish and Wildlife Coordination Act of 1958, as amended	C
P.L. 102-240	Intermodal Surface Transportation Efficiency Act of 1991	C
16 U.S.C. 1801, <i>et seq.</i>	Magnuson-Stevens Fishery Conservation and Management Act of 1976, as amended	C
42 U.S.C. 4321, <i>et seq.</i>	National Environmental Policy Act of 1969, as amended	C
25 U.S.C. 3001, <i>et seq.</i>	Native American Graves and Repatriation Act of 1990	C
42 U.S.C. 4901, <i>et seq.</i>	Noise Control Act of 1972, as amended	C
7 U.S.C. 7701, <i>et seq.</i>	Plant Protection Act of 2000	C
22 U.S.C. 403, <i>et seq.</i>	Rivers and Harbors Act of 1899	C
16 U.S.C. 1273, <i>et seq.</i>	Wild and Scenic Rivers Act of 1968	C
EO 11988	Floodplain Management	C
EO 11990	Protection of Wetlands	C
EO 12898	Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations	C
EO 13007	Indian Sacred Sites	C

Reference	Environmental Statutes/Regulations	Project Compliance^a
EO 13112	Invasive Species	C
EO 13175	Consultation with Indian Tribes, Alaska Natives, and Native Hawaiians	C
EO 13653	Preparing the United State for the Impacts of Climate Change, as per instructions provided in Preparing Federal Agency Climate Change Adaptation Plans in Accordance with EO 13653	C
EO 13751	Safeguarding the Nation from the Impacts of Invasive Species	C
EO 14008	Tackling the Climate Crisis at Home and Abroad	C

^a C = Compliance, P = Pending

5.0 COORDINATION AND REVIEW OF THE RCP/PEA

Per NEPA requirements and USACE guidance in EC 1165-2-220, two separate public notices were prepared regarding the proposed action. The following sections provide additional detail on the two separate public notices.

5.1 SCOPING

A scoping notice was posted on the seven district websites located within LRD from March 14, 2022, through April 13, 2022. The scoping notice described the alternatives, the activities covered by the proposed RCP, and the potential environmental effects being considered. In addition to posting the scoping notice on USACE district websites, a notification was also sent directly to agencies and tribal nations listed in Table B-1 and B-2 in Appendix B. USACE received 19 responses to the public scoping notice. Agencies that provided comments included Monroe County Department of Transportation [New York]; Pennsylvania Department of Transportation; Bradford District Flood Control Authority [Pennsylvania]; Metropolitan Water Reclamation District of Greater Chicago; USEPA, Region 5; New York Department of Natural Resources; Kentucky Division of Water; and Ohio Department of Transportation. Of the 19 responses received, 10 were from the following Tribal Nations—Eastern Shawnee Tribe, Little Traverse Bay Bands of Odawa Indians, Miami Tribe of Oklahoma, Nottawaseppi Huron Band of the Potawatomi, Osage Nation, Peoria Tribe of Indians of Oklahoma, Pokégnek Bodéwadmik Pokagon Band of Potawatomi, and Winnebago Tribe of Nebraska. The comments in their entirety can be found in Appendix C.

5.2 PUBLIC REVIEW OF THE DRAFT RCP/PEA

A notice of availability for public review was posted on the seven district websites located within LRD from July 5, 2023, through August 4, 2023. The notice of availability for public review provided the public an opportunity to comment on the Draft RCP/PEA. In addition to posting the notice of availability for public review on USACE district websites, a notification was also sent directly to agencies and tribal nations listed in Tables D-1, D-2, and D-3 in Appendix D. USACE received eight responses on the Draft RCP/PEA during the public review period. Agencies that provided comments included Michigan Department of Environment, Great Lakes, and Energy; West Virginia Department of Arts, Culture, and History; USEPA Region 5, and the Mayor of Wilson County, Tennessee. In addition, three of the responses received were from the following Tribal Nations—Forest County Potawatomi, Nottawaseppi Huron Band of the Potawatomi, Winnebago Tribe of Nebraska, and the Delaware Nation. The comments in their entirety can be found in Appendix E.

The Forest County Potawatomi and the Winnebago Tribe of Nebraska requested to be included in any consultations for proposed alterations implemented under the RCP/PEA. In addition, the Forest County Potawatomi requested continuance of notification of any proposed alterations implemented under the RCP/PEA. Lastly, all three tribal nations that provided comments stated the following—

“In the event an Inadvertent Discovery (ID) occurs at any phase of a project or undertaking as defined, and human remains or archaeologically

significant materials are exposed as a result of project activities, work should cease immediately. The Tribe(s) must be included with the State Historic Preservation Office in any consultation regarding treatment and disposition of an ID find.”

In summary, comments received during the public review period were considered and included where appropriate; however, the comments received did not change any of the analysis of environmental effects in the PEA nor affected the scope or intent of the RCP in such a way that another public review period would be necessary.

6.0 REFERENCES

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- n.d.d. National Wild and Scenic Rivers System: Au Sable River, Michigan. Accessed at: <https://www.rivers.gov/rivers/ausable.php>
- n.d.e. National Wild and Scenic Rivers System: Bear Creek, Michigan. Accessed at: <https://www.rivers.gov/rivers/bear.php>
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- n.d.j. National Wild and Scenic Rivers System: Ontonagon River, Michigan.
Accessed at: <https://www.rivers.gov/rivers/ontonagon.php>
- n.d.k. National Wild and Scenic Rivers System: Paint River, Michigan.
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7.0 LIST OF PREPARERS

Bonnie Jennings, Section 408 Program Manager, Great Lakes and Ohio River Division

Colin Smalley, Section 408 Coordinator, Chicago District

Brett Latta, Section 408 Coordinator, Huntington District

Joseph Kasperski, Civil Engineer, Buffalo District

Shawna Herleth-King, Environmental Compliance RTS, Chicago District

Junette Toe, Civil Engineer, Louisville District

Curtis Sedlacek, Cultural Resources/Tribal Nations RTS, Detroit District

Susanne Herald, Attorney, Great Lakes and Ohio River Division

Dr. Hank Jarboe, Deputy Chief & Senior Regional Environmental Planner, Great Lakes
and Ohio River Division

Appendix A – Affected Environment (i.e., Baseline Conditions)

Please note that the following headings and subheadings reflect the numbering in the main Draft PEA for each resource category.

3.2.1 CLIMATE AND CLIMATE CHANGE

Climate and climate change are discussed by region using information from the Fourth National Climate Assessment. The Midwest Region includes Illinois, Indiana, Michigan, Ohio, and Wisconsin states covered under the proposed RCP. Over the past 30 years, the Midwest has experienced increased rainfall from April to June (Angel et al., 2018). Daily minimum temperatures have increased in all seasons due to increasing humidity. Warm-season temperatures are projected to increase more in the Midwest than any other region of the United States. Extreme rainfall events and flooding have increased in the Midwest during the last century, and these trends are expected to continue, causing erosion and declining water quality (Angel et al., 2018).

The Southeast Region includes Kentucky and Tennessee states covered under the proposed RCP. Observed warming since the mid-20th century has been uneven in the Southeast region, with average daily minimum temperatures increasing three times faster than average daily maximum temperatures (Carter et al., 2018). The number of extreme rainfall events is increasing. Climate model simulations of future conditions project increases in both temperature and extreme precipitation (Carter et al., 2018).

The Northeast Region includes New York, Pennsylvania, and West Virginia states covered under the proposed RCP. The recent dominant trend in precipitation throughout the Northeast has been towards increases in rainfall intensity, with increases in intensity exceeding those in other regions of the contiguous United States (Dupigny-Giroux et al., 2018). Further increases in rainfall intensity are expected, with increases in total precipitation expected during the winter and spring but with little change in the summer. Monthly precipitation in the Northeast is projected to be about 1 inch greater for December through April by end of century (2070-2100) under the higher scenario.

3.2.2 HAZARDOUS MATERIALS

The status of existing HTRW within each state is difficult to define at a high level. HTRW at specific sites where alterations could potentially be proposed under the RCP could have potential impacts through utilization of hazardous materials. However, requestors utilizing the RCP would be required to follow all applicable federal and state laws in handling and managing any hazardous materials related to construction activities.

3.2.3 SOCIOECONOMICS/ENVIRONMENTAL JUSTICE

Socioeconomic status is the position of an individual or group on the socioeconomic scale, which is determined by a combination of social and economic factors such as income, amount and kind of education, median income, poverty rate, and demographics. The Preferred Alternative includes the implementation of the RCP which would cover all or portions of ten states. U.S. Census Bureau Data was obtained for the ten states and compared to the United States as a whole (Table A-1).

Table A-1. U.S. Census Bureau Data for the 10 States Covered by the Proposed RCP and PEA and the United States.

Category	State										United States
	Illinois	Indiana	Kentucky	Michigan	New York	Ohio	Pennsylvania	Tennessee	West Virginia	Wisconsin	
Population											
Population Estimate, July 1, 2022, (V2022)	12,582,032	6,833,037	4,512,310	10,034,113	19,677,151	11,756,058	12,972,008	7,051,339	1,775,156	5,892,539	333,287,557
Persons under 5 years	5.6%	6.0%	5.9%	5.5%	5.5%	5.7%	5.3%	5.8%	5.0%	5.4%	5.7%
Persons under 18 years	22.1%	23.3%	22.5%	21.4%	20.7%	22.1%	20.6%	22.1%	20.1%	21.6%	22.2%
Race											
White	76.3%	84.2%	87.1%	79.0%	69.1%	81.2%	81.0%	78.2%	93.1%	86.6%	75.8%
Black or African American	14.7%	10.2%	8.6%	14.1%	17.6%	13.2%	12.2%	17.0%	3.7%	6.8%	13.6%
American Indian and Alaska Native	0.6%	0.4%	0.3%	0.7%	1.0%	0.3%	0.4%	0.5%	0.3%	1.2%	1.3%
Asian	6.1%	2.7%	1.7%	3.4%	9.3%	2.7%	3.9%	2.0%	0.9%	3.2%	6.1%
Native Hawaiian and Other Pacific Islander	0.1%	0.1%	0.1%	0%	0.1%	0.1%	0.1%	0.1%	0%	0.1%	0.3%
Two or More Races	2.2%	2.3%	2.2%	2.7%	2.8%	2.6%	2.3%	2.2%	2.0%	2.2%	2.9%
Hispanic or Latino	18.0%	7.7%	4.2%	5.6%	19.5%	4.3%	8.4%	6.1%	1.9%	7.5%	18.9%
Education											
High School and Graduate or Higher	89.9%	89.8%	87.7%	91.6%	87.4%	91.1%	91.4%	88.8%	88.1%	92.9%	88.9%
Bachelor's Degree or Higher	36.2%	27.8%	25.7%	30.6%	38.1%	29.7%	33.1%	29.0%	21.8%	31.5%	33.7%
Income & Poverty											
Median Household Income	\$72,563	\$61,944	\$55,454	\$63,202	\$75,157	\$61,938	\$67,587	\$58,516	\$50,884	\$67,080	\$69,021
Persons in Poverty	12.1%	12.2%	16.5%	13.1%	13.9%	13.4%	12.1%	13.6%	16.8%	10.8%	11.6%

Source: U.S. Census Bureau. 2023. Quickfacts. Accessed at: <https://www.census.gov/quickfacts/fact/table/US/PST045221>

3.3.2 AIR QUALITY

Air quality is determined by a variety of factors, including the locations of air pollutant sources, the amount of pollutants emitted, topography, and meteorological conditions, such as temperature, wind speed, etc. The Clean Air Act (CAA) of 1970, as amended (42 U.S.C. 7401 *et seq.*) regulates air emissions from stationary and mobile sources and authorizes the USEPA to establish National Ambient Air Quality Standards (NAAQS) to protect public health and welfare and to regulate emissions of hazardous pollutants.

Section 176(C) of the CAA prohibits federal agencies from carrying out, funding, or permitting any activity in a nonattainment or maintenance area “which does not conform to an implementation plan after it has been approved or promulgated” (42 U.S.C. 7506). This is known as the General Conformity rule; under General Conformity, federal agencies must work with state, tribal, and local governments in nonattainment and maintenance areas to ensure that federal actions conform to established air quality implementation plans. Federal actions that result in the emission of air pollutants in attainment areas or undesignated areas are not subject to the requirements of the General Conformity rule. Many federal actions in nonattainment and maintenance areas do not result in significant increases in emission; therefore, the USEPA has designated *de minimis* emissions levels, based on an area’s designation and classification, for each of the criteria pollutants. If the total direct and indirect emissions from a proposed federal action are below *de minimis* levels, the action is exempt from conformity determination requirements. If the total direct and indirect emissions from a proposed federal action are above *de minimis* levels, then a General Conformity analysis is required (USEPA, 2017). To achieve conformity, a federal action must conform to the applicable State Implementation Plan/Tribal Implementation Plan and not “contribute to new violations of standards for ambient air quality, increase the frequency or severity of existing violations, or delay timely attainment of standards in the area of concern (U.S. Department of Energy, 2000).”

The affected environment described below lists the counties within each state that have either nonattainment status or maintenance status. Counties within attainment are not detailed in the affected environment section.

AFFECTED ENVIRONMENT

The federal CAA requires the USEPA to set NAAQS for six criteria pollutants (i.e., carbon monoxide, lead, nitrogen dioxide, particulate matter, ozone, and sulfur dioxide) which are considered harmful to public health and the environment. Areas not meeting the NAAQS for one or more of the criteria pollutants are designated as “nonattainment” areas by the USEPA.

Regarding potential project sites within the states covered under this PEA, whether sites are in attainment, nonattainment, or maintenance status in terms of meeting NAAQS is highly dependent on location. Generally, nonattainment and/or maintenance status for some criteria pollutants applies to urban areas, whereas attainment status for some or all criteria pollutants applies to areas that are considered more rural or less densely

populated. Figure 1 of the PEA shows areas within the assessed states for this PEA that are in nonattainment status for certain criteria pollutants. Carbon monoxide and nitrogen dioxide criteria pollutants are not included in the below table as there have been no violations of these standards since 2010 (USEPA, 2019).

Table A-2. Nonattainment areas for NAAQS criteria pollutants in states within LRD's civil works boundary (USEPA, 2019).

Areas	Criteria Pollutants					
	Lead (2008)	PM2.5 Annual (2012)	Particulate Matter (PM2.5 24-hr) (2006)	Particulate Matter (PM10) (1987)	Ozone 8-hr (2015)	Sulfur Dioxide (2010)
Illinois						
<i>LaSalle County; Oglesby</i>	-	-	-	Maintenance (1990)	-	-
<i>Cook County; Lyons Township</i>	-	-	-	Maintenance (1990)	-	-
<i>Cook County; Southeast Chicago</i>	-	-	-	Maintenance (1990)	-	-
<i>Chicago</i>	Maintenance (2011)	-	-	-	Nonattainment (2018)	-
<i>Pekin</i>	-	-	-	-	-	Maintenance (2013)
<i>Lemont</i>	-	-	-	-	-	Maintenance (2013)
Indiana						
<i>Lake County; Cities of East Chicago, Hammond, Whiting, and Gary</i>	-	-	-	Maintenance (1990)	-	-
<i>Vermillion County; Part of Clinton Township</i>	-	-	-	Maintenance (1990)	-	-
<i>Chicago, IN</i>	-	-	-	-	Nonattainment (2018)	-
<i>Louisville, IN</i>	-	-	-	-	Nonattainment (2018)	-
<i>Terre Haute</i>	-	-	-	-	-	Maintenance (2013)
<i>Southwest Indiana</i>	-	-	-	-	-	Maintenance (2013)
<i>Morgan County</i>	-	-	-	-	-	Maintenance (2013)
<i>Indianapolis</i>	-	-	-	-	-	Maintenance (2013)
<i>Huntington</i>	-	-	-	-	-	Nonattainment (2018)
<i>Muncie</i>	Maintenance (2010)	-	-	-	-	-
Kentucky						
<i>Louisville</i>	-	-	-	-	Nonattainment (2018)	-
<i>Henderson-Webster</i>	-	-	-	-	-	Nonattainment
<i>Campbell-Clermont Counties</i>	-	-	-	-	-	Maintenance (2013)
Michigan						
<i>Detroit-Ann Arbor</i>	-	-	Maintenance (2009)	-	-	-
<i>Berrien County</i>	-	-	-	-	Nonattainment (2018)	-
<i>Allegan County</i>	-	-	-	-	Nonattainment (2018)	-
<i>Muskegon County</i>	-	-	-	-	Nonattainment (2018)	-
<i>Detroit</i>	-	-	-	-	Nonattainment (2018)	Nonattainment (2013)
<i>St. Clair</i>	-	-	-	-	-	Nonattainment (2016)
<i>Belding</i>	Maintenance (2011)	-	-	-	-	-
New York						
<i>New York-N. New Jersey-Long Island</i>	-	-	Maintenance (2009)	-	Nonattainment (2018)	-
<i>New York County</i>	-	-	-	Nonattainment (1994)	-	-
<i>St. Lawrence County</i>	-	-	-	-	-	Nonattainment
Ohio						
<i>Cleveland</i>	Maintenance (2010)	Maintenance (2015)	-	-	Nonattainment (2018)	-
<i>Cleveland-Akron-Lorain</i>	-	-	Maintenance (2009)	-	-	-

Areas	Criteria Pollutants					
	Lead (2008)	PM2.5 Annual (2012)	Particulate Matter (PM2.5 24-hr) (2006)	Particulate Matter (PM10) (1987)	Ozone 8-hr (2015)	Sulfur Dioxide (2010)
<i>Canton-Massillon</i>	-	-	Maintenance (2009)	-	-	-
<i>Steubenville-Weirton</i>	-	-	Maintenance (2009)	-	-	-
<i>Cuyahoga County</i>	-	-	-	Maintenance (1990)	-	-
<i>Jefferson County</i>	-	-	-	Maintenance (1990)	-	-
<i>Cincinnati</i>	-	-	-	-	Nonattainment (2018)	-
<i>Columbus</i>	-	-	-	-	Maintenance (2018)	-
<i>Lake County</i>	-	-	-	-	-	Maintenance (2013)
<i>Muskingum River</i>	-	-	-	-	-	Nonattainment (2013)
<i>Campbell-Clermont Counties</i>	-	-	-	-	-	Maintenance (2013)
<i>Steubenville</i>	-	-	-	-	-	Maintenance (2013)
<i>Delta</i>	Maintenance (2010)	-	-	-	-	-
<i>Bellefontaine</i>	Maintenance (2010)	-	-	-	-	-
Pennsylvania						
<i>Allegheny County</i>	-	Nonattainment (2015)	-	-	-	-
<i>Lebanon County</i>	-	Maintenance (2015)	-	-	-	-
<i>Delaware County</i>	-	Maintenance (2015)	-	-	-	-
<i>Pittsburgh-Beaver Valley</i>	-	-	Maintenance (2014)	-	-	-
<i>Johnstown</i>	-	-	Maintenance (2014)	-	-	-
<i>Harrisburg-Lebanon-Carlisle-York</i>	-	-	Maintenance (2014)	-	-	-
<i>Lancaster</i>	-	-	Maintenance (2014)	-	-	-
<i>Philadelphia-Wilmington</i>	-	-	Maintenance (2014)	-	-	-
<i>Allentown</i>	-	-	Maintenance (2014)	-	-	-
<i>Philadelphia-Wilmington-Atlantic City</i>	-	-	-	-	Nonattainment (2018)	-
<i>Beaver</i>	-	-	-	-	-	Nonattainment (2013)
<i>Allegheny</i>	-	-	-	-	-	Nonattainment (2013)
<i>Indiana</i>	-	-	-	-	-	Nonattainment (2013)
<i>Warren</i>	-	-	-	-	-	Nonattainment (2013)
<i>Lower Beaver Valley</i>	Nonattainment (2010)	-	-	-	-	-
<i>North Reading</i>	Nonattainment (2010)	-	-	-	-	-
<i>Lyons</i>	Nonattainment (2010)	-	-	-	-	-
Tennessee						
<i>Knoxville-Sevierville-La Follette</i>	-	-	Maintenance (2014)	-	-	-
<i>Sullivan County</i>	-	-	-	-	-	Nonattainment (2013)
<i>Bristol</i>	Maintenance (2010)	-	-	-	-	-
West Virginia						
<i>Steubenville-Weirton</i>	-	-	Maintenance (2009)	-	-	-
<i>Charleston</i>	-	-	Maintenance (2009)	-	-	-
<i>Marshall</i>	-	-	-	-	-	Nonattainment (2013)
<i>Steubenville</i>	-	-	-	-	-	Maintenance (2013)
Wisconsin						

Areas	Criteria Pollutants					
	Lead (2008)	PM2.5 Annual (2012)	Particulate Matter (PM2.5 24-hr) (2006)	Particulate Matter (PM10) (1987)	Ozone 8-hr (2015)	Sulfur Dioxide (2010)
<i>Milwaukee-Racine</i>	-	-	Maintenance (2009)	-	-	-
<i>Chicago, WI</i>	-	-	-	-	Nonattainment (2018)	-
<i>Northern Milwaukee/Ozaukee Shoreline</i>	-	-	-	-	Nonattainment (2018)	-
<i>Sheboygan County</i>	-	-	-	-	Nonattainment (2018)	-
<i>Manitowoc County</i>	-	-	-	-	Nonattainment (2018)	-
<i>Rhineland</i>	-	-	-	-	-	Maintenance (2013)

3.3.3 NOISE

The Noise Control Act of 1972, as amended (42 U.S.C. 4901 *et seq.*) established a national policy to promote an environment for all Americans free from noise that jeopardizes their health or welfare. Background noise levels at USACE federal projects are dependent on where the project is located. Noise levels at projects, regardless of location, tend to be governed by boat traffic on nearby aquatic resources, agricultural equipment, light to moderate traffic on local roads, and moderate to heavy traffic on nearby interstates and high-volume highways. In addition, some projects may be located near airports or railroads, which have elevated noise levels due to air traffic. Locations where people live or where the presence of elevated noise levels could significantly affect the use of the land are noise sensitive areas. Noise sensitive receptors can include residents near the federal project, schools, hospitals, cemeteries, nursing homes or assisted living facilities, parks, and businesses, among others.

AFFECTED ENVIRONMENT

Sound is described in terms of the loudness (amplitude) of the sound and frequency (pitch) of the sound. The standard unit of measurement of the loudness of sound is the decibel (dB). Since the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Extended periods of noise exposure above 90 dBA could result in permanent hearing damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation is replaced by the feeling of pain in the ear. A sound level of 190 dBA will rupture the eardrum and permanently damage the inner ear. Table A-3 summarizes typical noise sources, levels, and responses for comparison.

Table A-3. Noise levels and human response.

Noise Source	Noise Level (dBA)	Response
Library	30	Very quiet
Refrigerator humming	40	Quiet
Quiet office	50	Quiet
Normal conversation	60	Intrusive
Vacuum cleaner	70	Telephone use difficult
Freight train at 50 feet	80	Interferes with conversation
Heavy-duty truck at 50 feet	90	Annoying
Jet takeoff at 2,000 feet	100	Very annoying; hearing damage at sustained exposure levels

Noise Source	Noise Level (dBA)	Response
Unmuffled motorcycle	110	Maximum vocal effort; physical discomfort
Jet takeoff at 200 feet	120	Regular exposure over one-minute risks permanent hearing loss
Shotgun firing	130	Pain threshold
Carrier jet operation	140	Harmfully loud

Source: Branch, M.C. and R.D. Beland. 1970. Noise Levels and Human Response.

Baseline noise level for potential project sites vary greatly depending on location. For example, the baseline noise level for project sites within urban environments may be between approximately 60 and 70 dBA, with traffic noise and noise associated with residential and commercial operations being contributing noise sources. Conversely, baseline noise level for project sites within agricultural and rural-residential environments may be approximately 30 dBA.

3.3.4 WATER QUALITY

Individual states have the responsibility to manage water quality within their states. Section 303(d) of the CWA (33 U.S.C. § 1313 *et seq.*) requires states to identify waterbodies where current pollution control methods alone cannot meet the water quality standards set for that waterbody. Every two years, states are required to submit to the USEPA a list of impaired waters; states must also establish the total maximum daily loads (TMDLs) of pollutants for impaired waters on their list (40 C.F.R. § 130.7).

The affected environment below describes the general quality of the waters within each state covered under this PEA.

AFFECTED ENVIRONMENT

Waters and wetlands classified by states as “good” meets all their designated uses. Waters classified as “threatened” currently support all their designated uses, but if pollution control measures are not taken one or more of those uses may become impaired in the future. A water or wetland is classified by a state as “impaired” if any one of its designated uses is not met. The definitions of “good,” “threatened,” and “impaired” are applied by states to describe the quality of their waters. Designated uses include the “protection and propagation of fish, shellfish, and wildlife,” “recreation in and on the water,” the use of waters for “public water supplies, propagation of fish, shellfish, wildlife, recreation in and on the water,” and “agricultural, industrial, and other purposes including navigation (40 C.F.R. 130.3).” These designated uses are assessed by states in a variety of ways, by examining various physical, chemical, and biological characteristics, so it is not possible to use the categories of “good,” “threatened,” and “impaired” to infer the level of ecological functions and services these waters perform. Table A-4 displays the general designation of most of the waters within the states included in this PEA.

Table A-4. Summary of water quality data for states within LRD's civil works boundary (USEPA, 2022).

State	Water Type	Use				
		Swimming	Eating Fish	Aquatic Life	Drinking Water	Other
Illinois	Great Lakes	Good (197 mi ²)	Impaired (199 mi ²)	Good (201 mi ²) Impaired (< 1 mi ²)	Good (196 mi ²)	Good (196 mi ²) Impaired (< 1 mi ²)
	Great Lakes Shoreline	Impaired (64 mi)	Impaired (64 mi)	-	-	-
	Lakes and Reservoirs	Good (1,092 ac)	Good (6,640 ac)	Good (1,600 ac)	Good (68,478 ac)	Good (14,631 ac)
		Impaired (722 ac)	Impaired (121,197 ac)		Impaired (5,872 ac)	Impaired (131,754 ac) Insufficient Data (6,109 ac)
Rivers and Streams	Good (498 mi)	Impaired (4,582 mi)	Good (10,451 mi)	Good (535 mi)	Good (11,851 mi)	
	Impaired (4,025 mi)		Impaired (7,537 mi)	Impaired (363 mi)	Impaired (356 mi)	
Indiana	Great Lakes Shoreline	Impaired (67 mi)	Impaired (67 mi)	Good (63 mi) Impaired (5 mi)	Good (35 mi)	-
	Lakes and Reservoirs	Good (30,503 ac)	Good (41,306 ac)	Good (5,019 ac)	Good (230 ac)	-
		Impaired (9,287 ac) Insufficient Data (3,852 ac)	Impaired (193,170 ac)	Impaired (12,486 ac) Insufficient Data (5,385 ac)	Impaired (16,641 ac) Insufficient Data (204 ac)	
Rivers and Streams	Good (9,204 mi) Impaired (24,395 mi) Insufficient Data (108 mi)	Good (3,326 mi) Impaired (5,565 mi) Insufficient Data (807 mi)	Impaired (14 mi)	Good (23 mi) Insufficient Data (7 mi)	-	
Kentucky	Lakes and Reservoirs	Good (215,034 ac)	Good (125,701 ac)	Good (209,622 ac)	Good (180,311 ac)	Good (193 ac)
		Impaired (884 ac)	Impaired (81,747 ac)	Impaired (8,350 ac)	Impaired (55 ac)	Impaired (36 ac)

State	Water Type	Use				
		Swimming	Eating Fish	Aquatic Life	Drinking Water	Other
	Rivers and Streams	Good (1,441 mi) Impaired (611 mi) Insufficient Data (5 mi)	Good (684 mi) Impaired (1,106 mi) Insufficient Data (1 mi)	Good (5,304 mi) Impaired (5,742 mi) Insufficient Data (78 mi)	Good (945 mi)	Good (1,820 mi) Impaired (295 mi) Insufficient Data (2 mi)
Michigan	Great Lakes	Insufficient Info (112 mi ²)	Impaired (22,639 mi ²)	Impaired (115 mi ²)	Good (5 mi ²) Impaired (3 mi ²) Insufficient Data (8 mi ²)	Good (22,639 mi ²)
	Great Lakes Shoreline	Good (141 mi) Impaired (54 mi) Insufficient Data (206 mi)	Impaired (2,256 mi)	Good (125 mi)	Insufficient Data (2 mi)	Good (2,339 mi)
	Coastal Waters	-	Impaired (3,136 mi ²)	Good (1,147 mi ²) Insufficient Data (280 mi ²)	Impaired (3 mi ²) Insufficient Data (3 mi ²)	Good (3,136 mi ²)
	Coastal Waters Shoreline	Impaired (< 1mi)	Impaired (3,136 mi ²)	Good (< 1mi)	Impaired (3 mi ²) Insufficient Data (3 mi ²)	Good (<1 mi)
	Lakes and Reservoirs	Good (610 ac) Impaired (2,708 ac) Insufficient Data (126 ac)	Good (32,217 ac) Impaired (345,951 ac) Insufficient Data (16,453 ac)	Good (496,765 ac) Impaired (14,942 ac) Insufficient Data (14,912 ac)	Good (203 ac) Insufficient Data (129 ac)	Good (827,269 ac)

State	Water Type	Use				
		Swimming	Eating Fish	Aquatic Life	Drinking Water	Other
	Lakes and Reservoirs Shoreline	Good (49 mi) Impaired (5 mi) Insufficient Data (45 mi)	-	-	-	Good (84 mi)
	Rivers and Streams	Good (788 mi) Impaired (15,864 mi) Insufficient Data (5,889 mi)	Good (1,912 mi) Impaired (51,675 mi) Insufficient Data (127 mi)	Good (45,230 mi) Impaired (14,902 mi) Insufficient Data (2,379 mi)	Good (99 mi) Impaired (17 mi) Insufficient Data (< 1 mi)	Good (74,580 mi)
	Wetlands	Impaired (21 ac)	Impaired (1,131 ac)	Good (10 ac) Impaired (430 ac) Insufficient Data (< 1 ac)	-	Good (1,141 ac)
New York	Great Lakes Shoreline	Impaired (170 mi) Insufficient Data (385 mi)	-	Good (31 mi) Insufficient Data (581 mi)	-	Impaired (170 mi) Insufficient Data (442 mi)
	Coastal Waters	Good (382 mi ²) Impaired (125 mi ²) Insufficient Data (685 mi ²)	-	Good (180 mi ²) Impaired (266 mi ²) Insufficient Data (1,136 mi ²)	-	Good (382 mi ²) Impaired (140 mi ²) Insufficient Data (1,059 mi ²)

State	Water Type	Use				
		Swimming	Eating Fish	Aquatic Life	Drinking Water	Other
	Lakes and Reservoirs	Good (10,715 ac)		Good (20,469 ac)		Good (109,866 ac)
		Impaired (36,475 ac)	-	Impaired (10,124 ac)	-	Impaired (161,178 ac)
		Insufficient Data (509,741 ac)		Insufficient Data (691,049 ac)		Insufficient Data (447,149 ac)
	Rivers and Streams	Good (3,507 mi)		Good (13,003 mi)		Good (10,952 mi)
		Impaired (296 mi)	-	Impaired (3,120 mi)	-	Impaired (1,698 mi)
		Insufficient Data (14,208 mi)		Insufficient Data (71,346 mi)		Insufficient Data (74,819 mi)
Ohio	Great Lakes	Good (2,907 mi ²)	Impaired (3,568 mi ²)	Impaired (134 mi ²)	Impaired (3,555 mi ²)	-
	Rivers and Streams	Good (93 mi)	Good (206 mi)	Good (84 mi)	Impaired (163 mi)	-
		Impaired (1,059 mi)	Impaired (1,041 mi)	Impaired (77 mi)	Insufficient Data (146 mi)	
		Insufficient Data (33 mi)				
	Watershed	Good (4,189 mi ²)	Good (7,546 mi ²)	Good (333 mi ²)	Good (1,080 mi ²)	-
		Impaired (33,706 mi ²)	Impaired (11,997 mi ²)	Impaired (873 mi ²)	Impaired (1,164 mi ²)	
		Insufficient Data (919 mi ²)	Insufficient Data (1,702 mi ²)	Insufficient Data (44 mi ²)	Insufficient Data (1,243 mi ²)	
Pennsylvania	Lakes and Reservoirs	Good (85,419 ac)	Good (41,899 ac)	Good (7,571 ac)	Good (74,069 ac)	Good (85,419 ac)
		Impaired (7,135 ac)	Impaired (36,819 ac)	Impaired (3,468 ac)	Impaired (635 ac)	Impaired (7,135 ac)

State	Water Type	Use				
		Swimming	Eating Fish	Aquatic Life	Drinking Water	Other
	Rivers and Streams	Good (16,589 mi)	Good (10,373 mi)	Good (22 mi)	Good (3,436 mi)	Good (3,627 mi)
		Impaired (9,933 mi)	Impaired (2,817 mi)		Impaired (84 mi)	Impaired (231 mi)
Tennessee	Lakes and Reservoirs	Good (362,122 ac)	-	Good (551,413 ac)	Good (522,663 ac)	Good (579,085)
		Impaired (200,976 ac)		Impaired (23,549 ac)	Impaired (5,800 ac)	
	Rivers and Streams	Good (7,136 mi)	-	Good (14,807 mi)	Good (3,424 mi)	Good (27,762 mi)
		Impaired (9,005 mi)		Impaired (11,833 mi)	Impaired (66 mi)	Impaired (1 mi)
	Lakes and Reservoirs	Insufficient Data (557 mi)	-	Insufficient Data (145 mi)	Insufficient Data (3,397 ac)	Insufficient Data (4,365 ac)
		Good (6,745 ac)		Impaired (28 ac)		
West Virginia	Lakes and Reservoirs	Impaired (11,638 ac)	-	Insufficient Data (1,030 ac)	Impaired (9,849 ac)	Impaired (4 ac)
		Insufficient Data (2,047 ac)		Insufficient Data (3,397 ac)	Insufficient Data (3,397 ac)	Insufficient Data (4,365 ac)
	Rivers and Streams	Good (7,139 mi)	-	Good (1,754 mi)	Good (6,295 mi)	Good (16,750 mi)
		Impaired (9,901 mi)		Impaired (1,832 mi)	Impaired (10,159 mi)	Impaired (1,796 mi)
	Rivers and Streams	Insufficient Data (3,151 mi)	-	Insufficient Data (824 mi)	Insufficient Data (4,800 mi)	Insufficient Data (1,640 mi)
		Good (94 mi)		Good (392 mi)	-	-
Wisconsin	Great Lakes Shoreline	Impaired (11 mi)	Impaired (578 mi)	Good (392 mi)	-	-

State	Water Type	Use				
		Swimming	Eating Fish	Aquatic Life	Drinking Water	Other
	Coastal Waters	Good (< 1 mi ²) Impaired (9 mi ²)	Good (1 mi ²) Impaired (31 mi ²)	Good (2 mi ²) Impaired (33 mi ²) Insufficient Data (<1 mi ²)	-	-
	Coastal Waters Shoreline	Good (9 mi) Impaired (2 mi)	-	-	-	-
	Lakes and Reservoirs	Good (157,531 ac)	Good (344,151 ac) Impaired (117,302 ac)	Good (534,456 ac) Impaired (397,842 ac) Insufficient Data (7 ac)	-	Good (25,503 ac)
	Rivers and Streams	Good (161 mi) Impaired (157 mi)	Good (509 mi) Impaired (1,363 mi)	Good (19,123 mi) Impaired (8,506 mi) Insufficient Data (73 mi)	-	Impaired (231 mi)

3.3.5 PHYSIOGRAPHY AND SOILS

Physiography describes the physical geography of an area, including a description of geological resources. Soils, in general, are unconsolidated mineral or organic material on the immediate surface of the Earth that serve as a natural medium for the growth of land plants. Physiography and soils are described very broadly by ecoregion for the states covered under this PEA.

AFFECTED ENVIRONMENT

The general characteristics of the physiography and soils of a state within LRD's Civil Works boundary are described using characteristics attributed to Level III ecoregions. Refer to Table A-5 for the Level III ecoregions, state(s) within LRD's Civil Works boundary where the ecoregion is present, and descriptions of the physiography and soils associated with each ecoregion. Figure A-1 through Figure A-8 show where the Level III ecoregions are found within each state within LRD's Civil Works boundary.

Table A-5: General Physiography and Soil Descriptions for Level III Ecoregions within LRD's Civil Works Boundary (Bryce et al., 2010; Griffith et al., 2002a; Omernick et al., 2000a; Woods et al., 1999; Woods et al., 2002a; Woods et al., 2002c; Woods et al., 2003a; and Woods et al., 2006a).

Level III Ecoregion Name	States Found In	Physiography Descriptions	Soil Descriptions
Blue Ridge Mountains	TN	Characterized as a narrow strip of mountainous ridges that are forested and well dissected. Local relief is high and both side slopes and the channel gradients are steep. Streams are cool and clear and have many riffle sections. The Blue Ridge Mountains are underlain by resistant and deformed metavolcanic, igneous, sedimentary, and metasedimentary rock.	Characterized as having Inceptisols, Ultisols, and Alfisols developed on the Cambrian, Paleozoic, and Precambrian rock.
Central Appalachians	KY, PA, & WV	Characterized as being a high, dissected, and rugged plateau made up of sandstone, shale, conglomerate, and coal of Pennsylvanian and Mississippian age. The plateau is locally punctuated by a limestone valley and a few anticlinal ridges. Unglaciated.	Characterized as Ultisols and Inceptisols mainly. Entisols found in coal mine waste. Entisols and Inceptisols found on floodplains.
Central Corn Belt Plains	IL, IN, MI, & WI	Characterized as extensive, nearly level till, lake, and outwash plains with scattered sand sheets and dunes. Concentric morainal ridges occur and become especially conspicuous in areas glaciated by Wisconsinan ice sheet.	Characterized as having primarily Mollisols. Soils derived from loess are found in the west over Illinoian till deposits; loess is thickest downwind of the major floodplains in the ecoregion. Soils derived primarily from drift are found in central and eastern areas on Wisconsinan till plains. Soils derived from relatively recent deposits of till, loess, or alluvium are not strongly developed, lack claypans, and are richer in minerals than older soils.
Eastern Corn Belt Plains	IN & OH	Characterized as primarily rolling till plain with local end moraines. Glacial deposits of Wisconsinan age are extensive.	Characterized as having lighter colored soils than the Central Corn Belt Plains ecoregion, loamier and better drained soils than the Huron/Erie Lake Plains ecoregion, and richer soils than the Erie/Ontario Drift and Lake Plain ecoregion.
Eastern Great Lakes and Hudson Lowlands	PA	Characterized as having irregular plains bordered by hills. Generally, contains less surface irregularity than the adjacent Northeastern Highlands and Northern Appalachian Plateau and Uplands ecoregions.	Characterized as being fertile and comprised of lacustrine deposits.
Eastern Great Lakes Lowlands	NY	Characterized as having valleys and lowlands underlain by interbedded limestone, shale, and sandstone rocks that are more erodible than the more resistant rocks composing the adjacent mountainous areas.	Characterized as having primarily limestone-derived soils that are fine textured, deep, and productive.
Erie Drift Plain	NY	Characterized as beach ridges, hummocky stagnation moraines, kettles, and wetlands.	Characterized as having a prevalence of poorly drained soils.
Erie/Ontario Drift and Lake Plain	OH	Characterized by low lime drift and lacustrine deposits blanketing rolling to level terrain. Lakes, wetlands, and swampy streams occur where the land is typically flat and clayey.	Characterized as being often lower in carbonate and naturally less fertile than those of other glaciated ecoregions.
Erie/Ontario Hills and Lake Plain	PA	Characterized by nearly level to rolling terrain. Deposits from successive Pleistocene ice sheets and lakes cover the horizontally bedded sedimentary rock. In places, beach ridges, hummocky stagnations moraines, kettles, and kames can be found.	Characterized as being mostly Alfisols and Inceptisols, which tend to be acidic and are derived mainly from till and lacustrine material.
Huron/Erie Lake Plains	MI & OH	Characterized as having a broad, nearly flat plain punctuated with relict sand dunes, beach ridges, and end moraines.	Characterized as having fertile soils.

Level III Ecoregion Name	States Found In	Physiography Descriptions	Soil Descriptions
Interior Plateau	IL, IN, KY, & TN	Characterized as having landforms of open hills, irregular plains, and tablelands. In the north, this ecoregion is characterized as mostly forested, rugged hills that contain bluffs, ravines, and in the south, karst features. Mississippian to Ordovician-age limestone, chert, sandstone, siltstone, and shale compose the landforms of open hills, irregular plains, and tablelands.	Characterized as having been derived from loess and residuum of underlying sandstone, siltstone, shale, and limestone; on valley floods alluvial soils occur.
Interior River Lowland	IN	Characterized by broad, undulating lowland formed in non-resistant, non-calcareous sedimentary rock.	Characterized as being comprised of alluvium as well as outwash, aeolian, and lacustrine deposits.
Interior River Valleys and Hills	IL & KY	Comprised of old till plains, hills, forested river bluffs, major rivers, and valleys containing levees, oxbow lakes, islands, and scattered sand sheets and dunes.	Characterized as having soils comprised of alluvium, outwash, aeolian, or lacustrine deposits. Illinoian-age glacial deposits.
Mississippi Alluvial Plain	IL & KY	Characterized as being comprised of a nearly flat alluvial plane that extends along the Mississippi River.	Characterized as being comprised of alluvium.
Mississippi Valley Loess Plain	KY	Characterized as containing irregular plains, gently rolling hills, and bluffs.	Covered by thick loess and alluvium and is underlain by unconsolidated coastal plain sediments.
North Central Appalachians	NY & PA	Characterized as a vast, elevated plateau composed of horizontally bedded sandstone, shale, siltstone, conglomerate, and coal. Comprised of plateau surfaces, high hills, and low mountains, and was only partially glaciated.	Characterized as being frigid and were derived from sandstone, shale, and till; they are low in nutrients, and support extensive forest.
North Central Hardwood Forests	MI & WI	Characterized by steeply sloping end moraines and drumlins, sand dunes, and outwash plains.	Characterized as having Mollisols (high nutrient content), Alfisols (fertile forest soils that are generally moist), Entisols (relatively recently formed soils in river bottoms and sandy plains), Histosols (formed recently from plant material in wet environments), Inceptisols (soils with retarded soil formation, and Vertisols (high clay content and forming cracks in the surface).
Northeastern Highlands	NY	Characterized by hills and mountains, extensive forest cover, numerous glacial lakes, wetlands, bogs, and high-gradient cold-water streams.	Characterized as being mostly nutrient-poor, frigid, and cryic soils (mostly Spodosols).
Northern Allegheny Plateau	NY	Characterized by rolling hills, open valleys, and low mountains covered by till from Wisconsinan Age glaciation.	Characterized as mostly mesic Inceptisols that are limited by stoniness and seasonal wetness.
Northern Lakes and Forests	MI & WI	Characterized by morainal hills, broad lake basins, and areas of extensive sandy outwash plains.	Characterized as being formed primarily from sandy and loamy glacial drift material. Soils are characterized as being nutrient-poor glacial soils.
Ridge and Valley	TN & WV	Characterized as a relatively low-lying region with roughly parallel ridges and valleys and geologic materials including limestone, dolomite, shale, siltstone, sandstone, chert, mudstone, and marble. Springs and caves are numerous.	Characterized as primarily Inceptisols and Ultisols developed on noncarbonate rock. Alfisols and Ultisols are found in the limestone valleys of the ecoregion.
Southeastern Plains	TN	Characterized as irregular plains with broad instream areas. Streams in this area are relatively low-gradient and sandy-bottomed.	Characterized as Cretaceous or Tertiary-age sands, silts, and clays.
Southern Michigan/Northern Indiana Drift Plains	IN & MI	Characterized as broad till plains with thick and complex deposits of drift, paleobeach ridges, relict dunes, morainal hills, karnes, drumlins, meltwater channels, and kettles.	Characterized as having bog and bog soils that are locally common.

Level III Ecoregion Name	States Found In	Physiography Descriptions	Soil Descriptions
Southwestern Appalachians	KY & TN	Characterized as being composed of low mountains, hills, and intervening valleys. Moderate to high gradient streams are common and have cobble- or boulder-dominated substrates. Low gradient streams also occur and have gravelly or sandy bottoms. Unglaciaded.	Characterized as having Ultisols, Entisols and Inceptisols on floodplains, and Alfisols in calcareous areas.
Southwestern Wisconsin Till Plain	IL & WI	Characterized as being composed of nearly level to hilly till plains, nearly level outwash plains, and hummocky to hilly morainal areas.	Characterized as having dark-colored Mollisols and, especially, light-colored Alfisols derived from eastwardly thinning loess, westwardly thinning glacial drift, glacial outwash, residuum, or alluvium. Histosols occur in depressional morainal areas developed and developed from herbaceous organic deposits.
Western Allegheny Plateau	KY, OH, PA, & WV	Characterized by hilly and wooded terrain. Horizontally bedded, sedimentary rock underlies the region and have been mined in some areas for bituminous coal.	Characterized as having parental material comprised of carboniferous, sedimentary rock, and having developed from residuum.

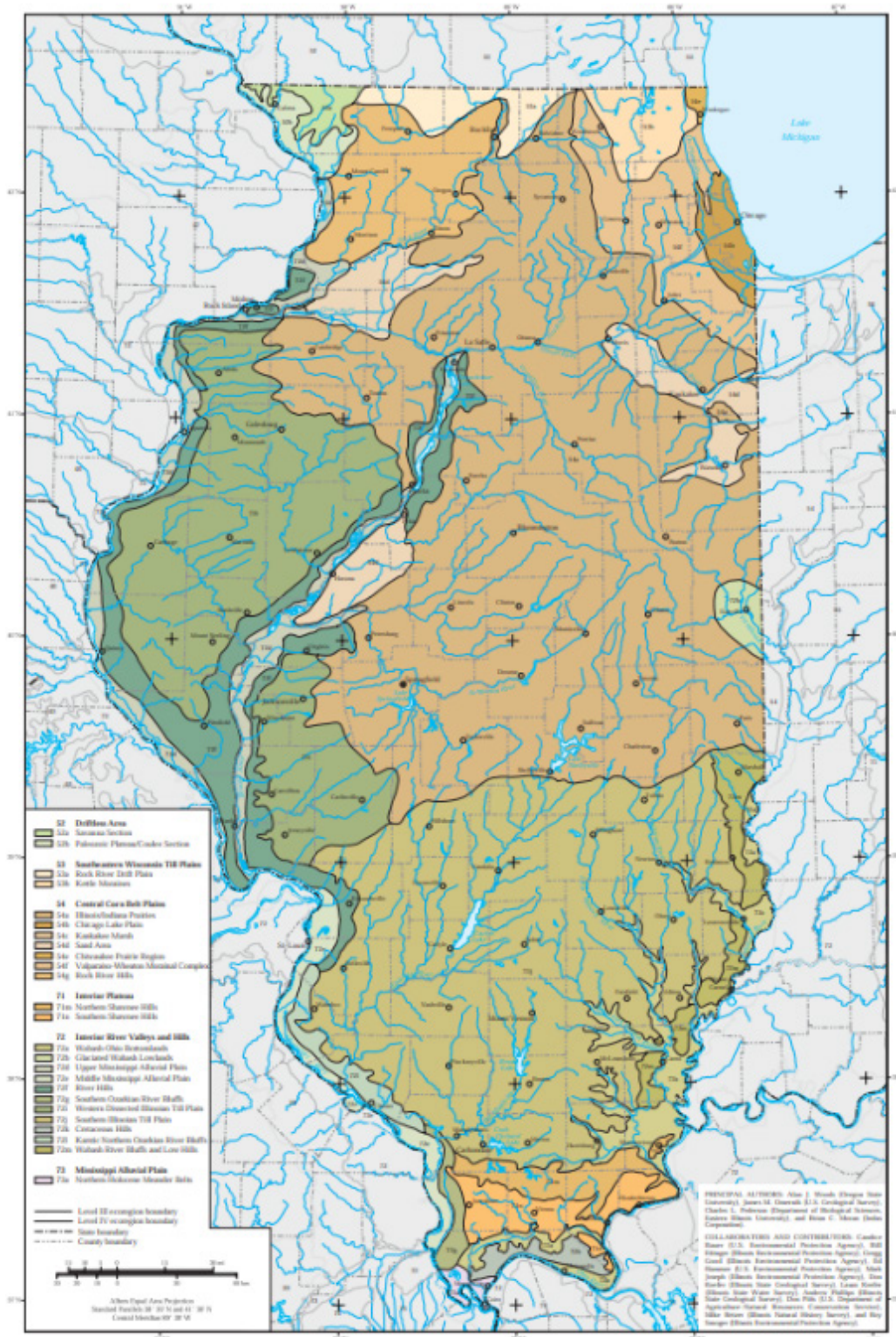


Figure A-1. Level III and Level IV ecoregions of Illinois (Woods et al., 2006b).

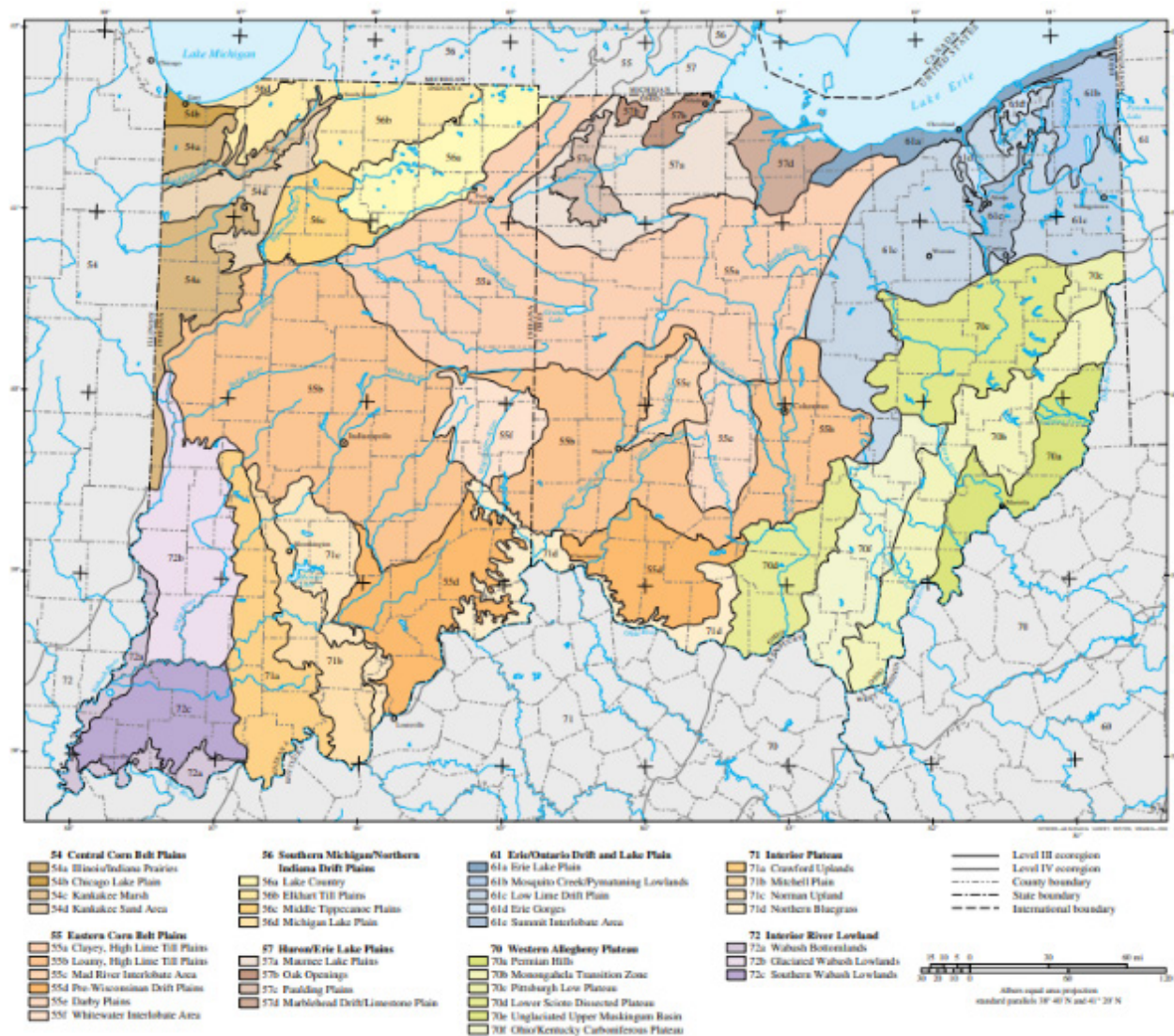
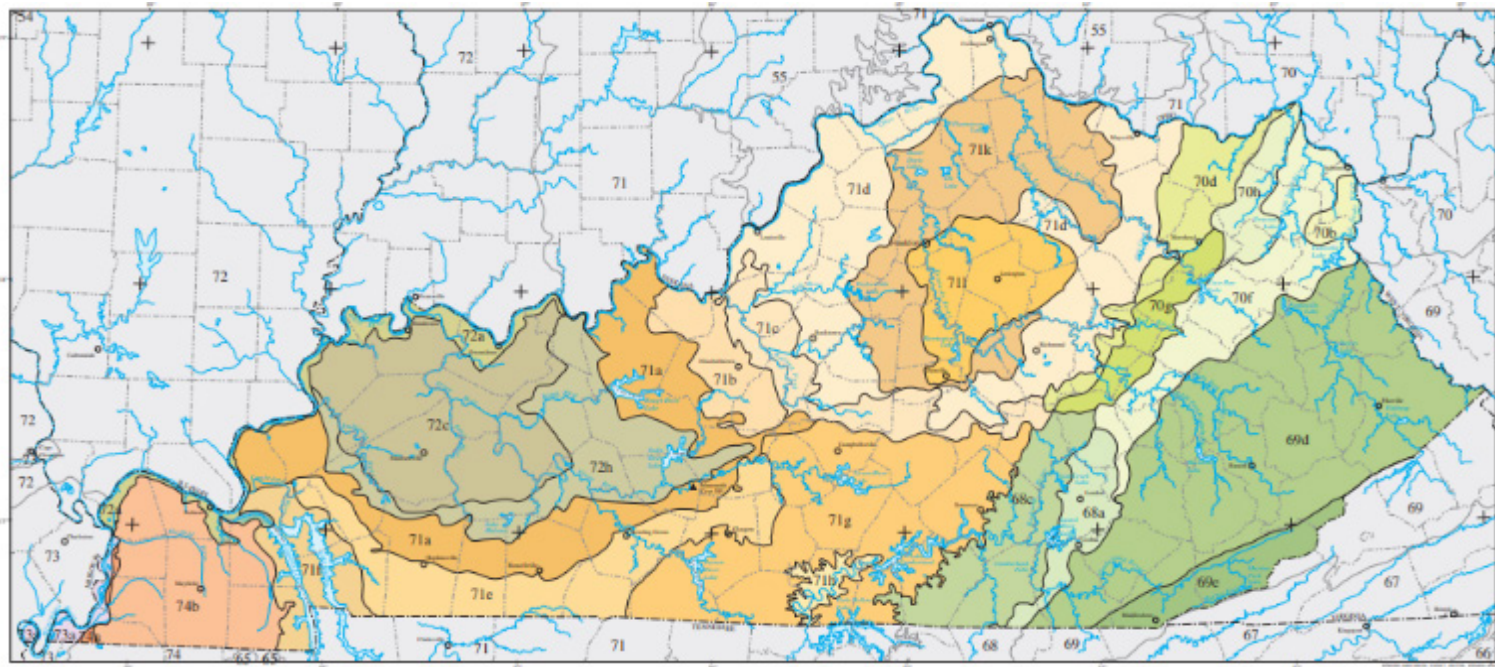


Figure A-2. Level III and Level IV ecoregions of Indiana and Ohio (Woods et al., 2003b).



PRINCIPAL AUTHORS: Alan J. Woods (Dynamac Corporation), James M. Omernik (USEPA), William H. Martin (Division of Natural Areas, Eastern Kentucky University), Greg J. Pond (KDEP, Division of Water, Water Quality Branch), William M. Andrews (Kentucky Geological Survey), Sam M. Call (KDEP, Division of Water, Water Quality Branch), Jeffrey A. Comstock (Indus Corporation), and David D. Taylor (USFS).

COLLABORATORS AND CONTRIBUTORS: Terry Anderson (KDEP, Division of Water, Water Quality Branch), John Brunley (KDEP, Division of Water, Water Quality Branch), Julian Campbell (The Nature Conservancy), Thomas R. Loveland (USGS), Jim Harrison (USEPA), and Mike Mills (KDEP, Division of Water, Water Quality Branch).

REVIEWERS: Mike Barbour (Tetra Tech), William S. Bryant (Professor, Department of Biology, Thomas More College), H.R. DeSelm (Emeritus Professor, Department of Botany, University of Tennessee, Knoxville), and Clara Leuthart (Chair and Associate Professor, Department of Geosciences, University of Louisville).

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This project was partially supported by funds from the USEPA's Office of Research and Development through USEPA Region IV's Regional Ecological Assessment Program (REAP) via contract 68-D-01-0005 to Dynamac Corporation.

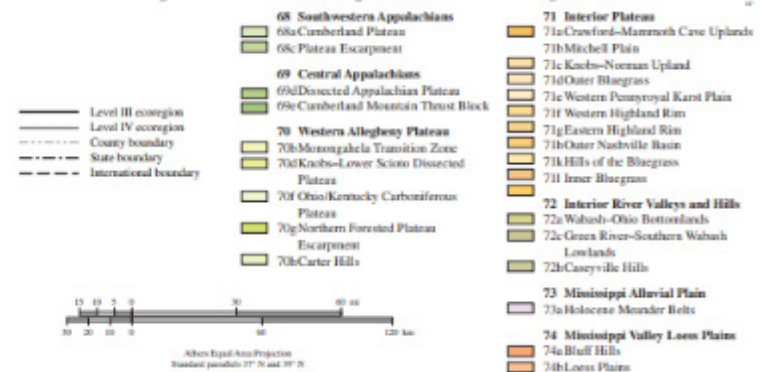


Figure A-3. Level III and Level IV ecoregions of Kentucky (Woods et al., 2002b).

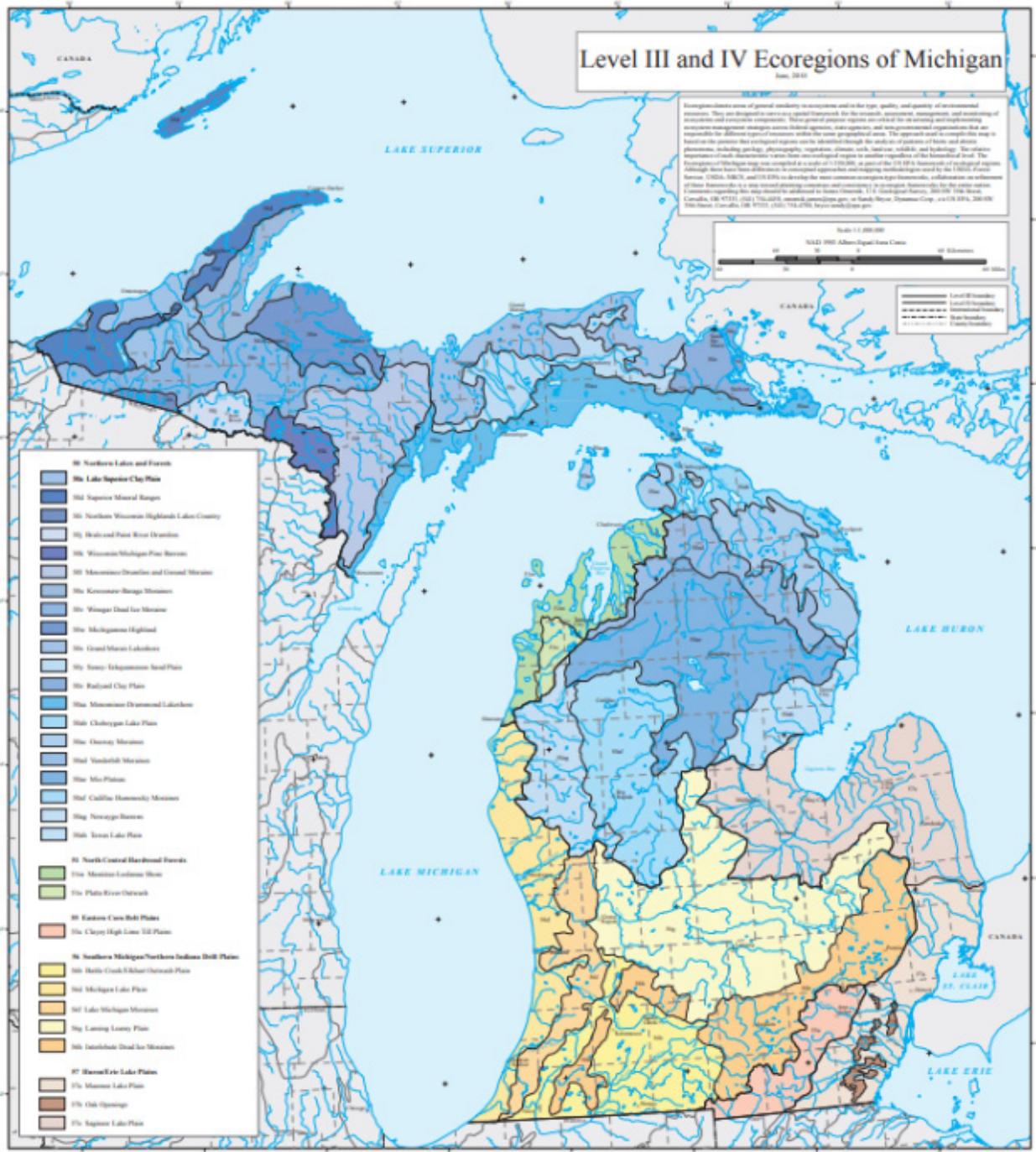


Figure A-4. Level III and IV ecoregions of Michigan (Woods et al., 2002d).

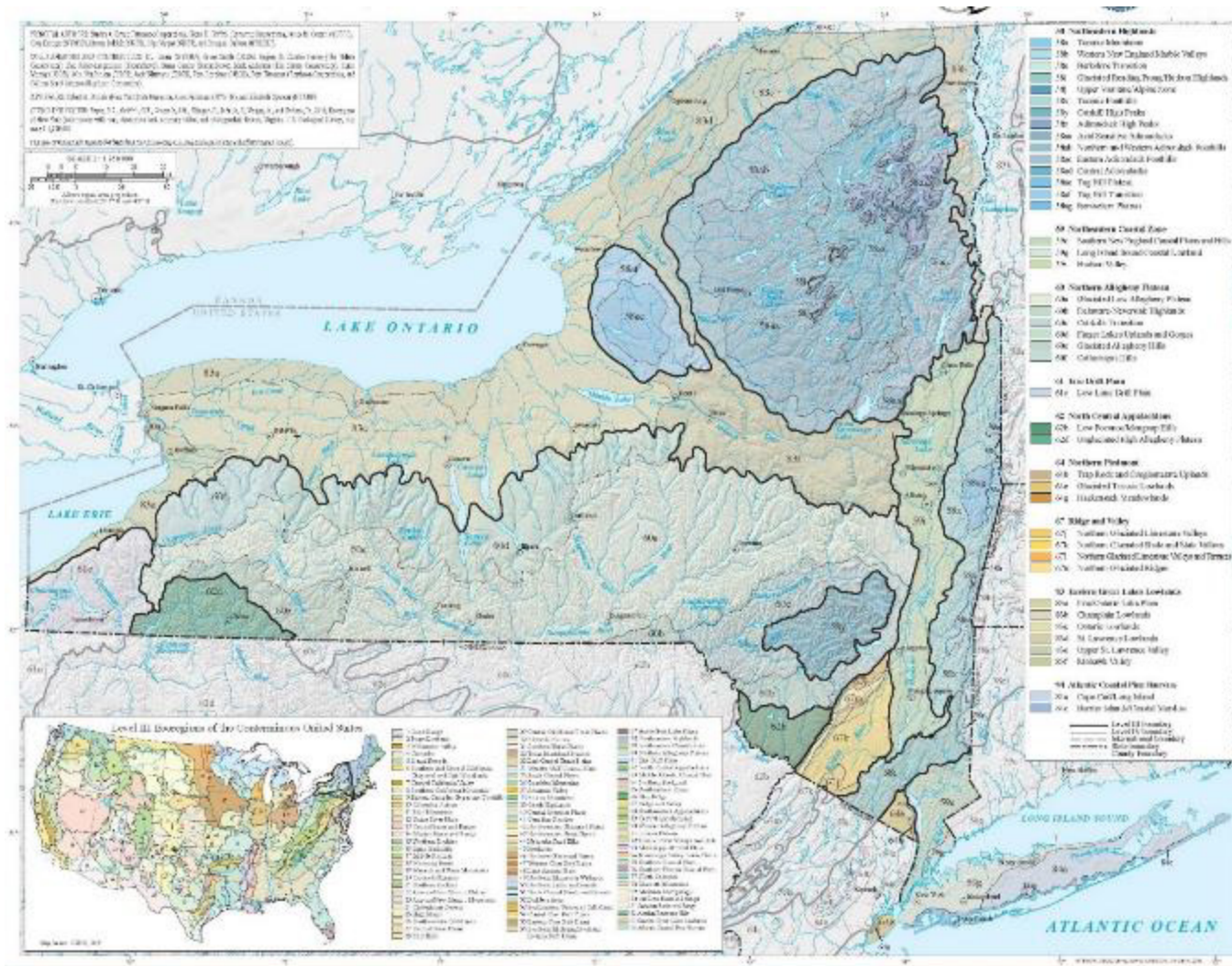


Figure A-5. Level III and Level IV ecoregions of New York (Bryce et al., 2010).

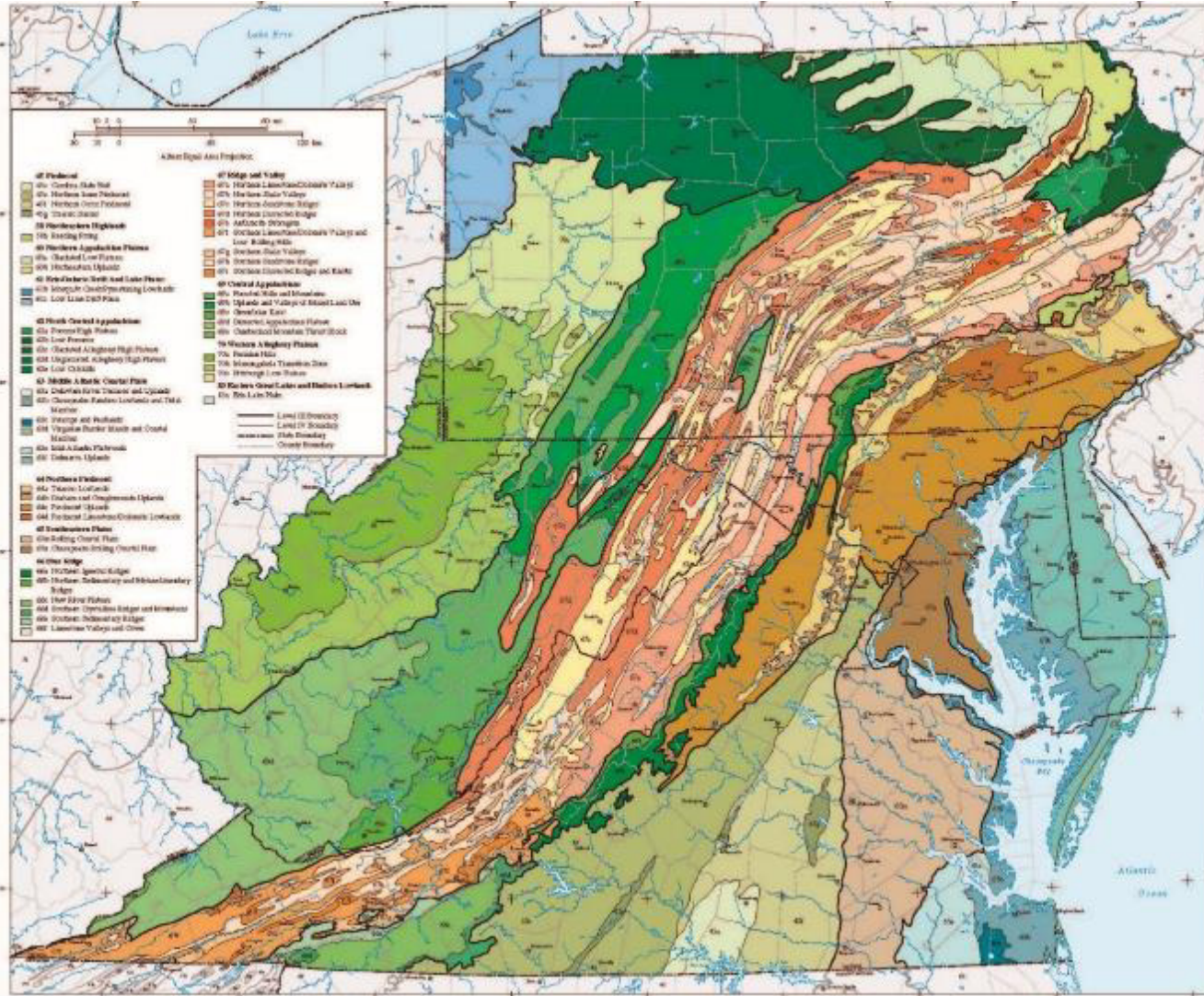


Figure A-6. Level III and Level IV ecoregions of Pennsylvania and West Virginia (Woods et al., 1999).

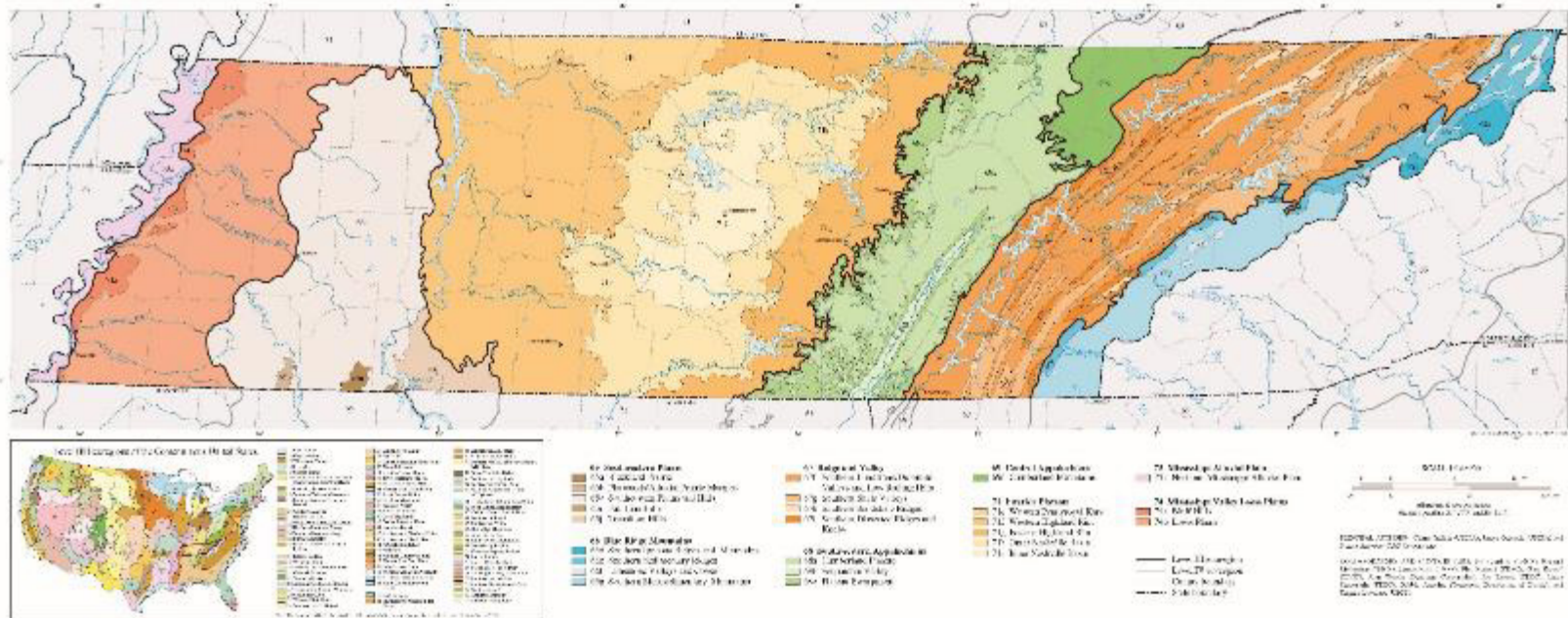


Figure A-7. Level III and Level IV ecoregions of Tennessee (Griffith et al., 2002b).

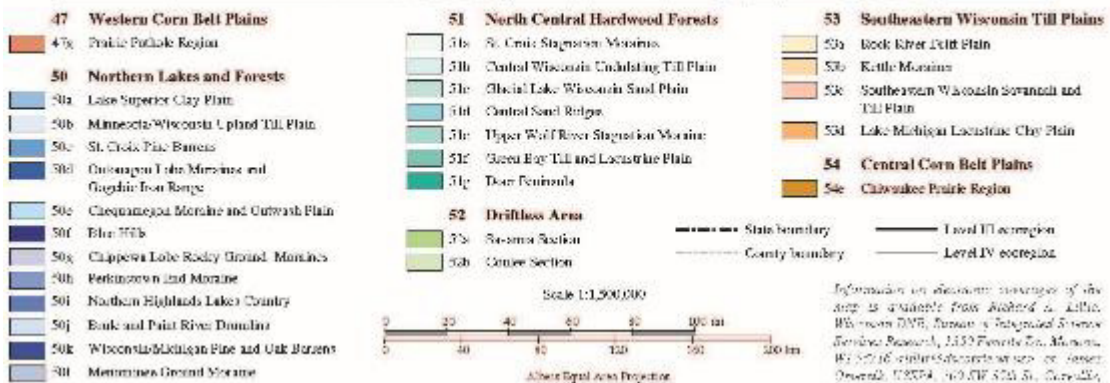
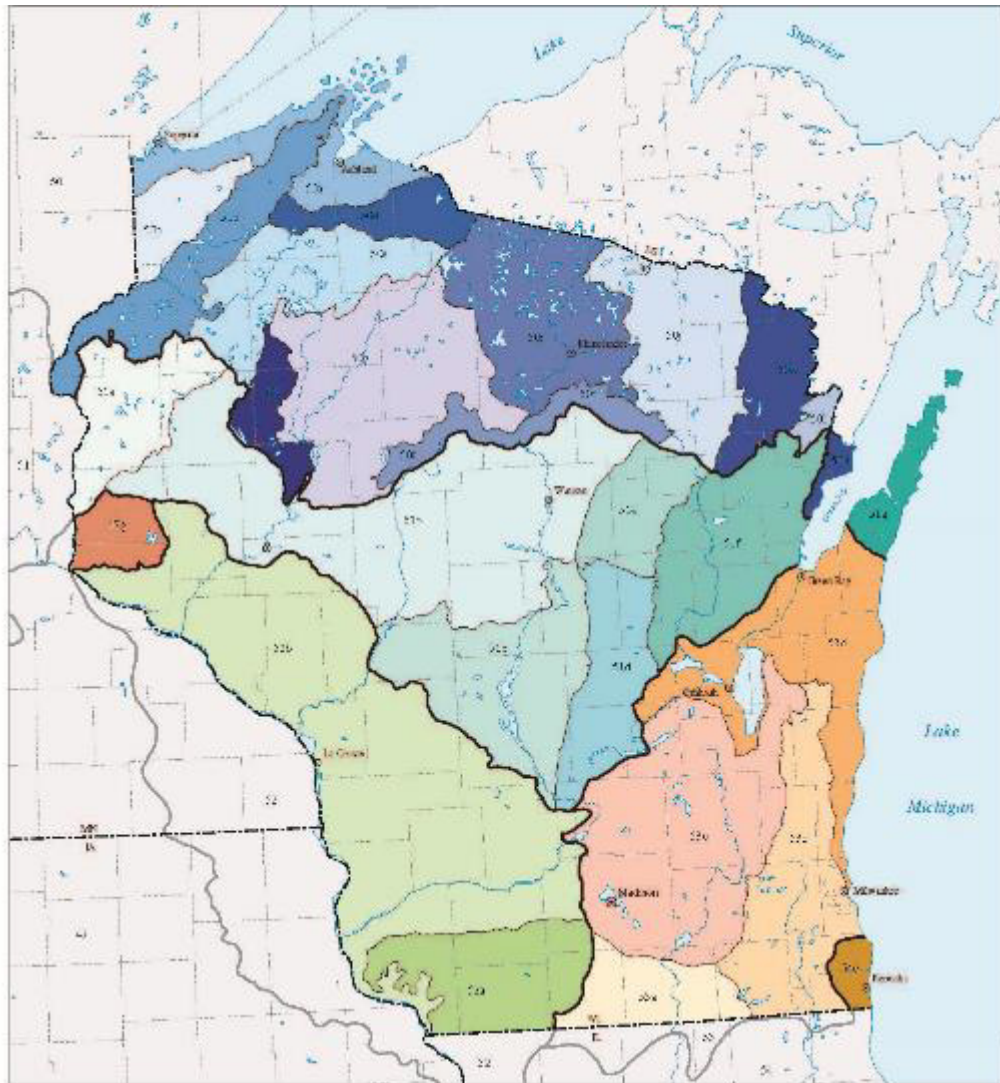


Figure A-8. Levels III and IV ecoregions of Wisconsin (Omernick et al., 2000b).

3.3.6 WETLANDS

Wetlands and other waters, such as streams and rivers, are frequently located in the vicinity of USACE federal projects. Many of these waters, particularly wetlands, are highly productive and biologically diverse. Water provides important habitat for flora and fauna and provide a variety of functions and services. For example, some of the functions that wetlands provide are nutrient and sediment removal, shoreline erosion control, flood-peak attenuation, and groundwater recharge (Zedler, 2000). These functions then lead to services which contribute to human welfare, such as aesthetics, recreation, flood protection, improved water quality, and biodiversity support (King et al., 2000).

Section 404 of the CWA (33 U.S.C. 1344 *et seq.*) regulates the discharge of dredged or fill material into waters of the United States, including wetlands. The USACE Regulatory Program evaluates applications for activities proposed in waters of the United States. Section 401 of the CWA requires that applicants for federal permits provide certification from the state that discharges will comply with the CWA and state-established water quality standards (Copeland, 2015).

In addition, USACE Regulatory also ensures unobstructed navigation through regulation of activities in navigable waters, many of which lie adjacent to federal projects (e.g., levees). Under Section 10 of the Rivers and Harbors Act of 1899, USACE regulates all work in, over and under navigable waters of the United States.

The following affected environment section describes in general terms wetlands within each state covered by this PEA.

AFFECTED ENVIRONMENT

Wetlands are lands transitional between terrestrial and deep-water habitats where the water table usually is at or near the land surface or the land is covered by shallow water. Wetlands can be vegetated or non-vegetated and are classified based on their hydrology, vegetation, and substrate. In 1986, the United States Congress enacted the Emergency Wetlands Resources Act (Public Law [PL] 99-645) recognizing that wetlands are nationally important resources and that these resources have been affected by human activities. Under the provisions of this Act, the USFWS is required to update wetland status and trends studies of the Nation's wetlands at 10-year intervals. The USFWS uses the wetland classification system proposed by Cowardin and others (Cowardin et al., 1979). At the most general level of the classification system, wetlands are grouped into five ecological systems: Palustrine, Lacustrine, Riverine, Estuarine, and Marine.

Palustrine – Nontidal and tidal-freshwater wetlands in which vegetation is predominantly trees (forested wetlands); shrubs (scrub-shrub wetlands); persistent or nonpersistent emergent, erect, rooted herbaceous plants (persistent- and nonpersistent-emergent wetlands); or submersed and (or) floating plants (aquatic beds). Also, intermittently to permanently flooded open-water bodies of less than 20 acres in which water is less than 6.6 feet deep.

Lacustrine – Nontidal and tidal-freshwater wetlands within an intermittently to permanently flooded lake or reservoir larger than 20 acres and (or) deeper than 6.6 feet. Vegetation, when present, is predominantly nonpersistent emergent plants (nonpersistent-emergent wetlands) or submersed and (or) floating plants (aquatic beds), or both.

Riverine – Nontidal and tidal-freshwater wetlands within a channel. Vegetation, when present, is the same as in the Lacustrine System.

Estuarine – Tidal wetlands in low-wave-energy environments where the salinity of the water is greater than 0.5 part per thousand (ppt) and is variable owing to evaporation and the mixing of seawater and freshwater.

Marine – Tidal wetlands that are exposed to waves and currents of the open ocean and to water having a salinity greater than 30 ppt.

Many government agencies and private organizations participate in wetland conservation throughout the United States. In addition, development activities are regulated by several Federal statutory prohibitions and incentives that are intended to slow wetland losses. Some of the more important of these are contained in the 1972 CWA and amendments; the 1985 Food Security Act; the 1990 Food, Agriculture, Conservation, and Trade Act; the 1986 Emergency Wetlands Resources Act; and the 1972 CZMA. Regulated activities include diking, deepening, filling, excavating, and placing of structures. Section 404 of the CWA is the most often-used Federal legislation protecting wetlands. Under section 404 provisions, the Corps issues permits regulating the discharge of dredged or fill material into wetlands. Section 401 of the CWA grants to States and eligible Indian Tribes the authority to approve, apply conditions to, or deny section 404 permit applications based on a proposed activity's probable effects on water quality of a wetland.

The following provides the most recent wetland trend analysis from the USFWS for states covered by this PEA.

Illinois

Of about 8,212,000 acres of wetlands that were present in the 1780's, only about 1,254,500 acres remained in Illinois in the 1980's (USGS, 1996a). This equates to a loss of as much as 90 percent (by area) since the 1780's — sixth in the Nation in terms of percentage loss. The major cause of wetland loss within Illinois has been artificial drainage — primarily to make lands suitable for crop production. In addition to agriculture, wetlands have also been drained within the State for housing, transportation, industry, and landfills; stream channelization and dredging for navigation; and reservoir, harbor, and marina construction have also reduced wetland acreage. In addition to acreage loss caused by these activities, wetlands have been degraded by point and nonpoint discharges to surface waters. These discharges are associated with agricultural, industrial, municipal, and urban runoff, which add contaminants and sediment to surface waters. As of the 1980's, 3.5 percent of Illinois, or about 1.25 million

acres, was wetland. Most of the State's wetlands are either palustrine emergent wetlands such as marshes and wet prairies or palustrine forested wetlands such as bottom-land hardwood forests and bald cypress swamps. Also, open-water palustrine wetlands — primarily farm ponds — are present throughout the State (USGS, 1996a).

Indiana

In the 1780's, before settlement by Europeans, wetlands covered about 5.6 million acres (24 percent) of Indiana (USGS, 1996b). By the early 1980's, more than 85 percent of the original wetlands in Indiana had been destroyed, and only about 813,000 acres of wetlands remained. About 85 percent of vegetated-wetland losses resulted from conversion of wetlands for agricultural purposes. Wetlands now cover about 813,000 acres of Indiana — about 3.5 percent of the State. Palustrine wetlands, which are the most abundant wetlands remaining in the State, are distributed through Indiana in topographic depressions, between agricultural fields, and in riparian zones along rivers, streams, and lakes. In the early to mid-1980's, palustrine forested wetlands covered about 504,000 acres, or approximately 62 percent of the wetland area of the State. Palustrine emergent wetlands covered about 143,000 acres (18 percent of total wetland area), and scrub-shrub wetlands covered about 42,000 acres (5 percent). Lacustrine and riverine wetlands covered about 99,000 acres (12 percent). The remaining 3 percent of the wetland area in the State contained mixed or undetermined types of wetlands (USGS, 1996b).

Kentucky

Kentucky once had more than 1.6 million acres of wetlands (USGS, 1996c). By 1977, about 929,000 acres (58 percent) of the State's original wetlands had been lost, primarily through drainage and subsequent conversion to cropland and pastureland. Losses were greatest in western Kentucky, amounting to 52 percent of the State's bottomland hardwood forests. By 1990, Kentucky's remaining wetland acreage was estimated to be between 387,000 acres and 650,000 acres, representing a total State loss of about 60 to 76 percent since predevelopment times. Only 20 percent of the remaining naturally occurring wetlands in Kentucky are forested. Currently, wetlands compose less than 2.5 percent of the surface area of Kentucky. Most Kentucky wetlands are palustrine and include areas lying shoreward of rivers and lakes, such as bald cypress swamps, bottom-land hardwood forests, emergent wetlands, and small ponds (USGS, 1996c).

Michigan

The USFWS has estimated, that from the 1780's to the 1980's, wetland area in Michigan decreased by 50 percent — from about 11.2 million to about 5.6 million acres (USGS, 1996d). It has been estimated that coastal wetland acreage in Michigan has been as much as 369,000 acres in the past. In 1972, the Michigan Department of Natural Resources conducted a shorelands inventory and identified 105,855 acres of Great Lakes coastal wetlands. Additionally, in the mid-1980's it was estimated that wetlands occupied about 5.6 million acres in Michigan. Michigan coastal wetlands are distributed among the Great lakes in the following proportions: 37% along Lake Huron, 28% along Lake Michigan; 16% along the St. Clair River, Lake St. Clair, and the Detroit

River area; 13% along Lake Superior; and 6% along Lake Erie. Most wetland loss in Michigan has been caused by drainage for agricultural purposes with most drainage occurring before 1930 (USGS, 1996d).

New York

New York's wetlands have been drained and filled since settlement by Europeans began in the 1600's (USGS, 1996e). Filling of wetlands increased markedly following World War II. Between about the 1780's and the 1980's, New York lost an estimated 60 percent of its wetlands. Wetlands have been drained for crop production and pasturage, and they have been filled for transportation, industrialization, housing, and landfills. Dredging for navigation and the construction of reservoirs, harbors, and marinas also have adversely affected New York's wetlands. In addition to the acreage losses caused by these activities, wetlands have been dredged by point and nonpoint discharges to surface waters from agriculture, logging, industry, municipal sewerage, and urban runoff, which add contaminants and silt to surface waters. Currently, about 75 percent of New York's wetlands occupy areas of less than six acres. The five most common freshwater-wetland cover types in New York, in order of area, are flooded deciduous trees (palustrine forested wetland); flooded shrubs (palustrine scrub-shrub wetland); flooded coniferous trees (palustrine forested wetland); drained muckland; and emergent (palustrine emergent wetlands or lacustrine or riverine nonpersistent-emergent wetlands). Together, these types constitute almost 88 percent of New York's freshwater wetland areas. The counties of upstate New York, including those in the Adirondack Mountains and the counties south and east of Lake Ontario, have the largest percentages of freshwater wetland area. The urban counties of New York City and Long Island and the southern-tier counties along the State's border with Pennsylvania have the smallest percentage of wetland area. Counties in the Catskill Mountains also have relatively low areal percentages of wetlands (USGS, 1996e).

Ohio

From the 1780's to the 1980's, wetland area in Ohio declined by 90 percent, from about 5,000,000 acres to about 483,000 acres (USGS, 1996f). For the conterminous 48 States, the percentage of wetland loss in Ohio is second only to that of California. Drainage of wetlands for agriculture has been the primary cause of wetland loss, but recreational use, fluctuating water levels, urban development, mining, logging, and fire also have contributed. Coastal wetlands along the Ohio shore of Lake Erie have been destroyed as agriculture, real-estate development, and recreational areas have expanded. From 1850 to 1993, about 951,000 of 988,000 acres of coastal wetlands were destroyed along the southwestern coast of Lake Erie. Only 10 percent of the original marsh along Lake Erie exists today. Currently, Ohio's wetlands cover about 1.8 percent of the State. Palustrine wetlands such as swamps (forested wetlands), wet prairies (emergent wetlands), coastal and embayment marshes (emergent wetlands), peatlands (wetlands that have organic soils), and wetlands along stream margins and backwaters collectively are the most important Ohio wetlands. Lacustrine and riverine wetlands constitute only a small percentage of the State's wetland acreage. Large coastal marshes border the southwestern shore and Sandusky Bay of Lake Erie. These marshes generally range from 1 to 2 miles in width and are interrupted by points of

higher land and developed areas (USGS, 1996f).

Pennsylvania

The USFWS has estimated that, from the 1780's to the 1980's, wetland area in Pennsylvania decreased by more than one-half (USGS, 1996g). Activities such as conversion to cropland, channelization, forestry, mining, urban development, and the construction of impoundments have contributed to widespread wetland loss or degradation. Between 1956 and 1979, Pennsylvania lost about 28,000 acres (nearly seven percent) of its vegetated wetlands. The leading cause of losses was conversion to ponds, lakes, and reservoirs (46 percent); farmland (17 percent); urban land (14 percent); and other land uses, mostly by channelization and drainage (23 percent). Currently, about 1.4 percent (404,000 acres) of Pennsylvania's land surface is covered by wetlands. About 97 percent of these wetlands are palustrine, about 2 percent are lacustrine, and 1 percent are riverine. Pennsylvania's 392,000 acres of palustrine wetlands consist of 178,000 acres of deciduous and evergreen forested wetlands, 62,000 acres of open water, 52,000 acres of emergent wetlands, 49,000 acres of deciduous and evergreen scrub-shrub wetlands, 25,000 acres of mixed deciduous scrub-shrub and emergent wetlands, and 26,000 acres of other types. About 42 percent of Pennsylvania wetlands are in the glaciated parts of the northwestern and northeastern corners of the State. Wetlands in the northwest are primarily deciduous forested and scrub-shrub wetlands. Those in the northeast are primarily deciduous and evergreen forested wetlands. In the non-glaciated parts of the State, wetlands are most associated with the headwaters and floodplains of streams. The largest area of lacustrine wetlands (5,650 acres) is along the Lake Erie shoreline (USGS, 1996g).

Tennessee

The USFWS National Wetland Inventory has estimated that Tennessee lost as much as 59 percent of its wetland area in the 200 years before the 1980's (USGS, 1996h). Logging of western Tennessee bottom lands proceeded rapidly after about 1880, and favorable agricultural prices provided an economic incentive to cultivate marginal lands in the area. By the 1930's, many dredged channels in western Tennessee were partially or filled by sediment from agricultural operations. This sedimentation has altered the hydrology of the bottom lands and caused changes in vegetation patterns and wetland types. As much as 83 percent of the original bottom-land hardwood-forest wetlands in the Obion and Forked Deer River Basins alone have been lost. Currently, estimates of wetlands within Tennessee range between 640,000 and 787,000 acres. Bottom-land hardwood forests are the most common wetlands in Tennessee. These forests have formed primarily in the flat flood plains along stream that drain into the Mississippi and Tennessee Rivers in western Tennessee. Scrub-shrub wetlands are present along downstream reaches of channelized streams in western Tennessee. Isolated forested wetlands known locally as upland swamps are found in the Highland Rim, Central Basin, Cumberland Plateau, Valley and Ridge, and Blue Ridge Provinces. Beaver ponds, typically associated with floodplains, are present throughout the State. Wet meadows are most common in the western and central parts of Tennessee. Freshwater marshes exist throughout Tennessee. Highland bogs have formed in the Valley and Ridge Province of eastern Tennessee (USGS, 1996h).

West Virginia

Of the wetlands present in West Virginia in the 1780's, about three-fourths remain today (USGS, 1996i). Most of the loss was caused by agricultural drainage of wetlands in the flood plains of the Ohio, Kanawha, and Monongahela Rivers. From 1957 to 1980, West Virginia gained 10,900 acres of forested and scrub-shrub wetlands and lost 5,800 acres of emergent wetlands. Much of the increase in wetland acreage was caused either by beaver activity, which through flooding converted uplands into forested and scrub-shrub wetlands, or by plant succession. Current threats to wetlands include primarily residential, commercial, industrial, and highway development projects. Currently, wetlands constitute less than 1 percent of West Virginia's surface area. Palustrine and lacustrine wetlands constitute 0.3 percent of the State's total land and water surface area. Based on the USFWS National Wetlands Inventory, West Virginia has about 102,000 acres of wetlands, including 42,000 acres of forested wetlands, 24,000 acres of scrub-shrub wetlands, 20,000 acres of emergent wetlands, and 16,000 acres of ponds. The Canaan Valley and Meadow River wetland complexes contain about 14 percent of the State's wetlands. Other wetlands, commonly located along streams and rivers, are mostly of small to moderate size and are distributed widely across the State. Forested wetlands are the most common type, with interspersed scrub-shrub, emergent, and open-water wetlands (ponds) (USGS, 1996i).

Wisconsin

It was estimated that from the 1780's to the 1980's, wetland acreage in Wisconsin decreased from 9.8 million acres to 5.3 million acres — a 46-percent loss of the State's original wetlands (USGS, 1996j). Wetlands were converted to upland or to other types of wetlands primarily for agricultural, residential, commercial, and industrial development. Agricultural development in wetlands was the major cause of wetland losses. Urban development also destroyed or altered many wetlands in Wisconsin. Many cities were established in and around wetlands because of a reliance on water for transportation. Currently, it is estimated that wetlands cover more than 5 million acres of Wisconsin. About 15 percent (5,300,000 acres) of Wisconsin's land surface is covered by wetlands. Common types of wetlands in Wisconsin include swamps, marshes, and peatlands. Swamps and marshes are most common in southern Wisconsin, and peatlands are most common in northern Wisconsin. Scrub-shrub wetlands are common in Wisconsin and include both deciduous and evergreen vegetation. Many Wisconsin wetlands are riparian (streamside) wetlands adjacent to rivers or streams that periodically flood (USGS, 1996j).

3.3.7 FISH AND WILDLIFE

The Fish and Wildlife Coordination Act (16 U.S.C. 661 *et seq.*) of 1934, as amended (16 U.S.C. 661 *et seq.*) was enacted for "the purpose of recognizing the vital contribution of our wildlife resources to the Nation" and to "provide that wildlife conservation shall receive equal consideration and be coordinated with other features of water-resource development programs." The FWCA requires that federal agencies consult with the USFWS and the head of the agency exercising administration over the wildlife resources of the state, "whenever the waters of any stream or other body of water are proposed or authorized

to be impounded, diverted, the channel deepened, or the stream or other body of water otherwise controlled or modified for any purpose whatever” (16 U.S.C. 662).

In general, most wildlife species that utilize federal projects are common species; however, some may be threatened or endangered. Federally listed threatened and endangered species are discussed in Section 3.8 of this PEA. Other sensitive species, such as bald or golden eagles, may also utilize federal projects for a variety of activities. The following affected environment provides a general overview of fish and wildlife within each state, including those that may be encountered within the vicinity of a federal project.

AFFECTED ENVIRONMENT

Illinois

Illinois is home to approximately 60 species of mammals (ILDNR, 2021). In addition, more than 400 species of birds have been documented within the state, of which 205 have been documented as nesting within the state (ILDNR, 2022). Regarding aquatic and semiaquatic species, Illinois is home to approximately 192 species of fish representing 30 families (INHS, 2022a). In addition, the state is inhabited by approximately 104 species of amphibians (i.e., 20 salamanders, 21 frogs and toads) and reptiles (i.e., six lizards, 17 turtles, and 40 snakes) (INHS, 2022b).

Indiana

Indiana is home to approximately 60 species of mammals (INDNR, 2022a). In addition, more than 413 species of birds have been documented within Indiana of which 260 plus species are observed annually in the state. Furthermore, approximately 180 species of birds breed annually in the state (Indiana Audubon, 2022). Regarding aquatic and semi-aquatic species, the state is home to approximately 200 fish species and 60 species of freshwater mussels (INDNR, 2022b). In addition, Indiana is home to approximately 41 species of amphibians (e.g., frogs and salamanders) and 54 species of reptiles (e.g., turtles, lizards, and snakes) (INDNR, 2022c).

Kentucky

Kentucky is home to approximately 27 species of small mammals, including 16 species of bats (KYDFW, 2022a). In addition to small mammals, the state is also home to larger fauna such as Black Bear (*Ursus americanus*), Beaver (*Castor canadensis*), Bobcat (*Lynx rufus*), Coyote (*Canis latrans*), White-tailed Deer (*Odocoileus virginianus*), and Gray Fox (*Urocyon cinereoargenteus*) and Red Fox (*Vulpes vulpes*) (Murray State University, 2022). Regarding birds, over 350 avian species have been previously documented in the state. Of these 350 avian species, approximately 150 species breed in the state, with the remainder being winter residents or transients that just pass through the state during migration (KYDFW, 2022b). Regarding aquatic and semi-aquatic species, the state has a total of 248 native fish species, which represents one of the most diverse assemblages in North America (KYDFW, 2022c). The state is also inhabited by approximately 103 species of native freshwater mussels (KYDFW, 2022d). Aquatic snails are also abundant in the state, with over 65 native species having been

documented within Kentucky (KYDFW, 2022d). In terms of reptiles and amphibians, the state is home to 56 species of reptiles (i.e., 10 lizards, 32 snakes, and 14 turtles) and 57 species of amphibians (i.e., 35 salamanders, and 22 frogs and toads) (KYDFW, 2022e and 2022f).

Michigan

Michigan is home to approximately 71 species of mammals that have been documented within the state (iNaturalist, 2022). In addition, approximately 27 species of birds have been documented within the state (Petrucha and Buecking, 2009). Regarding aquatic and semi-aquatic species, Michigan is home to approximately 153 species of fish that represent 28 families (MIDNR, 2002). In addition, the state is inhabited by approximately 58 known species of amphibians and reptiles, comprised of 14 species of frogs and toads, 14 species of salamanders, two species of lizard, 18 species of snake, and 10 species of turtles (Phillips, 2016).

New York

New York is home to more than 70 species of mammals, ranging from mice to moose (NYNHP, 2021). In addition, approximately 503 species of birds representing 23 orders and 67 families of birds have been documented within New York State (New York State Ornithological Association, 2021). Regarding aquatic and semi-aquatic species, New York is home to over 165 species of fish (NYDEC, n.d.a). In addition to fish, there are also approximately 70 species of amphibians and reptiles that are documented as occurring within the state (NYDEC, n.d. b).

Ohio

Ohio is home to approximately 65 native mammal species; however, 12 species no longer occur within the state (OHDW, 2016). In addition to mammals, approximately 433 species of birds have been documented within the state (Clifford, 2021). Regarding aquatic and semi-aquatic species, Ohio is home to more than 160 species of freshwater fish (Atassi, 2019) and 60 species of freshwater mussels (Sasson, 2020). In addition to fish, the state is inhabited by nearly 50 species of reptiles (OHDW, 2018) and as many as 40 species of amphibians (OhioAmphibians.com, n.d.).

Pennsylvania

Pennsylvania is home to approximately 66 species of mammals (Pennsylvania Game Commission, 2022). In addition, there are approximately 414 species of birds that have been documented in the state, of which 285 species are regular inhabitants/visitors and 129 species are less frequent visitors (Pennsylvania Game Commission, 2022). Regarding aquatic and semi-aquatic species, Pennsylvania is home to approximately 113 species of native fish (Native Fish Coalition, n.d.). In addition, the state is home to approximately 78 native amphibians and reptiles comprised of 22 salamanders, 18 frogs and toads, 13 turtles, four lizards, and 21 snakes (Pennsylvania Fish & Boat Commission).

Tennessee

Tennessee is home to approximately 79 species of mammals, including 15 species of bat and five non-native mammal species (i.e., wild hog, coypu, roof rat, brown rat, and house mouse) (TWRA, n.d.a). In addition, there are approximately 423 species of birds that occur naturally, have been established, or introduced to the State (Tennessee Bird Records Committee, n.d.). Regarding aquatic and semi-aquatic species, Tennessee is home to approximately 315 species of fish of which approximately 280 of these species are considered native to the state (TWRA, 2012). Regarding freshwater mussels, approximately 130 species are or were known to occur within Tennessee – the most diverse and abundant assemblage of mussels second only to Alabama (TWRA, n.d.b). Regarding reptiles (TWRA, n.d.c) and amphibians (TWRA, n.d.d), there are nine lizards, 32 snakes, 16 turtles, 21 frogs and toads, and 52 salamanders. Alligators also have on occasion been sighted in Tennessee as they naturally expand their range into Tennessee (TWRA, n.d.e).

West Virginia

West Virginia is home to approximately 74 species of mammals of which 67 are native to the state and seven are non-native (WVDNR, 2022a). In addition to mammal species, more than 366 species of birds have been documented in the state; however, only about 170 species of birds breed annually in the state (WVDNR, 2022b). Regarding aquatic and semi-aquatic species, there are approximately 178 species of fish, including three hybrid sport fish species in West Virginia (WVDEP, 2022). In addition, over 60 species of native freshwater mussels are known to occur in the state (USFWS, 2020c). In terms of amphibians and reptiles, there are currently 87 species within the state comprised of 34 salamander species, 14 frog and toad species, 13 turtle species, six lizard species, and 20 snake species (Marshall University, 2022).

Wisconsin

Wisconsin is home to approximately 72 species of mammals (University of Wisconsin-Stevens Point, 2022). In addition to mammal species, the state is home to over 300 species of birds (WDNR, 2022). Regarding aquatic and semi-aquatic species, there are approximately 160 different fish species (WDNR, n.d.a) in Wisconsin and 52 native freshwater mussel species (Wisconsin Aquatic and Terrestrial Water Resources Inventory, n.d.). The state is also home to 19 species of amphibians comprised of seven salamander species and 12 frog and toad species (WDNR, n.d.b). There are also 37 species of reptiles that have been documented in the state comprised of 22 snake species, four lizard species, and 11 turtle species (WDNR, n.d.c).

3.3.8 INVASIVE SPECIES

Invasive species are organisms that are not native to a location and, once introduced, quickly spread and cause harm to the environment, economy, or human health. EO 13751 (Safeguarding the Nation from the Impacts of Invasive Species) states that it “is the policy of the United States to prevent the introduction, establishment, and spread of invasive species, as well as to eradicate and control populations of invasive species that are established.” Furthermore, EO 13312 (Invasive Species) requires that federal agencies identify their actions that may affect the status of invasive species and “not

authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions.” In 2009, USACE issued a policy memorandum establishing a nationwide policy regarding invasive species, with the goal of preventing the “introduction and establishment of invasive species.” The following affected environment description provides a broad overview of invasive species known to occur within each state covered by this PEA.

AFFECTED ENVIRONMENT

Illinois

Invasive species that are prevalent throughout Illinois (i.e., those with 100 percent coverage) include smooth brome (*Bromus inermis*), wild parsnip (*Pastinaca sativa*), wild onion (*Allium spp.*), wild garlic (*Allium ursinum*), white clover (*Trifolium repens*), timothy (*Phleum pratense*), tree-of-heaven (*Ailanthus altissima*), Virginia pepperweed (*Lepidium virginicum*), spotted spurge (*Euphorbia hapsus*), stinkgrass (*Eragrostis cilianensis*), shepherd’s-purse (*Capsella bursa-pastoris*), prickly lettuce (*Lactuca serriola*), Queen Anne’s lace (wild carrot) (*Daucus carota*), red clover (*Trifolium pratense*), red sorrel (*Rumex acetosella*), redtop (*Agrostis gigantea*), yellow foxtail (*Setaria pumila*), yellow nutsedge (*Cyperus esculentus*), yellow sweet-clover (*Melilotus officinalis*), yellow woodsorrel (*Oxalis stricta*), alsike clover (*Trifolium hybridum*), big chickweed (*Cerastium glomeratum*), black medic (*Medicago lupulina*), bristlegrass (*Setaria spp.*), buckhorn plantain (*Plantago lanceolata*), butternut canker (*Ophiognomonium claviginenti-juglandacearum*), Canada bluegrass (*Poa compressa*), Canadian horseweed (*Erigeron canadensis*), cheatgrass (*Bromus tectorum*), common carp (*Cyprinus carpio*), common chickweed (*Stellaria media*), common dandelion (*Taraxacum officinale*), common mouse-ear chickweed (*Cerastium fontanum*), common mullein (*Verbascum thapsus*), common purslane (*Portulaca oleracea*), common ragweed (*Ambrosia artemisiifolia*), common selfheal (*Prunella vulgaris*), common yarrow (*Achillea millefolium*), corn speedwell (*Veronica arvensis*), dotted smartweed (*Persicaria punctata*), Dutch elm disease (*Ophiostoma ulmi*), eastern redcedar (*Juniperus virginiana*), giant foxtail (*Setaria faberi*), giant ragweed (*Ambrosia trifida*), green bristlegrass (*Setaria viridis*), green foxtail (*Setaria viridis*), Kentucky bluegrass (*Poa pratensis*), lambsquarters (*Chenopodium album*), large crabgrass (*Digitaria sanguinalis*), meadow fescue (*Festuca pratensis*), and orchardgrass (*Dactylis glomerata*) (EDD, n.d.). For a complete list of invasive species by category refer to Table A-6.

Indiana

Invasive species that are prevalent throughout Indiana (i.e., those with 100 percent coverage) include common periwinkle (*Littorina littorea*), lily of the valley (*Convallaria majalis*), hollyhock (*Alcea spp.*), white mulberry (*Morus alba*), Japanese honeysuckle (*Lonicera japonica*), yellow sweet-clover (*Melilotus officinalis*), henbit (*Lamium amplexicaule*), jimsonweed (*Datura stramonium*), border privet (*Ligustrum obtusifolium*),

Canada thistle (*Cirsium arvense*), Asiatic dayflower (*Commelina communis*), tree-of-heaven (*Ailanthus altissima*), butternut canker (*Ophiognomonia clavignenti-juglandacearum*), purple crown-vetch (*Securigera varia*), purple deadnettle (*Lamium purpureum*), oxeye daisy (*Leucanthemum vulgare*), cheatgrass (*Bromus tectorum*), English ivy (*Hedera helix*), eastern redcedar (*Juniperus virginiana*), winter creeper (*Euonymus fortunei*), European pine shoot moth (*Rhyacionia buoliana*), Japanese beetle (*Popillia japonica*), multiflora rose (*Rosa multiflora*), poison hemlock (*Conium maculatum*), star-of-Bethlehem (*Ornithogalum spp.*), common purslane (*Portulaca oleracea*), giant foxtail (*Setaria faberi*), goosegrass (*Eleusine indica*), autumn olive (*Elaeagnus umbellata*), velvetleaf (*Abutilon theophrasti*), and chicory (*Cichorium intybus*) (EDD, n.d.). For a complete list of invasive species by category refer to Table A-6.

Kentucky

Invasive species that are prevalent throughout Kentucky (i.e., those with 100 percent coverage) include rose (*Rosa spp.*), eastern redcedar (*Juniperus virginiana*), and Japanese beetle (*Popillia japonica*) (EDD, n.d.). For a complete list of invasive species by category refer to Table A-6.

Michigan

Invasive species that are prevalent throughout Michigan (i.e., those with 100 percent coverage) include gypsy moth (*Lymantria dispar dispar*), white pine blister rust (*Cronartium ribicola*), purple loosestrife (*Lythrum salicaria*), and large aspen tortrix (*Choristoneura conflictana*) (EDD, n.d.). For a complete list of invasive species by category refer to Table A-6.

New York

Invasive species that are prevalent throughout New York (i.e., those with 100 percent coverage) include spruce budworm (*Choristoneura spp.*), gypsy moth (*Lymantria dispar dispar*), garlic mustard (*Alliaria petiolata*), bush honeysuckle (*Lonicera tatarica*), common mullein (*Verbascum thapsus*), dogwood anthracnose (*Discula destructiva*), butternut canker (*Ophiognomonia clavignenti-juglandacearum*), elongate hemlock scale (*Fiorinia externa Ferris*), Japanese knotweed (*Reynoutria japonica*), beech bark disease (*Cryptococcus fagisuga/Neonectria spp. complex*), white pine blister rust (*Cronartium ribicola*), purple loosestrife (*Lythrum salicaria*), and Japanese beetle (*Popillia japonica*) (EDD, n.d.). For a complete list of invasive species by category refer to Table A-6.

Ohio

Invasive species that are prevalent throughout Ohio (i.e., those with 100 percent coverage) include black locust (*Robinia pseudoacacia*), bittersweets (*Celastrus orbiculatus*), annual bluegrass (*Poa annua*), common pokeweed (*Phytolacca decandra*), osage-orange (*Maclura pomifera*), gypsy moth (*Lymantria dispar dispar*), dandelion (*Taraxacum spp.*), moth mullein (*Verbascum blattaria*), tree-of-heaven (*Ailanthus altissima*), butternut canker (*Ophiognomonia clavignenti-juglandacearum*), black vine weevil (*Otiorhynchus sulcatus*), eastern redcedar (*Juniperus virginiana*), emerald ash

borer (*Agilus planipennis*), Japanese beetle (*Popillia japonica*), multiflora rose (*Rosa multiflora*), Queen Anne's lace (wild carrot) (*Daucus carota*), and common dandelion (*Taraxacum officinale*) (EDD, n.d.). For a complete list of invasive species by category refer to Table A-6.

Pennsylvania

Invasive species that are prevalent throughout Pennsylvania (i.e., those with 100 percent coverage) include black medic (*Medicago lupulina*), bouncing bet flower (*Saponaria officinalis*), buckhorn plantain (*Plantago lanceolata*), bush honeysuckle (*Lonicera tatarica*), butternut canker (*Ophiognomonina clavignenti-juglandacearum*), Canadian horseweed (*Erigeron canadensis*), chestnut blight or canker (*Cryphonectria parasitica*), common pine shoot beetle (*Tomicus piniperda*), common ragweed (*Ambrosia artemisiifolia*), common selfheal (*Prunella vulgaris*), common speedwell (*Veronica spp.*), common St. Johnswort (*Hypericum perforatum*), common velvetgrass (*Holcus lanatus*), common yarrow (*Achillea millefolium*), forest tent caterpillar (*Malacosoma disstria*), gypsy moth (*Lymantria dispar dispar*), hairy galinsoga (*Galinsoga quadriradiata*), hedge bindweed (*Calystegia sepium*), hop clover (*Trifolium campestre*), Japanese beetle (*Popillia japonica*), lambsquarters (*Chenopodium album*), large aspen tortix (*Choristoneura conflictana*), oxeye daisy (*Leucanthemum vulgare*), Queen Anne's lace (*Daucus carota*), red clover (*Trifolium pratense*), redtop (*Agrostis gigantea*), timothy (*Phleum pratense*), white clover (*Trifolium repens*), white pine blister rust (*Cronartium ribicola*), yellow foxtail (*Setaria pumila*), yellow sweet-clover (*Melilotus officinalis*), yellow toadflax (*Linaria vulgaris*), and yellow woodsorrel (*Oxalis stricta*) (EDD, n.d.). For a complete list of invasive species by category refer to Table A-6.

Tennessee

Invasive species that are prevalent throughout Tennessee (i.e., those with 100 percent coverage) include eastern redcedar (*Juniperus virginiana*) and Japanese honeysuckle (*Lonicera japonica*) (EDD, n.d.). For a complete list of invasive species by category refer to Table A-6.

West Virginia

Invasive species that are prevalent throughout West Virginia (i.e., those with 100 percent coverage) include autumn olive (*Elaeagnus umbellata*), brown marmorated stink bug (*Halyomorpha halys*), butternut canker (*Ophiognomonina clavignenti-juglandacearum*), chestnut blight or canker (*Cryphonectria parasitica*), coltsfoot (*Tussilago farfara*), common pine shoot beetle (*Tomicus piniperda*), common teasel (*Dipsacus fullonum*), dogwood anthracnose (*Discula destructiva*), eastern redcedar (*Juniperus virginiana*), garlic mustard (*Alliaria petiolata*), ground ivy (*Glechoma hederacea*), Japanese beetle (*Popillia japonica*), Japanese honeysuckle (*Lonicera japonica*), Japanese stiltgrass (*Microstegium vimineum*), multiflora rose (*Rosa multiflora*), oxeye daisy (*Leucanthemum vulgare*), Queen Anne's lace (*Daucus carota*), rose rosette disease (*Phyllocoptes fructiphilus Keifer*), and tree-of-heaven (*Ailanthus altissima*) (EDD, n.d.). For a complete list of invasive species by category refer to Table A-6.

Wisconsin

Invasive species that are prevalent throughout Wisconsin (i.e., those with 100 percent coverage) include bush honeysuckle (*Lonicera tatarica*), common mullein (*Verbascum thapsus*), common pine shoot beetle (*Tomicus piniperda*), common selfheal (*Prunella vulgaris*), common yarrow (*Achillea millefolium*), large aspen tortrix (*Choristoneura conflictana*), purple loosestrife (*Lythrum salicaria*), red clover (*Trifolium pratense*), white campion (*Silene latifolia*), white pine blister rust (*Cronartium ribicola*), and yellow toadflax (*Linaria vulgaris*) (EDD, n.d.). For a complete list of invasive species by category refer to Table A-6.

Table A-6. Number of species by invasive species category documented in each state (EDD, n.d.).

Invasive Species Category	State									
	IL	IN	KY	MI	NY	OH	PA	TN	WV	WI
	Number of Species									
Amphibians	1	1	1	1	2	1	1	2	1	1
Animal Caused Damage	2	1	1	1	-	1	1	1	1	1
Aquatic Animals	44	17	12	22	5	9	8	3	1	23
Aquatic Plants	33	29	30	31	39	28	30	26	22	26
Bark Beetles and Phloem Feeding Insects	6	6	4	6	8	7	8	4	7	6
Birds	3	3	3	1	-	2	3	2	1	3
Biological Control Agents of Insects	-	-	-	-	1	-	-	1	-	-
Biological Control Agents of Weeds	-	2	-	3	1	-	1	-	2	2
Blood Feeding Insects - Sanguinivorous	-	-	1	-	-	-	-	-	-	-
Boring Insects	7	5	4	7	10	8	9	7	5	6
Casebearers, leafrollers, and bagworms	-	1	-	1	1	-	1	-	-	2
Chewing Insects	8	9	7	11	12	11	11	6	8	11
Chewing Insects (Stinger)	-	-	1	-	-	-	-	1	-	-
Commercial biocontrol	-	-	-	-	-	-	-	1	-	-
Conifer Trees	5	3	3	4	7	4	6	1	3	3
Crabs, Shrimps, and Lobsters	9	-	-	2	2	1	2	-	-	2
Crops	8	4	5	8	9	6	8	8	4	7
Decline Complexes	1	1	1	1	1	1	1	1	1	1
Ferns	1	-	2	-	-	-	-	3	-	-
Fish	29	13	9	14	2	6	5	2	-	17
Foliage & Other Plant Parts Feeder	1	1	1	2	1	2	1	1	1	1
Foliage Diseases	7	6	7	5	7	6	5	4	3	5
Foliage Feeding Insects	161	155	110	167	32	22	27	9	15	191
Forbs/Herbs	446	352	329	429	512	420	467	331	353	430
Fungus Feeding Insects - Mycophagous	-	-	-	1	2	1	2	3	-	-
Gallmaker Insects	16	17	16	19	2	2	2	1	1	20
Grass or Grasslike	106	76	92	86	127	88	100	93	67	80
Hardwood Trees	64	51	53	54	81	69	72	46	56	3

Invertebrate Parasites and Parasitoids	-	-	-	-	3	-	-	1	-	-
Invertebrate Predators	1	1	3	1	1	1	1	3	1	1
Leafmining Insects – Needlemining Insects	-	1	1	3	2	2	2	1	1	2
Mammals	5	2	2	1	2	4	4	2	2	3
Misc. Insects	-	1	-	-	-	-	-	-	-	-
Nuisance Insects	-	-	2	-	-	-	-	2	-	-
Omnivorous Foragers	-	-	1	-	-	-	-	1	-	-
Other/Unknown	-	1	-	-	-	-	-	-	-	-
Palms	-	-	1	-	-	-	-	-	-	-
Parasitic and Epiphytic Plants	1	-	1	-	1	-	1	1	1	-
Piercing and Sucking Insects	130	125	92	130	15	13	14	9	8	149
Plant Disease Vectors	5	5	5	5	-	-	-	-	-	6
Plant Parasitic Nematodes	-	-	-	1	1	1	1	1	1	1
Reptiles	2	1	1	-	1	3	1	3	1	-
Root Feeding Insects	13	15	12	16	3	3	3	1	3	19
Root Rot	-	1	1	-	-	1	1	1	1	-
Seed, Cone, Flower, Bud and Fruit Damaging Insects	5	6	5	7	6	4	4	3	3	5
Shrub or Subshrub	106	87	96	93	144	111	127	97	93	80
Snails, Slugs, and Mussels	10	4	3	14	3	3	-	-	-	6
Spiders, Scorpions, and Centipedes	-	-	-	-	-	-	-	1	-	-
Stem and Leaf Rusts	4	2	4	2	2	2	1	1	1	3
Stem Decays and Cankers	2	3	2	4	5	5	6	4	3	3
Terminal, Tip, Stern, and Shoot Insects	23	22	16	28	8	6	8	5	2	24
Unknown	-	1	-	-	-	-	-	-	-	-
Vascular Wilts	3	3	3	3	3	3	3	4	2	3
Vines	48	42	50	45	59	50	53	45	41	39
Virus and Bacteria	-	-	-	2	-	-	-	1	-	-
Worms and Leeches	1	2	1	2	2	3	2	3	1	2
Xylophagous Insects	1	-	-	-	2	1	1	-	-	

3.3.9 THREATENED AND ENDANGERED SPECIES

Section 7 of the federal ESA of 1973, as amended, (16 U.S.C. 1531 *et seq.*) requires federal agencies to consult with the USFWS when their actions may affect threatened or endangered species or their designated critical habitat. Designated critical habitat is defined under the ESA as specific areas that have physical or biological features essential to the conservation of the species and which may require special management considerations or protection.

AFFECTED ENVIRONMENT

Federally listed threatened, endangered, or candidate species under the ESA were tabulated for each state and are summarized in Table A-7. Table A-8 shows the designated critical habitat within each state.

Table A-7. Federally listed threatened, endangered, and candidate species within LRD's civil works boundary (USFWS, 2019; USFWS, 2020a; USFWS, 2020b; USFWS, 2022a; USFWS, 2022b; USFWS, 2022c; USFWS, 2022d; USFWS, 2022e; USFWS, 2022f, and USFWS, 2022g).

Common Name	Scientific Name	Federal Status	Habitat	IL	IN	KY	MI	NY	OH	PA	TN	WV	WI
Mammals													
Carolina Northern Flying Squirrel	<i>Glaucomys sabrinus coloratus</i>	Endangered	Inhabit cool, wet boreal, and deciduous forests.								X		
Gray Bat	<i>Myotis grisescens</i>	Endangered	Inhabit limestone caves, especially caves within two miles of rivers, streams, or lakes.	X	X	X					X	X	
Indiana Bat	<i>Myotis sodalis</i>	Endangered	During summer inhabit along riparian areas in trees and snags. During winter, hibernate in caves.	X	X	X	X	X	X	X	X	X	
Canada Lynx	<i>Lynx canadensis</i>	Threatened	Inhabit moist, boreal forests.				X						X
Northern Long-eared Bat	<i>Myotis septentrionalis</i>	Threatened	Day roost in tall trees and snags in summer. Night roosts during summer include caves and rock shelters. In winter, hibernate in caves and abandoned mines.	X	X	X	X	X	X	X	X	X	X
Virginia big-eared Bat	<i>Corynorhinus townsendii virginianus</i>	Endangered	Inhabits caves year-round.			X					X	X	
Birds													
Least Tern	<i>Sterna antillarum</i>	Endangered	Inhabit estuaries and bays, as well as areas around rivers in the Great Plains.	X	X								
Piping Plover	<i>Charadrius melodus</i>	Threatened AND Endangered	Inhabit wide, flat, open, sandy beaches with very little grass or other vegetation.	X	X		X	X	X	X			X
Rufa Red Knot	<i>Calidris canutus rufa</i>	Threatened	Nest in High Arctic habitats (dry tundra slopes with sparse stunted willow or mountain avens). Migrating birds use marine habitats (e.g., sandy beaches, saltmarshes, lagoons, mudflats of estuaries and bays, and mangrove swamps).	X	X		X	X	X	X		X	X
Roseate Tern	<i>Sterna dougallii dougallii</i>	Endangered	Inhabit sandy beaches isolated from human activity. Can be found in a variety of substrates including pea gravel, open sand, overhanging rocks, and salt marshes.					X					
Whooping Crane	<i>Grus americana</i>	Experimental Population, Non-essential	Inhabit wetlands, marshes, mudflats, wet prairies, and fields.				X				X		X
Amphibians and Reptiles													
Cheat Mountain Salamander	<i>Plethodon nettingi</i>	Threatened	Only found in West Virginia's Cheat Mountain, part of the Allegheny Mountains. Live in red spruce and yellow birch forests.									X	
Copperbelly Water Snake	<i>Nerodia erythrogaster neglecta</i>	Endangered	Inhabit shallow wetlands or floodplain wetlands surrounded by forested uplands.		X		X		X				
Eastern Massasauga	<i>Sistrurus catenatus</i>	Threatened	Inhabit wet areas including wet prairies, marshes, and low areas along rivers and lakes.	X	X		X	X	X	X			X

Common Name	Scientific Name	Federal Status	Habitat	IL	IN	KY	MI	NY	OH	PA	TN	WV	WI
Bog Turtle	<i>Glyptemys muhlenbergii</i>	Threatened	Inhabit mountain bogs, or isolated wetlands with acidic, wet soil, thick moss, and deep layers of mud.					X		X	X		
Fish													
Amber Darter	<i>Percina antesella</i>	Endangered	Generally found in the mainstem of the Etowah and Conasauga Rivers of Georgia and Tennessee. Prefer shoals with moveable gravel/small cobble substrate and moderate to swift currents.								X		
Barrens Topminnow	<i>Fundulus julisia</i>	Endangered	Restricted to springhead pools and slow flowing areas of spring runs on the Barrens Plateau in middle Tennessee. Strongly associated with aquatic vegetation.								X		
Blackside Dace	<i>Phoxinus cumberlandensis</i>	Threatened	Inhabit headwater streams. Live in cool, clear streams with rocky substrates and overhanging vegetation.			X					X		
Blue Shiner	<i>Cyprinella caerulea</i>	Threatened	Flowing runs and pools in streams with cool water and firm substrates.								X		
Bluemask Darter	<i>Etheostoma akatulo</i>	Endangered	Occupies areas with slow to moderate flow over sand and fine gravel substrates.								X		
Boulder Darter	<i>Etheostoma wapiti</i>	Endangered AND Experimental Population, Non-Essential	Preferred habitat is fast-flowing streams, at least two feet deep, with a substrate of rock or boulders.								X		
Candy Darter	<i>Etheostoma osburni</i>	Endangered	Typically live in cold, clear, fast-moving sections of small to medium-sized rivers.									X	
Chucky Madtom	<i>Noturus crypticus</i>	Endangered	Occupies slow rocky riffle sand runs of clear creeks.								X		
Conasauga Logperch	<i>Percina jenkinsi</i>	Endangered	Inhabits rocky runs and flowing pools of Conasauga River.								X		
Cumberland Darter	<i>Etheostoma susanae</i>	Endangered	Typically found in low to moderate gradient streams where it occupies shallow pools or runs with gentle current over sand or sand-covered bedrock substrates with patches of gravel or debris.			X					X		
Diamond Darter	<i>Crystallaria cincotta</i>	Endangered	Habitat includes clean sand, gravel, and cobble runs of small to medium rivers.								X	X	
Duskytail Darter	<i>Etheostoma percnum</i>	Endangered AND Experimental Population, Non-essential	Inhabits gently flowing shallow pools and eddy areas of large creeks and moderately large rivers in the Tennessee and Cumberland River systems.			X					X		
Goldline Darter	<i>Percina aurolineata</i>	Threatened	Found over sand or gravel substrate interspersed among cobble and small boulders.								X		

Common Name	Scientific Name	Federal Status	Habitat	IL	IN	KY	MI	NY	OH	PA	TN	WV	WI
Kentucky Arrow Darter	<i>Etheostoma spilotum</i>	Threatened	Can be found in pools or transitional areas between riffles and pools in moderate to high gradient, small to medium streams with rocky substrates.			X							
Laurel Dace	<i>Chrosomus saylori</i>	Endangered	Lives in pools and slow runs in clear, cool, streams that are surrounded by dense riverbanks covered in mountain laurel.								X		
Palezone Shiner	<i>Notropis albizonatus</i>	Endangered	Lives in flowing streams with clear water and rocky, sandy bottoms.			X							
Pallid Sturgeon	<i>Scaphirhynchus albus</i>	Endangered	Preferred habitat is comprised of sand flats and gravel bars.	X		X					X		
Pygmy Madtom	<i>Noturus stanauli</i>	Endangered	Inhabits gravel runs of clear, medium-sized rivers. Known only from the Clinch River in Hancock County, Tennessee, and the Duck River in Humphreys County, Tennessee.								X		
Relict Darter	<i>Etheostoma chienense</i>	Endangered	Endemic to the Bayou du chien drainage in Graves and Hickman Counties of Kentucky. Found in headwater streams in slow-flowing pools and usually associated with gravel sand and leaf litter.			X							
Slackwater Darter	<i>Etheostoma boschungii</i>	Threatened	Inhabits small to moderately large streams with moderate to slow currents.								X		
Slender Chub	<i>Erimystax cahni</i>	Threatened	Restricted to the upper Tennessee River drainage in Tennessee and Virginia. Inhabits large warm streams with wide shoals.								X		
Smoky Madtom	<i>Noturus baileyi</i>	Endangered AND Experimental Population, Non-essential	Inhabits clear, cool, rocky riffles, runs, and flowing pools of creeks.								X		
Snail Darter	<i>Percina tanasi</i>	Threatened	Inhabits large creeks or deeper portions of rivers and reservoirs with gravel and sand shoals substrate.								X		
Spotfin Chub	<i>Erimona monachus</i>	Threatened AND Experimental Population, Non-essential	Inhabit clear water over gravel, boulders, and bedrock in large creeks and medium-sized rivers having moderate current.								X		
Trispot Darter	<i>Etheostoma trisella</i>	Threatened	Inhabits small to medium river margins and lower reaches of tributaries with slower velocities.								X		
Yellowfin Madtom	<i>Noturus flavipinnis</i>	Threatened AND Experimental Population, Non-essential	Found in backwaters and pools around rocks less than 30 cm in diameter and tree roots in clear creeks and small rivers.								X		
Invertebrates													
Alabama Lampmussel	<i>Lampsilis virescens</i>	Endangered AND	Inhabits shoals in small to medium rivers.								X		

Common Name	Scientific Name	Federal Status	Habitat	IL	IN	KY	MI	NY	OH	PA	TN	WV	WI
		Experimental Population, non-essential											
Alabama Moccasinshell	<i>Medionidus acutissimus</i>	Threatened	Inhabits medium streams to large rivers with gravel substrates and swift flowing shoal areas.								X		
Appalachian Elktoe	<i>Alasmidonta raveneliana</i>	Endangered	Inhabits relatively shallow, medium-sized creeks and rivers with cool, clean, well-oxygenated, moderate- to fast-flowing water.								X		
Clubshell	<i>Pleurobema clava</i>	Experimental Population, non-essential	Prefers clean, loose sand and gravel in medium to small rivers and streams.	X	X	X	X	X	X	X	X	X	
Coosa Moccasinshell	<i>Medionidus parvulus</i>	Endangered	Inhabits small streams to large rivers with sand, gravel, or cobble substrates and swift flowing shoal areas.								X		
Cracking Pearlymussel	<i>Hemistena lata</i>	Endangered	Inhabits gravel riffles of medium-sized streams, and mud and sand bottoms in slower-moving water.								X		
Cumberland Bean	<i>Villosa trabalis</i>	Experimental Population, Non-essential	Inhabits small rivers and streams in fast riffles with gravel or sand and gravel substrate.			X					X		
Cumberland Elktoe	<i>Alasmidonta atropurpurea</i>	Endangered	Inhabits creeks and rivers with cool, well oxygenated flowing water and gravelly to rocky substrates.			X					X		
Cumberland Monkeyface	<i>Quadrula intermedia</i>	Endangered AND Experimental Population, Non-essential	Inhabits shallow, fast-flowing water with substrate.								X		
Cumberland Pigtoe	<i>Pleurobema gibberum</i>	Endangered	Inhabits riffle areas of streams with gravel or sand substrate, occasionally mud or cobble substrate.								X		
Cumberlandian Combshell	<i>Epioblasma brevidens</i>	Endangered	Found in medium-sized streams to large rivers on shoals and riffles in coarse sand, gravel, cobble, and boulders.			X					X		
Dromedary Pearlymussel	<i>Dromus dromas</i>	Endangered	Inhabits small to medium, low turbidity, high to moderate gradient streams.			X					X		
Dwarf Wedgemussel	<i>Alasmidonta heterodon</i>	Endangered	Typical habitat includes running waters of all sizes, from small brooks to large rivers.					X		X			
Fanshell	<i>Cyprogenia stegaria</i>	Endangered	Inhabits medium to large rivers. Has been reported from relatively deep water in gravel substrate with moderate current.	X	X	X			X		X	X	
Fat Pocketbook	<i>Potamilis capax</i>	Endangered	Requires flowing water and found on a broad range of substrates.	X	X	X					X		
Finelined Pocketbook	<i>Lampsilis altilis</i>	Threatened	Inhabits high-quality lotic habitats with stable gravel and sandy-gravel substrates.								X		

Common Name	Scientific Name	Federal Status	Habitat	IL	IN	KY	MI	NY	OH	PA	TN	WV	WI
Finerayed Pigtoe	<i>Fusconaia cuneolus</i>	Endangered	Occupies shallow riffles and shoals of freshwater streams and rivers.								X		
Fluted Kidneyshell	<i>Ptychobranhus subtentus</i>	Endangered	Occupies shoal habitat in small to large rivers. It is typically found in substrates mixed with sand and gravel, and occasionally found near or under cobble boulders that have smaller substrates near the margins.			X					X		
Georgia Pigtoe	<i>Pleurobema hanleyianum</i>	Endangered	Typically occurs in coarse sand and gravel substrates in medium sized creeks to large streams.								X		
Green Blossom	<i>Epioblasma torulosa gubernaculum</i>	Endangered	Found in clean, fast-flowing streams that contain firm rubble, gravel, and sand substrates, swept free of silt by the current.								X		
Higgins Eye Pearlymussel	<i>Lampsilis higginsii</i>	Endangered	Inhabits large rivers where it is usually found in deep water with moderate currents.	X									X
James Spiny mussel	<i>Pleurobema collina</i>	Endangered	Inhabits free-flowing streams with a variety of flow regimes. Found in a variety of substrates that are free from silt.									X	
Littlewing Pearlymussel	<i>Pegias fabula</i>	Endangered	Inhabits cool-water streams in the Cumberland and Tennessee River basins that are small to medium in size, low turbidity, and have a high to moderate gradient.			X					X		
Longsolid Hickorynut	<i>Fusconia subrotunda</i>	Threatened	Found in clear, flowing water with gravel/sand/cobble substrates.	X	X	X			X	X	X	X	
Northern Riffleshell	<i>Epioblasma torulosa rangiana</i>	Endangered	Found in a wide variety of streams from large to small. Buries itself in bottoms of firmly packed sand or gravel.		X	X	X	X	X	X		X	
Orangefoot Pimpleback	<i>Plethobasus cooperianus</i>	Endangered	Prefers clean, fast-flowing water in silt-free rubble, gravel or sand or medium to large rivers.	X		X					X		
Ovate Clubshell	<i>Pleurobema perovatum</i>	Endangered	Prefers clean, loose sand and gravel in medium to small rivers and streams.								X		
Oyster Mussel	<i>Epioblasma capsaeformis</i>	Endangered AND Experimental Population, Non-essential	Inhabits small to medium-sized rivers, and sometimes large rivers, in areas with coarse sand to boulder substrate (rarely in mud) and moderate to swift currents.			X					X		
Pale Lilliput	<i>Toxolasma cylindrellus</i>	Endangered	Inhabits small to moderate sized streams in areas of slow to moderate current, usually in less than three feet of water, within sand and gravel substrates.								X		

Common Name	Scientific Name	Federal Status	Habitat	IL	IN	KY	MI	NY	OH	PA	TN	WV	WI
Pink Mucket	<i>Lampsilis abrupta</i>	Endangered	Found in mud and sand in shallow riffles and shoals swept free of silt in major rivers and tributaries.	X		X			X		X	X	
Purple Bean	<i>Villosa perpurpurea</i>	Endangered	Inhabits headwater streams to medium-sized rivers, in riffles with sand and gravel.								X		
Purple Cat's Paw	<i>Epioblasma obliquata obliquata</i>	Endangered AND Experimental Population, Non-essential	Inhabits large rivers with sandy gravel substrates. Occurs in water of shallow to moderate depth with a swift current.			X			X		X		
Rabbitsfoot	<i>Quadrula cylindrica cylindrica</i>	Threatened	Inhabits small- to medium-sized streams and some large rivers. Occurs in shallow water areas along the bank and in shoals with reduced water velocity.	X	X	X			X	X	X		
Rayed Bean	<i>Villosa fabalis</i>	Endangered	Inhabits smaller, headwater creeks, but it is sometimes found in large rivers and wave-washed areas of glacial lakes. Prefers gravel or sand substrates and is often found in and around roots of aquatic vegetation.		X	X	X	X	X	X	X	X	
Ring Pink	<i>Obovaria retusa</i>	Endangered	Found in shallow water over silt-free sand and gravel bottoms of large rivers.			X					X		
Rough Pigtoe	<i>Pleurobema plenum</i>	Endangered	Inhabits medium to large rivers in sand or gravel.		X	X					X		
Rough Rabbitsfoot	<i>Quadrula cylindrica strigillata</i>	Endangered	Found in medium to large sized rivers with clean, flowing water.								X		
Round Hickorynut	<i>Obovaria subrotunda</i>	Threatened	Found in clear, flowing water with gravel/sand/cobble substrates.		X	X	X		X	X	X	X	
Scaleshell	<i>Leptodea leptodon</i>	Endangered	Found in medium-sized and large rivers with stable channels and good water quality.	X									
Sheepnose Mussel	<i>Plethobasus cyphus</i>	Endangered	Found in large rivers and streams where they are usually found in shallow areas with moderate to swift currents that flow over coarse sand and gravel.	X	X	X			X	X	X	X	X
Shiny Pigtoe	<i>Fusconaia cor</i>	Endangered AND Experimental Population, Non-essential	Found along fords and in shoals of clear, moderate-to fast-flowing streams and rivers with stable substrates.								X		
Slabside Pearlymussel	<i>Pleuronaia dolabelloides</i>	Endangered	Occupies shoal habitat in large creeks to large rivers. Prefers areas with sand, fine gravel, and cobble substrates and moderately strong current.			X					X		
Snuffbox Mussel	<i>Epioblasma triquetra</i>	Endangered	Found in small- to medium-sized creeks, inhabiting areas with a swift current, although it is found in Lake Erie and some large rivers. Often burrow deep in sand, gravel, or cobble substrates.	X	X	X	X		X	X	X	X	X

Common Name	Scientific Name	Federal Status	Habitat	IL	IN	KY	MI	NY	OH	PA	TN	WV	WI
Southern Acornshell	<i>Epioblasma othcaloogensis</i>	Endangered	Found in high quality lotic habitats with stable gravel and sandy-gravel substrates.								X		
Southern Clubshell	<i>Pleurobema decisum</i>	Endangered	Prefers clean, loose sand and gravel in medium to small rivers and streams.								X		
Southern Pigtoe	<i>Pleurobema georgianum</i>	Endangered	Occupies medium size streams to large rivers with moderate flow and sand or gravel substrates.								X		
Spectaclecase	<i>Cumberlandia monodonta</i>	Endangered	Found in large rivers where they live in areas sheltered from the main force of the river current. Often clusters in firm mud and in sheltered areas, such as beneath rock slabs, between boulders and even under tree roots.	X		X					X	X	X
Tan Riffleshell	<i>Epioblasma Florentina walkeri</i>	Endangered	Found in relatively silt-free substrates of sand, gravel, and cobble in good flows of smaller streams.			X					X	X	
Triangular Kidneyshell	<i>Ptychobranhus greenii</i>	Endangered	Occurs in shoal habitats in small creeks to large rivers, usually in sand and gravel substrates.								X		
Tubercled Blossom	<i>Epioblasma torulosa torulosa</i>	Experimental Population, Non-essential	Found in large rivers, in shallow sand and gravel shoals with rapid current.								X	X	
Turgid Blossom	<i>Epioblasma turgidula</i>	Experimental Population, Non-essential	Prefers riffles and shoals of large rivers.								X		
Upland Combshell	<i>Epioblasma metastriata</i>	Endangered	Found only in the shoals of rivers and large streams. Endemic to the upper Mobile River Basin.								X		
White Cat's Paw Pearlymussel	<i>Epioblasma obliquata perobliqua</i>	Endangered	Prefers coarse sand or gravel bottoms of small to mid-sized freshwater streams and rivers.		X				X				
White Wartyback	<i>Plethobasus cicatricosus</i>	Endangered	Found in sand and gravel substrates in shallow stretches of large rivers with slow to moderate currents.								X		
Winged Mapleleaf	<i>Quadrula fragosa</i>	Experimental Population, Non-essential	Found in riffles with clean gravel, sand, or rubble bottoms and in clear, high-quality water.								X		X
Yellow Blossom	<i>Epioblasma florentina florentina</i>	Experimental Population, Non-essential	Found in sand and gravel substrates of shallow, fast-flowing streams and rivers.								X		
Kentucky Cave Shrimp	<i>Palaemonias ganteri</i>	Threatened	Only lives in underground streams. Typically inhabit large, base-level cave streams characterized by slow flow, abundant organic material, coarse to fine grain sand, and coarse silt sediments.			X							
Big Sandy Crayfish	<i>Cambarus callainus</i>	Threatened	Inhabits clean, medium-sized, freshwater streams and rivers.			X						X	

Common Name	Scientific Name	Federal Status	Habitat	IL	IN	KY	MI	NY	OH	PA	TN	WV	WI
Guyandotte River Crayfish	<i>Cambarus veteranus</i>	Endangered	Found in only two streams in Wyoming County, West Virginia.									X	
Nashville Crayfish	<i>Orconectes shoupi</i>	Endangered	Usually found under flat slabs of limestone and other rocks in free-flowing streams.								X		
Madison Cave Isopod	<i>Antrolana lira</i>	Threatened	Found in flooded limestone caves beneath the Great Valley of Virginia and West Virginia where it swims freely through calcite-saturated waters of deep karst aquifers.									X	
Anthony's Riversnail	<i>Athearnia anthonyi</i>	Endangered AND Experimental Population, Non-essential	Inhabits lotic areas, but occasionally found in pools adjacent to shoals.								X		
Chittenango Ovate Amber Snail	<i>Novisuccinea chittenangoensis</i>	Threatened	Only known to occur at Chittenango Falls State Park, Chittenango, New York. Inhabit vegetated slopes adjacent to the waterfalls. Found along patches of touch-me-nots, mosses, and liverworts.					X					
Flat-spined Three-Toothed Snail	<i>Triodopsis platysayoides</i>	Threatened	Found only in West Virginia, in a restricted area of the Cheat River Gorge with sandstone cliffs, outcroppings, and large boulders. Lives in cracks and crevices in the rocks and surrounding leaf litter.									X	
Iowa Pleistocene Snail	<i>Discus macclinkocki</i>	Endangered	Inhabit leaf litter of special cool and moist hillsides called algific talus slopes.	X									X
Painted Snake Coiled Forest Snail	<i>Anguispira picta</i>	Threatened	Found only on damp limestone outcrops, typically in crevices or under overhanging ledges.								X		
Royal Marstonia	<i>Pyrgulopsis ogmorhapse</i>	Endangered	Found only in spring runs flowing out of caves. Typically found on soft mud, very rarely on sand, rock detritus, or hard substrates.								X		
Insects													
American Burying Beetle	<i>Nicrophorus americanus</i>	Threatened	Prefers grasslands and open understory oak hickory forests but can occur in a variety of habitats.						X				
Rusty Patched Bumble Bee	<i>Bombus affinis</i>	Endangered	Habitat generalist, but typically found in areas that contain natural and semi-natural upland grassland, shrubland, woodlands, and forests.	X	X				X			X	X
Hine's Emerald Dragonfly	<i>Somatochlora hineana</i>	Endangered	Inhabits calcareous (high in calcium carbonate) spring-fed marshes and sedge meadows overlaying dolomite bedrock.	X			X						X
Hungerford's Crawling Water Beetle	<i>Brychius hungerfordi</i>	Endangered	Found in cool riffles of clean, slightly alkaline streams. Streams where found				X						

Common Name	Scientific Name	Federal Status	Habitat	IL	IN	KY	MI	NY	OH	PA	TN	WV	WI
			have moderate to fast water flow, good stream aeration, inorganic substrate, and alkaline water conditions.										
Karner Blue Butterfly	<i>Lycaeides melissa samuelis</i>	Endangered	Inhabit oak savannas and pine barren ecosystems. Habitats include many different herbaceous plants and grasses with scattered small groves of trees and shrubs.	X	X		X	X	X				X
Mitchell's Satyr Butterfly	<i>Neonympha mitchellii mitchellii</i>	Endangered	Restricted to rare wetlands called fens which are low nutrient systems that receive carbonate-rich ground water from seeps and springs.		X		X		X				
Monarch Butterfly	<i>Danus plexippus</i>	Candidate	Require obligate milkweed host plant (primarily <i>Asclepias spp.</i>) during breeding season to lay their eggs on.	X	X	X	X	X	X	X	X	X	X
Poweshiek Skipperling	<i>Oarisma poeshiek</i>	Endangered	Inhabit tallgrass prairies.				X						X
Rattlesnake-master Borer Moth	<i>Papaipema eryngii</i>	Candidate	Occupies large undisturbed areas of prairie and woodland.	X									
Spruce-fir Moss Spider	<i>Microhexura montivaga</i>	Endangered	Only lives on the highest mountain peaks in the Southern Appalachian Mountains of western North Carolina, eastern Tennessee, and southwest Virginia.								X		
Plants													
American Hart's-tongue Fern	<i>Asplenium scolopendrium var. americanum</i>	Threatened	Found in close association with outcrops of dolomitic limestone, in coulees, gorges and in cool limestone sinkholes in mature hardwood forests.				X	X			X		
Blue Ridge Goldenrod	<i>Solidago spithamaea</i>	Threatened	Occupies rock outcrops, ledges, and cliffs at high elevations.								X		
Braun's Rock-cress	<i>Arabis perstellata</i>	Endangered	Inhabits wooded steep slopes with limestone outcrops.			X					X		
Cumberland Rosemary	<i>Conradina verticillata</i>	Threatened	Lives on the rocky riverbanks of the Cumberland Plateau.			X					X		
Decurrent False Aster	<i>Boltonia decurrens</i>	Threatened	Found in moist, sandy floodplains and prairie wetlands along the Illinois River.	X									
Dwarf Lake Iris	<i>Iris lacustris</i>	Threatened	Occurs close to Great Lakes shorelines in cool, moist lakeshore air. Found on sand or in thin soil over limestone-rich gravel or bedrock. Habitat is along beach ridges or behind open dunes.				X						X
Eastern Prairie Fringed Orchid	<i>Platanthera leucophaea</i>	Threatened	Prefers wet habitats such as prairies and sedge meadows.	X	X		X		X	X		X	X
Fassett's Locoweed	<i>Oxytropis campestris var. chartacea</i>	Threatened	Endemic to Wisconsin and found only in Bayfield, Portage, and Waushara counties.										X

Common Name	Scientific Name	Federal Status	Habitat	IL	IN	KY	MI	NY	OH	PA	TN	WV	WI
			Grows on gentle slopes in sand-gravel shorelines around shallow lakes.										
Guthrie's Ground-plum	<i>Astragalus bibullatus</i>	Endangered	Known only to occur in Rutherford County, Tennessee. Inhabits cedar glades.								X		
Harperella	<i>Ptilimnium nodosum</i>	Endangered	Typically occurs on rocky or gravel shoals and sandbars and along the margins of clear, swift-flowing stream sections.									X	
Houghton's Goldenrod	<i>Solidago houghtonii</i>	Threatened	Found in relatively low wetland areas between sand dunes associated with Great Lakes shorelines. Typically occurs near shore in linear interdunal and former embayments.				X	X					
Kentucky Glade Cress	<i>Leavenworthia exigua laciniata</i>	Threatened	Grows on areas of flat, thin soil.			X							
Lakeside Daisy	<i>Hymenoxys acaulis var. glabra</i>	Threatened	Found in dry, rocky prairie underlain by limestone or in cliff and alvar crevices of exposed limestone.	X			X		X				
Large-flowered Skullcap	<i>Scutellaria montana</i>	Threatened	Occurs on rocky slopes in old-growth hardwood forests.								X		
Leafy Prairie-clover	<i>Dalea foliosa</i>	Endangered	Occurs only in open habitats with thin, calcareous soils.	X							X		
Leedy's Roseroot	<i>Rhodiola integrifolia ssp. leedyi</i>	Threatened	Prefers part shade, shade, sunny areas on north facing dolomite cliffs.					X					
Mead's Milkweed	<i>Asclepias meadii</i>	Threatened	Requires moderately wet (mesic) to moderately dry (dry mesic) upland tallgrass prairie or glade/barren habitat.	X	X								X
Michigan Monkey-flower	<i>Mimulus michiganensis</i>	Endangered	Michigan endemic restricted to Great Lakes shorelines in the Mackinac Straits and Grand Traverse regions. It is semi-aquatic and forms mats over mucky soil and sand saturated or covered by fold, flowing spring water.				X						
Morefields Leather Flower	<i>Clematis morefieldii</i>	Endangered	Inhabits clay-loam soils in rocky limestone woods on the south and southwest facing slopes of mountains.								X		
Northeastern Bulrush	<i>Scirpus ancistrochaetus</i>	Endangered	Occurs in wet areas such as small wetlands, sinkhole ponds, or wet depressions with seasonally fluctuating water levels.					X		X		X	
Northern Wild Monkshood	<i>Aconitum noveboracense</i>	Threatened	Typically found on shaded to partially shaded cliffs, algific talus slopes, or on cool streamside sites.					X	X				X

Pitcher's Thistle	<i>Cirsium pitcheri</i>	Threatened	Found exclusively along the shorelines of Lake Huron, Lake Michigan, and Lake Superior, particularly in areas of sand dunes.	X	X		X							X
Prairie Bush Clover	<i>Lespedeza leptostachya</i>	Threatened	Inhabits tallgrass prairies with moderately damp to dry soils.	X										X
Prices Potato-bean	<i>Apios priceana</i>	Threatened	Prefers lightly disturbed areas such as forest opening, wood edges, and where bluffs descend to streams.			X							X	
Roan Mountain Bluet	<i>Hedyotis purpurea var. montana</i>	Endangered	Found on rocky exposures at high elevations of 4,600 – 6,200 feet.										X	
Ruth's Golden Aster	<i>Ityopsis ruthii</i>	Endangered	Grows in the cracks and crevices of phyllite boulders along the banks of the Ocoee and Hiwassee Rivers. Endemic to Polk County, Tennessee.										X	
Sanplain Gerardia	<i>Agalinis acuta</i>	Endangered	Requires sandy, open spaces in coastal grasslands or pine and oak scrub forests without dense competing vegetation.					X						
Seabeach Amaranth	<i>Amaranthus pumilus</i>	Threatened	Occurs on barrier beaches, where its primary habitat consists of overwash flats at the ends of islands that are accumulating more sand and lower developing dunes and upper strands of non-eroding beaches.					X						
Shale Barren Rock Cress	<i>Boechera serotina</i>	Endangered	Occurs only in West Virginia and Virginia and is found on mid-Appalachian shale barrens of the Ridge and Valley Province of the Appalachian Mountains.											X
Short's Bladderpod	<i>Physaria globosa</i>	Endangered	Grows on steep, rocky wooded slopes and talus areas along cliff tops and bases and cliff ledges.		X	X							X	
Short's Goldenrod	<i>Solidago shortii</i>	Endangered	Prefers habitats near riverbanks, cedar glades, and dry, open pastures.		X	X								
Small Whorled Pogonia	<i>Isotria medeoloides</i>	Threatened	Grows in older hardwood stands of beech, birch, maple, oak, and hickory that have an open understory.	X				X	X	X	X	X	X	
Spreading Avens	<i>Geum radiatum</i>	Endangered	Grow in full sun on the shallow acidic soils of high-elevation cliffs (above 4,200 feet), rocky outcrops, steep slopes, and on gravelly talus.										X	
Spring Creek Bladderpod	<i>Lesquerella perforata</i>	Endangered	Grows in open field in flood plains.										X	
Tennessee Yellow-Eyed Grass	<i>Xyris tennesseensis</i>	Endangered	Grows along shores and in wet, peaty, or sandy meadows.										X	
Virginia Spiraea	<i>Spiraea virginiana</i>	Threatened	Occurs along rivers and streams and relies on periodic disturbances, such as high velocity scouring floods.			X			X				X	

White Fringeless Orchid	<i>Platanthera integrilabia</i>	Threatened	Grows in the wet soils of bogs, marshes, fens, swamps, heads of streams, and on sloping areas kept moist by groundwater seeping to the surface.			X						X		
Whorled Sunflower	<i>Helianthus verticillatus</i>	Endangered	Found in moist-soiled sites where little to no overstory canopy is present.									X		
Rock Gnome Lichen	<i>Gymnoderma lineare</i>	Endangered	Primarily limited to vertical rock faces where seepage water from forest soils above flows at (and only at) very wet times.									X		

Table A-8. Species for Which Critical Habitat has been Designated by State.

State	Species for Which Critical Habitat has been Designated	
	Common Name	Scientific Name
Illinois	Indiana Bat	<i>Myotis sodalis</i>
	Piping Plover	<i>Charadrius melodus</i>
	Rabbitsfoot	<i>Thelmiderma cylindrica</i>
	Hine's Emerald Dragonfly	<i>Somatochlora hineana</i>
Indiana	Indiana Bat	<i>Myotis sodalis</i>
	Piping Plover	<i>Charadrius melodus</i>
	Rabbitsfoot	<i>Thelmiderma cylindrica</i>
	Round hickorynut	<i>Obovaria subrotunda</i>
Kentucky	Indiana Bat	<i>Myotis sodalis</i>
	Cumberland Darter	<i>Etheostoma susanae</i>
	Diamond Darter	<i>Crystallaria cincotta</i>
	Kentucky Arrow Darter	<i>Etheostoma spilotum</i>
	Slender Chub	<i>Erimystax cahni</i>
	Spotfin Chub	<i>Cyprinella monacha</i>
	Yellowfin Madtom	<i>Noturus flavipinnis</i>
	Cumberland Elktoe	<i>Alasmidonta atropurpurea</i>
	Cumberlandian Combshell	<i>Epioblasma brevidens</i>
	Fluted Kidneyshell	<i>Ptychobranhus subtentus</i>
	Longsolid hickorynut	<i>Fusconia subrotunda</i>
	Oyster Mussel	<i>Epioblasma capsaeformis</i>
	Purple Bean	<i>Macroptilium atropurpureum</i>
	Rabbitsfoot	<i>Theliderma cylindrica</i>
	Rough Rabbitsfoot	<i>Quadrula cylindrica strigillata</i>
	Round hickorynut	<i>Obovaria subrotunda</i>
	Kentucky Cave Shrimp	<i>Palaemonias ganteri</i>
	Big Sandy Crayfish	<i>Cambarus callainus</i>
	Guyandotte River Crayfish	<i>Cambarus veteranus</i>
	Braun's Rock-cress	<i>Arabis perstellata</i>
Kentucky Glade Cress	<i>Leavenworthia exiqua laciniata</i>	
Short's Bladderpod	<i>Physaria globosa</i>	
Michigan	Piping Plover	<i>Charadrius melodus</i>
	Hine's Emerald Dragonfly	<i>Somatochlora hineana</i>
New York	Piping Plover	<i>Charadrius melodus</i>
	Rufa Red Knot	<i>Calidris canutus rufa</i>
Ohio	Piping Plover	<i>Charadrius melodus</i>
	Rabbitsfoot	<i>Theliderma cylindrica</i>
	Round hickorynut	<i>Obovaria subrotunda</i>
Pennsylvania	Piping Plover	<i>Charadrius melodus</i>
	Longsolid hickorynut	<i>Fusconia subrotunda</i>
	Rabbitsfoot	<i>Theliderma cylindrica</i>
	Round hickorynut	<i>Obovaria subrotunda</i>

State	Species for Which Critical Habitat has been Designated	
	Common Name	Scientific Name
Tennessee	Indiana Bat	<i>Myotis sodalis</i>
	Amber Darter	<i>Percina antesella</i>
	Chucky Madtom	<i>Noturus crypticus</i>
	Conasauga Logperch	<i>Percina jenkinsi</i>
	Cumberland Darter	<i>Etheostoma susanae</i>
	Laurel Dace	<i>Chrosomus saylori</i>
	Slackwater Darter	<i>Etheostoma boschungii</i>
	Slender Chub	<i>Erimystax cahni</i>
	Smoky Madtom	<i>Noturus baileyi</i>
	Spotfin Chub	<i>Cyprinella monacha</i>
	Trispot Darter	<i>Etheostoma trisella</i>
	Yellowfin Madtom	<i>Noturus flavipinnis</i>
	Alabama Moccasinshell	<i>Medionidus acutissimus</i>
	Appalachian Elktoe	<i>Alasmidonta raveneliana</i>
	Coosa Moccasinshell	<i>Medionidus parvulus</i>
	Cumberland Elktoe	<i>Alasmidonta atropupurea</i>
	Cumberlandian Combshell	<i>Apioblasma brevidens</i>
	Finelined Pocketbook	<i>Hamiota altilis</i>
	Fluted Kidneyshell	<i>Ptychobranchnus subtentus</i>
	Georgia Pigtoe	<i>Pleurobema hanleyianum</i>
	Longsolid hickorynut	<i>Fusconia subrotunda</i>
	Oyster Mussel	<i>Epioblasma capsaeformis</i>
	Purple Bean	<i>Macroptilium atropurpureum</i>
	Rabbitsfoot	<i>Theliderma cylindrica</i>
	Rough Rabbitsfoot	<i>Quadrula cylindriva strigillata</i>
	Round hickorynut	<i>Obovaria subrotunda</i>
	Slabside Pearlymussel	<i>Pleuonaia dolabelloides</i>
	Southern Acronshell	<i>Epioblasma othcaloogensis</i>
	Southern Clubshell	<i>Pleurobema decisum</i>
	Southern Pigtoe	<i>Pleurobema georgianum</i>
Triangular Kidneyshell	<i>Ptychobranchnus greenii</i>	
Upland Combshell	<i>Epioblasma metastrata</i>	
Spruce-fir Moss Spider	<i>Microhexura montivaga</i>	
Short's Bladderpod	<i>Physaria globosa</i>	
West Virginia	Indiana Bat	<i>Myotis sodalis</i>
	Virginia Big-eared Bat	<i>Plecotus townsendii</i>
	Candy Darter	<i>Etheostoma osburni</i>
	Big Sandy Crayfish	<i>Cambarus callainus</i>
	Guyandotte River Crayfish	<i>Cambarus veteranus</i>
	Longsolid Hickorynut	<i>Fusconia subrotunda</i>
	Round Hickorynut	<i>Obovaria subrotunda</i>
Wisconsin	Piping Plover	<i>Charadrius melodus</i>

State	Species for Which Critical Habitat has been Designated	
	Common Name	Scientific Name
	Hine's Emerald Dragonfly	<i>Somatochlora hineana</i>

3.3.10 VEGETATION

AFFECTED ENVIRONMENT

USACE federal projects are operated and maintained by local maintaining agencies. Vegetation can vary drastically among federal projects. For example, levee projects are generally vegetated largely with nonnative grasses and forbs that are regularly mowed or otherwise controlled to allow for inspection of the levee. Trees and large shrubs are discouraged on levees, because of the threat the root systems pose to the structure of the levee. Conversely, ecosystem restoration projects have a plethora of native vegetation growing on them and are generally self-sustainable with little to no maintenance required.

To generally describe the affected environment of the vegetation communities within LRD's civil works boundary, vegetation is described based on ecoregions within the United States. Ecoregions denote areas of general similarity in ecosystems and in the type, quality, and quantity of environmental resources. The general characteristics of the vegetation communities of a state within LRD's Civil Works boundary are described using characteristics attributed to Level III ecoregions. Refer to Table A-9 for the Level III ecoregions, state(s) within LRD's Civil Works boundary where the ecoregion is present, and descriptions of the vegetation associated with each ecoregion. Refer to Figure A-1 through Figure A-8 show where the Level III ecoregions are found within each state within LRD's Civil Works boundary.

Table A-9. General Vegetation Descriptions for Level III Ecoregions within LRD's Civil Works Boundary (Bryce et al., 2010; Griffith et al., 2002a; Omernick et al., 2000a; Woods et al., 1999; Woods et al., 2002a; Woods et al., 2002c; Woods et al., 2003a; and Woods et al., 2006a).

Level III Ecoregion Name	States Found In	Vegetation Descriptions
Blue Ridge Mountains	TN	Characterized as historically having a varied native vegetation from north to south. North of the transitional area near the Roanoke River, it was predominantly Appalachian oak forest dominated by white and red oaks. South of the transitional area grew a mix of Appalachian oak forest, oak-hickory-pine forest dominated by hickory, longleaf pine, shortleaf pine, loblolly pine, white oak, and post oak. In higher areas, native vegetation consisted of northern hardwoods dominated by sugar maple, yellow birch, beech, and hemlock. On the foothills, a mix of loblolly and shortleaf pines occurred and were mixed with Appalachian oak forest.
Central Appalachians	KY & PA	Characterized as historically being compromised by mixed mesophytic forest. Mixed mesophytic forests grow on cool, moist north- and east-facing slopes and in coves; mixed oak forests are common on drier sites including upper slopes and south- and west-facing middle and lower slopes. Present day white oak forests are common and red maple is widespread, especially in secondary forests and on sites formerly occupied by American chestnut. Rugged terrain, cool temperatures, and nutrient-poor soils sharply limit agricultural potential. Surface and underground bituminous coal mines are common.
Central Corn Belt Plains	IL, IN, & WI	Characterized as historically being covered by prairies, but the ecoregion is predominately dominated by agriculture in present day. In the early 19 th century, level uplands were dominated by tall-grass prairie. Scattered groves of trees and marshes also occurred on level uplands, and river valleys and moraines were mostly forested. Present day, cropland is extensive, and livestock farming is important. Main crops are corn and soybeans; cattle, sheep, poultry, and especially hogs are raised, but are not as dominant as farther west in the drier Western Corn Belt Plains ecoregion.
Eastern Corn Belt Plains	IN, MI, & OH	Characterized as historically containing extensive natural tree cover, with beech forests common on Wisconsinan soils while beech forests and elm-ash swamp forests dominated the wetter pre-Wisconsinan soils. Native vegetation included beech forest, scattered elm-ash swamp forest in lacustrine basins and other poorly drained areas, wet prairies, oak-sugar maple forest, mixed oak forest, mixed oak forest interspersed with wet prairie on moraines, gravel-filled valleys, and seasonal ponds. Present day extensive corn, soybean, and livestock production occurs.
Eastern Great Lakes and Hudson Lowlands	PA	Characterized as historically containing largely beech-maple forest; some chestnut grew on gravelly soils. Shoreline vegetation also occurred and is best preserved on the sandy beaches, dunes, and flats of Presque Isla, which shelters Erie harbor. Here grows vegetation such as sea rocket, beach grass, bluestem, and Virginia pine.
Eastern Great Lakes Lowlands	NY	Characterized as historically being native forest but much of the ecoregion was cleared for agriculture or urban development and less native forest remains. Most agricultural activity is devoted to dairy operations, although orchards, vineyards, and vegetable farming are important locally, particularly near the Great Lakes.
Erie Drift Plain	NY	Characterized as historically being primarily Appalachian oak forest dominated by white oak and red oak, with some northern hardwood forest at higher elevations.
Erie/Ontario Drift and Lake Plain	OH	Characterized historically as being comprised of lakes, wetlands, and swampy streams. Present day urban development, industrial activity, and agriculture are widespread and scattered woodland also occurs.
Erie/Ontario Hills and Lake Plain	PA	Characterized as historically containing beech-maple forest dominated by sugar maple and beech; elsewhere within the ecoregion northern hardwoods occurred with sugar maple, yellow birch, beech, and hemlock as dominant trees.
Huron/Erie Lake Plains	OH	Characterized historically as containing elm-ash swamp and beech forests. Present day most of the area has been cleared and artificially drained and contains highly productive farms producing corn, soybeans, livestock, and vegetables; urban and industrial areas are also extensive.
Interior Plateau	IL, IN, KY, OH, & TN	Characterized as historically being primarily oak-hickory forest. National Forest land is still extensive within this ecoregion. Some pastureland, hay land, limestone glades, and cropland also occurs present day.
Interior River Lowland	IN	Characterized historically as including bottomland hardwood forests, beech forest, swamp, pond, slough communities, oak-hickory forest, scattered prairies, western mixed mesophytic forest, and southern swamp forest. Present day drained alluvial soils are farmed for feed grains and soybeans. Undrained valley sites are used for forage crops, pasture, or woodlots; upland soils are used for mixing farming and livestock. Extensive strip mining as well as crop and livestock production have occurred in the area.
Interior River Valleys and Hills	IL & KY	Characterized as historically being comprised of well-drained upland areas in a mosaic of oak-hickory forests and bluestem prairies. At the time of settlement, forest was much more common. Prairies were discontinuous but were usually found in undulating to rolling parts of the ecoregion; however, they were not nearly as extensive. Groves containing pin oak, post oak, swamp white oak, and blackjack oak grew on flat to nearly level, poorly drained uplands with clay-rich soils. Beech-maple forests naturally occurred in mesic ravines. Bottomland hardwood forests and swamps were native to poorly drained, nearly level sites along the major rivers. Present day less than half of the ecoregion is in cropland, whereas about 30 percent is in pastureland, and the remainder is in forest. Forests are now mostly found on steeped slopes.

Level III Ecoregion Name	States Found In	Vegetation Descriptions
Mississippi Alluvial Plain	IL	Characterized as historically being covered by bottomland deciduous forests and bottomland swamps. Present day cropland is now widespread, and livestock farming occurs; soybeans, corn, and wheat are the main crops.
Mississippi Valley Loess Plain	KY	Characterized as historically containing oak-hickory forest. Forested wetlands were also extensive historically but have been replaced by extensive cropland and pastureland.
North Central Appalachians	NY & PA	Characterized as historically being comprised of northern hardwoods and Appalachian oak forest with isolated highland pockets of spruce and fir. Pre-settlement forests contained a high percentage of both hemlock and beech.
North Central Hardwood Forests	MI & WI	Characterized as historically as being comprised of native vegetation such as beech-sugar maple and other northern hardwoods on sandy moraines, dunes, and outwash. In addition, hemlock and white pine was likely found on lake plain and moraines, and hemlock, white, red, and jack pine on dunes. Poorly drained portions of the lake plain supported elm, ash, tamarack, or cedar swamps. Present day, many areas support pine plantations or native forest of pines, red and black oak, and aspen.
Northeastern Highlands	NY	Characterized historically as containing forests comprised of northern hardwoods (maple-beech-birch), northern hardwoods/spruce, and northeastern spruce-fir forests. Farm-to-forest conversion began in the mid-19 th century within the ecoregion and continues to present day. Agriculture within the ecoregion includes dairy products, forage crops, fruits, and vegetables.
Northern Allegheny Plateau	NY	Characterized as historically being comprised of Appalachian oak forest dominated by white oak and red oak, with some northern hardwood forest at higher elevations.
Northern Lakes and Forests	MI & WI	Characterized as historically being predominantly forest. Native vegetation included hardwood-conifer forest of white pine, hemlock, northern white-cedar, black ash, basswood, and sugar maple. Present day second growth forest is the predominant vegetation type.
Ridge and Valley	TN & WV	Characterized as being dominated by Appalachian oak forest. Native vegetation was mostly Appalachian oak forest dominated by white and red oaks; northern hardwoods dominated by sugar maple, yellow birch, beech, and hemlock; and mixed mesophytic forest. Scattered areas of northeastern spruce/fir forest occurred at especially high elevations. Scattered glades composed of sphagnum moss, black spruce, and tamarack also occurred. Present day extensive forests of hard maple, black cherry, birch, and red oak dominate many areas. Conifer belts can be found in the high and cool localities and are dominated by red spruce and hemlock.
Southeastern Plains	TN	Characterized as historically being mostly oak-hickory-pine and southern mixed-forest. Present day this ecoregion is comprised of a mosaic of cropland, pasture, woodland, and forest.
Southeastern Wisconsin Till Plain	WI	Characterized as historically supporting a mosaic of vegetation types and acts as a vegetal transition between the hardwood forests and oak savannas of ecoregions to the west, and the tall grass prairies that originally dominated the Central Corn Belt Plains ecoregion to the south. Native vegetation consisted of a mix of oak savanna, bluestem prairie, maple-basswood forest, and oak-hickory forest. Present day more than half of the ecoregion is used for agriculture; forests, wetlands, and home sites make up the remaining. Pastureland is also found throughout the ecoregion.
Southern Michigan/Northern Indiana Drift Plains	IN & MI	Characterized as historically including oak-hickory forest, northern swamp forest, beech forest, tamarack swamps, cattail-bulrush marshes, sphagnum bogs, dry prairie, prairie with beach, dune, oak savanna (with some conifers), and fen communities. Present day feed grain, soybean, and livestock farming as well as woodlots, quarries, recreational development, and urban-industrial areas are common.
Southwestern Appalachians	KY & TN	Characterized as historically being comprised of mixed mesophytic forest. Mixed mesophytic forest of varying composition grow on cool, moist north- and east-facing slopes and in coves. Mixed oak forests were common on drier sites including upper slopes and on south- and west-facing middle and lower slopes. Present day forests are widespread in the ecoregion. Forest age and composition are variable and reflect logging, fire, and grazing histories. Pastureland and limited areas of cropland also occur. Coal mining also occurs within areas of this ecoregion.
Southwestern Wisconsin Till Plains	IL	Characterized as naturally supporting a mosaic of vegetation types and acts as a vegetational transition between the hardwood forests and oak savannas of ecoregions to the west, and the tall grass prairies that originally dominated the Central Corn Belt Plains ecoregion to the south. Potential natural vegetation is a mix of savanna, bluestem prairie, maple-basswood forest, and oak-hickory forest. Present day more than half of the ecoregion is used for agriculture with forests, wetlands, and home sites making up the remaining area. Pastureland is also found throughout the ecoregion.
Western Allegheny Plateau	KY, OH, PA & WV	Characterized as historically being covered by mixed mesophytic forest. Present day this ecoregion remains mostly forested. Primary land uses are logging, livestock farming, general farming, and surface and underground coal mining.

3.3.11 AESTHETICS AND RECREATION

AFFECTED ENVIRONMENT

When considering the aesthetic value of an area, it is important to consider the visual character and quality of that area, as well as the viewer response. Visual character is defined as the description of the visible attributes of a scene or object. Artistic terms, such as form, line, color, and texture, are typically used to describe visual character. Visual character can be influenced by many different resources, including atmospheric, geologic, hydrologic, botanical, wildlife, recreation, and urban features. Visual quality is defined as what viewers like and dislike about visual resources that compose the visual character or a particular scene. Different viewers may evaluate specific visual resources differently based on their unique, individual interests in natural harmony, cultural order, and project coherence. Additionally, the viewer's point of observation and viewing distance play an important role in how individuals evaluate visual resources.

Some areas within LRD may be particularly sensitive in terms of aesthetics. For example, many historic properties often have unique or notable aesthetic values. Many recreation areas are also valued by the public for their visual qualities. Therefore, aesthetic and recreation resource categories are discussed together. The affected environment for these two resource categories is discussed broadly for each state by defining the Wild and Scenic Rivers, National Scenic Byways, National Natural Landmarks, National Forests, National Parks, National Lakeshores, and National Wilderness Areas that have been designated for each state within LRD's civil works boundary.

The Wild and Scenic Rivers System is a collection of exceptional rivers that have been designated to protect their free-flowing condition, water quality, and outstanding natural, cultural, and recreational values for the enjoyment of present and future generations. The National Scenic Byways Program is a voluntary, community-based program administered through the Federal Highway Administration to recognize, protect, and promote America's most outstanding roads.

The National Natural Landmarks Program was established in 1962 with the first National Natural Landmarks being designated in 1964 (National Forest Foundation, n.d.). National Natural Landmarks are natural areas that have been designated by the Secretary of the Interior in recognition that the site contains significant examples of the nation's biological and/or geological features (National Forest Foundation, n.d.).

The mission of the U.S. Department of Agriculture Forest Service is to sustain the health, diversity, and productivity of the Nation's forests and grasslands to meet the needs of present and future generations (National Forest Foundation, n.d.). The U.S. Forest Service manages 193 million acres comprised of 155 National Forests, 20 National Grasslands, and 1 National Tallgrass Prairie (National Forest Foundation, n.d.).

The National Park System began with the establishment of Yellowstone National Park in

1872. The National Park System has grown to include superlative natural, historic, and recreation areas in every major region of the United States and its territories and possessions.

National Lakeshores are areas of lakeshore that have been designated a protected area with the purpose of preserving environmental, cultural, scenic, recreational, natural, or habitat resources.

The National Wilderness Preservation System is a network of more than 800 designated wilderness areas managed by four federal agencies that protect over 111 million acres of land and water in the United States.

Illinois

Illinois has 17.1 miles of only one river designated as wild and scenic—the Vermilion River (Table A-10) (National Forest Foundation, n.d.). In 1989, 17.1 miles of the Vermilion River were designated as scenic (National Forest Foundation, n.d.).

Illinois has five designated National Scenic Byways within the portion of the state that lies within LRD's civil works boundary (Table A-10): Historic National Road, Historic Route 66, Illinois River Road, Lincoln Highway, and the Ohio River Scenic Byway (DOT-FHA, n.d.a).

Illinois has 12 designated National Natural Landmarks within the portion of the state that lies within LRD's civil works boundary (Table A-10): Allerton Natural Area (designated 1970), Bell Smith Springs (designated 1980), Busse Forest Nature Preserve (designated 1980), Forest of the Wabash (designated 1965), Heron Pond-Little Black Slough Natural Area (designated 1972), Horseshoe Lake Nature Preserve (designated 1972), Illinois Beach Nature Preserve (designated 1980), Lower Cache River Swamp (designated 1981), Lusk Creek Canyon (designated 1980), Markham Prairie (designated 1987), Volo Bog Nature Preserve (designated 1972), and Wauconda Bog Nature Preserve (designated 1972) (NPS, n.d.).

The only National Forest in Illinois is the Shawnee National Forest (Table A-10) (University of Illinois, n.d.). Illinois is also home to the Midewin National Tallgrass Prairie.

Within the portion of Illinois that lies in LRD's civil works boundary there are four National Wilderness Areas (Table A-10): Bay Creek Wilderness, Burden Falls Wilderness, Garden of the Gods Wilderness, and Lusk Creek Wilderness.

Table A-10. Aesthetic and recreational resources in portion of Illinois within LRD's civil works boundary.

Name	Designation	Size/Length	Locale
Vermilion River	Wild and Scenic River	17.1 miles	Vermilion County 1) From river mile 46.9 near Collison downstream to river mile 29.8 at the Conrail Railroad crossing north of U.S. Highway 150.
Historic National Road	All-American Road	8242 miles	Portions of U.S. Highway 40.
Historic Route 66	All-American Road / National Scenic Byway	1,408.6 miles	Portions of U.S. Highway 34, U.S. Highway 53, U.S. Highway 66, State Highway 4, and Interstate 55.
Illinois River Road	National Scenic Byway	291 miles	Portions of U.S. Highway 6, State Highway 29, State Highway 71, State Highway 26, U.S. Highway 24, and State Highway 78.
Lincoln Highway	National Scenic Byway	178.8 miles	Portions of U.S. Highway 30, State Highway 38, and State Highway 2.
Ohio River Scenic Byway	National Scenic Byway	943 miles	Portions State Highway 37, State Highway 146, State Highway 1, and State Highway 13.
Allerton Natural Area	National Natural Landmark	1,048 acres	Piatt County
Bell Smith Springs	National Natural Landmark	1,315 acres	Pope County
Busse Forest Nature Preserve	National Natural Landmark	464 acres	Cook County
Forest of the Wabash	National Natural Landmark	310 acres	Wabash County
Heron Pond-Little Black Slough Natural Area	National Natural Landmark	6,439 acres	Johnson County
Horseshoe Lake Nature Preserve	National Natural Landmark	336 acres	Alexander County
Illinois Beach Nature Preserve	National Natural Landmark	1,378 acres	Lake County
Lower Cache River Swamp	National Natural Landmark	1,347 acres	Johnson and Pulaski counties
Lusk Creek Canyon	National Natural Landmark	860 acres	Pope County
Markham Prairie	National Natural Landmark	181 acres	Cook County
Volo Bog Nature Preserve	National Natural Landmark	601 acres	Lake County
Wauconda Bog Nature Preserve	National Natural Landmark	74 acres	Lake County
Shawnee National Forest	National Forest	280,000 acres	Pope, Jackson, Union, Hardin, Alexander, Saline, Gallatin, Johnson, and Massac counties
Midewin National Tallgrass Prairie	National Tallgrass Prairie	18,226 acres	Will County
Bay Creek Wilderness	National Wilderness Area	2,866 acres	Pope County
Burden Falls Wilderness	National Wilderness Area	3,755 acres	Pope and Saline counties
Garden of the Gods Wilderness	National Wilderness Area	3,318 acres	Hardin, Pope, Saline, and Gallatin counties
Lusk Creek Wilderness	National Wilderness Area	6,293 acres	Pope County

Indiana

Indiana has approximately 35,673 miles of river, but no designated wild and scenic rivers (BLM et al., n.d.a).

Indiana has three designated National Scenic Byways (Table A-11): the Historic National Road, Indiana's Historic Pathways, and the Ohio River Scenic Byway (DOT-FHA, n.d.b).

Indiana has 30 designated National Natural Landmarks (Table A-11): Big Walnut Creek (designated 1968), Cabin Creek Raised Bog (designated 1974), Calvert and Ported Woods Nature Preserve (designated 1974), Cowles Bog (designated 1965), Davis-Purdue Agricultural Center Forest (designated 1974), Donaldson Cave System and Woods (designated 1972), Dunes Nature Preserve (designated 1974), Fern Cliff (designated 1980), Hanging Rock and Wabash Reef (designated 1986), Harrison Spring (designated 1980), Hemmer Woods (designated 1973), Hoosier Prairie (designated 1974), Hoot Woods (designated 1973), Kramer Woods (designated 1973), Marengo Cave (designated 1984), Meltzer Woods (designated 1973), Officer's Woods (designated 1974), Ohio Coral Reef (Falls of the Ohio) (designated 1966), Pinhook Bog (designated 1965), Pine Hills Natural Area (designated 1968), Pioneer Mothers Memorial Forest (designated 1974), Portland Arch Nature Preserve (designated 1973), Rise at Orangeville (designated 1972), Rocky Hollow-Falls Canyon Nature Preserve (designated 1974), Shrader-Weaver Woods (designated 1974), Tamarack Bog Nature Preserve (designated 1973), Tolliver Swallowhole (designated 1972), Wesley Chapel Gulf (designated 1972), Wesselman Park Woods (designated 1973), and Wyandotte Cave (designated 1972) (NPS, n.d.).

Indiana has only one National Forest within the state, the Hoosier National Forest (Table A-11) (USFS, n.d.a). The state is also home to Indiana Dunes National Park.

Indiana is home to one National Wilderness Area (Table A-11)—the Charles C. Dean Wilderness.

Table A-11. Aesthetic and recreational resources in portion of Indiana within LRD's civil works boundary.

Name	Designation	Size/Length	Locale
Historic National Road	All-American Road	8,242 miles	Portions of U.S. Highway 40.
Indiana's Historic Pathways	National Scenic Byway	250 miles	Portions of U.S. Highway 50 and U.S. Highway 150.
Ohio River Scenic Byway	National Scenic Byway	943 miles	Portions of State Highway 62, State Highway 66, State Highway 56, State Highway 156, and Interstate 164.
Big Walnut Creek	National Natural Landmark	450 acres	Putnam County
Cabin Creek Raised Bog	National Natural Landmark	80 acres	Randolph County
Calvert and Porter Woods Nature Preserve	National Natural Landmark	40 acres	Montgomery County
Cowles Bog	National Natural Landmark	22 acres	Porter County
Davis-Purdue Agricultural Center Forest	National Natural Landmark	48 acres	Randolph County
Donaldson Cave System and Woods	National Natural Landmark	220 acres	Lawrence County
Dunes Nature Preserve	National Natural Landmark	1,578 acres	Porter County
Fern Cliff	National Natural Landmark	43 acres	Putnam County
Hanging Rock and Wabash Reef	National Natural Landmark	2 acres	Wabash County
Harrison Spring	National Natural Landmark	7 acres	Harrison County
Hemmer Woods	National Natural Landmark	86 acres	Gibson County
Hoosier Prairie	National Natural Landmark	330 acres	Lake County
Hoot Woods	National Natural Landmark	85 acres	Owen County
Kramer Woods	National Natural Landmark	233 acres	Spencer County
Marengo Cave	National Natural Landmark	7 acres	Crawford County
Meltzer Woods	National Natural Landmark	44 acres	Shelby County
Officer's Woods	National Natural Landmark	152 acres	Jefferson and Shelby counties
Ohio Coral Reef (Falls of the Ohio)	National Natural Landmark	677 acres	Clark and Floyd counties
Pinhook Bog	National Natural Landmark	23 acres	LaPorte and Porter counties
Pine Hills Natural Area	National Natural Landmark	467 acres	Montgomery County
Pioneer Mothers Memorial Forest	National Natural Landmark	92 acres	Orange County
Portland Arch Nature Preserve	National Natural Landmark	181 acres	Fountain County
Rise at Orangeville	National Natural Landmark	4 acres	Orange County
Rocky Hollow-Falls Canyon Nature Preserve	National Natural Landmark	370 acres	Parke County
Shrader-Weaver Woods	National Natural Landmark	27 acres	Fayette County
Tamarack Bog Nature Preserve	National Natural Landmark	140 acres	LaGrange County
Tolliver Swallowhole	National Natural Landmark	17 acres	Orange County
Wesley Chapel Gulf	National Natural Landmark	33 acres	Orange County
Wesselman Park Woods	National Natural Landmark	182 acres	Vanderburgh County
Wyandotte Cave	National Natural Landmark	98 acres	Crawford County
Hoosier National Forest	National Forest	202,814 acres	Brown, Crawford, Dubois, Jackson, Lawrence, Martin, Monroe, Orange, and Perry counties
Indiana Dunes National Park	National Park	15,349 acres	Porter, Lake, and LaPorte counties
Charles C. Deam Wilderness	Wilderness Area	12,472 acres	Monroe, Brown, Jackson, and Lawrence counties

Kentucky

Kentucky has 19.4 miles of only one river designated as wild and scenic—the Red River (Table A-12) (BLM et al., n.d.b). In 1993, 9.1 miles of the Red River were designated as wild while 10.3 miles of the river were designated as recreational (BLM et al., n.d.b).

Kentucky has six designated National Scenic Byways (Table A-12): the Country Music Highway, the Great River Road, the Lincoln Heritage Scenic Highway, the Red River Gorge Scenic Byway, the Wilderness Road Heritage Highway, the Woodlands Trace (DOT-FHA, n.d.c).

Kentucky has six designated National Natural Landmarks (Table A-12): Big Bone Lick (designated 2009), Creelsboro Natural Bridge (designated 1987), Henderson Sloughs (designated 1974), Lilley Cornett Woods (designated 1971), Red River Gorge (designated 1976), and Rock Creek Research Natural Area (designated 1975) (NPS, n.d.).

Kentucky has two National Forests (Table A-12)—Daniel Boone National Forest, and George Washington and Jefferson National Forest (USFS, n.d.b). Kentucky is also home to Land Between the Lakes National Recreation Area and Mammoth Cave National Park.

Within Kentucky there is one National Wilderness Area (Table A-12)—the Clifty Wilderness.

Table A-12. Aesthetic and recreational resources in portion of Kentucky within LRD's civil works boundary.

Name	Designation	Size/Length	Locale
Red River	Wild and Scenic River	10.3 miles	Wolfe County 1) From the Highway 746 Bridge to the confluence with the School House Branch.
Country Music Highway	National Scenic Byway	144.1 miles	Portions of U.S. Highway 23 and U.S. Highway 119.
Great River Road	National Scenic Byway	2,069 miles	Portions of U.S. Highway 51, State Highway 1203, State Highway 123, State Highway 239, and State Highway 94.
Lincoln Heritage Scenic Highway	National Scenic Byway	71.2 miles	Portions of U.S. Highway 31 and U.S. Highway 150.
Red River Gorge	National Scenic Byway	46 miles	Portions of State Highway 11, State Highway 77, State Highway 715, State Highway 402, and State Highway 11.
Wilderness Road Heritage Highway	National Scenic Byway	93.8 miles	Portions of U.S. Highway 23 and State Highway 229.
Woodlands Trace	National Scenic Byway	43 miles	Portions of State Highway 453.
Big Bone Lick	National Natural Landmark	510 acres	Boone County
Creelsboro Natural Bridge	National Natural Landmark	7 acres	Russell County
Henderson Sloughs	National Natural Landmark	3,949 acres	Henderson and Union counties,
Lilley Cornett Woods	National Natural Landmark	548 acres	Letcher County
Red River Gorge	National Natural Landmark	37,223 acres	Menifee, Powell, and Wolfe counties
Rock Creek Research Natural Area	National Natural Landmark	86 acres	Laurel County
Daniel Boone	National Forest	708,000 acres	Bath, Clay, Estill, Harlan, Jackson, Knox, Laurel, Lee, Leslie, McCreary, Menifee, Morgan, Owsley, Perry, Powell, Pulaski, Rockcastle, Rowan, Wayne, Whitley, and Wolfe counties
George Washington and Jefferson	National Forest	1,800,000 acres	Letcher and Pike counties
Land Between the Lakes	National Recreation Area	171,280 acres	Lyon and Trigg counties
Mammoth Cave	National Park	52,830 acres	Edmonson, Hart, and Barren counties
Clifty Wilderness	National Wilderness Area	13,344 acres	Menifee and Wolfe counties

Michigan

Michigan has 656.4 miles designated as wild and scenic (Table A-13). In 1978, 66 miles of the Pere Marquette River were designated as scenic (BLM et al., n.d. c). In 1984, 23 miles of the Au Sable River were designated as scenic (BLM et al., n.d.d). In 1992, 6.5 miles of Bear Creek were designated as scenic (BLM et al., n.d.e); 14 miles of the Black River were designated as scenic (BLM et al., n.d.f); 12.4 miles of the Carp River were designated as wild, 9.3 miles were designated as scenic, and 6.1 miles were designated as recreational (total 27.8 miles) (BLM et al., n.d.g); 12 miles of the Indian River were designated as scenic and 39 miles were designated as recreational (total 51 miles) (BLM et al., n.d.h); 26 miles of the Manistee River were designated as recreational (BLM et al., n.d.i); 43 miles of the Ontonagon River were designated as wild, 35 miles were designated as scenic, and 92 miles were designated as recreational (BLM et al., n.d. j); 52 miles of the Paint River were designated as recreational (BLM et al., n.d.k); 26 miles of the Pine River were designated as scenic (BLM et al., n.d.l); 24 miles of the Presque Isle River were designated as scenic and 48 miles were designated as recreational (total 72 miles) (BLM et al., n.d.m); 21.7 miles of the Sturgeon River (Hiawatha National Forest) were designated as scenic and 22.2 miles were designated as recreational (total 43.9 miles) (BLM et al., n.d.n); 20 miles of the Sturgeon River (Ottawa National Forest) were designated as wild and 8 miles were designated as scenic (total 28.0 miles) (BLM et al., n.d.o); 3.2 miles of the Tahquamenon River (East Branch) were designated as wild and 10 miles were designated as recreational (total 13.2 miles) (BLM et al., n.d.p); 31.5 miles of the Whitefish River were designated as scenic and 2.1 miles were designated as recreational (total 33.6 miles) (BLM et al., n.d.q); and 4 miles of the Yellow Dog River were designated as wild (BLM et al., n.d.r).

Michigan has three designated National Scenic Byways (Table A-13): the Copper Country Trail, River Road Scenic Byway, and Woodward Avenue (M-1) – Automotive Heritage Trail (DOT-FHA, n.d.d).

Michigan has 12 designated National Natural Landmarks (Table A-13): Black Spruce Bog Natural Area (designated 1976), Dead Stream Swamp (designated 1976), Dukes Research Natural Area (designated 1974), Grand Mere Lakes (designated 1968), Haven Hill State Natural Area (designated 1976), Newton Woods (designated 1976), Porcupine Mountain (designated 1984), Roscommon Virgin Pine Stand (designated 1980), Strangmoor Bog (designated 1973), Tobico Marsh (designated 1976), Toumey Woodlot (designated 1976), and Warren Woods Natural Area (designated 1967) (NPS, n.d.).

Michigan has three National Forests within the state (Table A-13)—Huron-Manistee National Forest, Ottawa National Forest, and Hiawatha National Forest. In addition, the state is also home to Sleeping Bear Dunes National Lakeshore, Pictured Rocks National Lakeshore, and Seney National Wildlife Refuge.

Michigan is home to the Isle Royale National Park (Table A-13).

Michigan has 14 National Wilderness Areas within the state (Table A-13): Beaver Basin Wilderness, Big Island Lake Wilderness, Delirium Wilderness, Horseshoe Bay Wilderness, Huron Islands Wilderness, Mackinac Wilderness, McCormick Wilderness, Michigan Islands Wilderness, Nordhouse Wilderness, Rock River Canyon Wilderness, Round Island Wilderness, Seney Wilderness, Sturgeon River Wilderness, and Sylvania Wilderness.

Table A-13. Aesthetic and recreational resources in portion of Michigan within LRD's civil works boundary.

Name	Designation	Size/Length	Locale
Au Sable River	Wild and Scenic River	23 miles	Oscoda and Alcona Counties 1) The main stem from the Mio Pond project boundary downstream to the Alcona Pond project boundary.
Bear Creek	Wild and Scenic River	6.5 miles	Manistee County 1) From Coates Highway to the confluence with the Manistee River.
Black River	Wild and Scenic River	14 miles	Gogebic County 1) From the Ottawa National Forest Boundary to Lake Superior.
Carp River	Wild and Scenic River	27.8 miles	Mackinac County 1) From the west section line of section 30, T43N, R5W to Lake Huron.
Indian River	Wild and Scenic River	51 miles	Schoolcraft, Delta, and Alger Counties 1) From Hovey Lake to Indian Lake.
Manistee River	Wild and Scenic River	26 miles	Manistee County 1) From the Michigan Department of Natural Resources boat ramp below Tippy Dam to the Michigan State Highway 55 Bridge.
Ontonagon River	Wild and Scenic River	92 miles	Ontonagon, Houghton, and Iron counties 1) The East Branch from its origin to the Ottawa National Forest boundary. 2) The Middle Branch from its origin to the northern boundary of the Ottawa National Forest. 3) The Cisco Branch from its origin at Cisco Lake Dam to its confluence with Ten-Mile Creek south of Ewen. 4) The West Branch from its confluence with Cascade Falls to Victoria Reservoir.
Paint River	Wild and Scenic River	52 miles	Iron and Gogebic counties 1) The main stem from the confluence of the North and South Branches to the Ottawa National Forest boundary. 2) The North Branch from its origin to its confluence with the South Branch. 3) The South Branch from its origin to its confluence with the North Branch.
Pere Marquette River	Wild and Scenic River	66 miles	Mason and Lake counties 1) The segment downstream from the junction of the Middle and little South Branches to its junction with U.S. Highway 31.

Name	Designation	Size/Length	Locale
Pine River	Wild and Scenic River	26 miles	Manistee, Wexford, and Lake counties 1) The segment from Lincoln Bridge to the east 1/16 th line of Section 16, T21N, R13W.
Presque Isle River	Wild and Scenic River	72 miles	Gogebic County 1) The main stem from the confluence of the East and West Branches to Minnewawa Falls. 2) The East Branch within the Ottawa National Forest. 3) The South Branch within the Ottawa National Forest. 4) The West Branch within the Ottawa National Forest.
Sturgeon River (Hiawatha National Forest)	Wild and Scenic River	43.9 miles	Delta County 1) From the north line of Section 26, T43N, R19W, to Lake Michigan.
Sturgeon River (Ottawa National Forest)	Wild and Scenic River	28 miles	Houghton and Baraga counties 1) From its entry into the Ottawa National Forest to the northern boundary of the Ottawa National Forest.
Tahquamenon River (East Branch)	Wild and Scenic River	13.2 miles	Chippewa County 1) From its origin to the Hiawatha National Forest boundary.
Whitefish River	Wild and Scenic River	33.6 miles	Schoolcraft and Delta counties 1) The main stem from its confluence with the East and West Branches to Lake Michigan. 2) The East Branch from the crossing of Country Road 003 to its confluence with the West Branch. 3) The West Branch from County Road 444 to its confluence with the East Branch.
Yellow Dog River	Wild and Scenic River	4 miles	Marquette County 1) From its origin at the outlet of Bulldog Lake Dam to the boundary of the Ottawa National Forest.
Copper Country Trail	National Scenic Byway	47 miles	Portions of U.S. Highway 41.
River Road Scenic Byway	National Scenic Byway	22 miles	Portions of State Highway 65.
Woodward Avenue (M-1) – Automotive Heritage Trail	All-American Road	27 miles	Portions of State Highway 1.
Black Spruce Bog Natural Area	National Natural Landmark	130 acres	Jackson County
Dead Stream Swamp	National Natural Landmark	12,403 acres	Missaukee and Roscommon counties
Dukes Research Natural Area	National Natural Landmark	286 acres	Marquette County
Grand Mere Lakes	National Natural Landmark	1,281 acres	Berrien County
Haven Hill State Natural Area	National Natural Landmark	587 acres	Oakland County
Newton Woods	National Natural Landmark	43 acres	Cass County
Porcupine Mountain	National Natural Landmark	42,812 acres	Gogebic and Ontonagon counties
Roscommon Virgin Pine Stand	National Natural Landmark	170 acres	Roscommon County

Name	Designation	Size/Length	Locale
Strangmoor Bog	National Natural Landmark	10,262 acres	Schoolcraft County
Tobico Marsh	National Natural Landmark	1,019 acres	Bay County
Toumey Woodlot	National Natural Landmark	27 acres	Ingham County
Warren Woods Natural Area	National Natural Landmark	328 acres	Berrien County
Isle Royale National Park	National Park	571,790 acres	Keweenaw County
Ottawa National Forest	National Forest	993,010 acres	Gogebic, Ontonagon, Iron, Houghton, Baraga, and Marquette counties
Hiawatha National Forest	National Forest	894,836 acres	Chippewa, Mackinac, Delta, Alger, and Schoolcraft counties
Huron-Manistee National Forest	National Forest	978,906 acres	Alcona, Iosco, Crawford, Ogemaw, Lake, Newaygo, Wexford, Manistee, Mason, Ocean, Oscoda, Muskegon, Mecosta, and Montcalm counties
Pictured Rocks National Lakeshore	National Lakeshore	73,235 acres	Alger County
Sleeping Bear Dunes National Lakeshore	National Lakeshore	71,199 acres	Benzie and Leelanau counties
Beaver Basin Wilderness	National Wilderness Area	11,740 acres	Alger County
Big Island Lake Wilderness	National Wilderness Area	5,856 acres	Schoolcraft County
Delirium Wilderness	National Wilderness Area	11,870 acres	Chippewa County
Horseshoe Bay Wilderness	National Wilderness Area	3,787 acres	Mackinac County
Huron Islands Wilderness	National Wilderness Area	147 acres	Marquette County
Mackinac Wilderness	National Wilderness Area	12,230 acres	Mackinac County
McCormick Wilderness	National Wilderness Area	17,000 acres	Baraga and Marquette counties
Michigan Islands Wilderness Area	National Wilderness Area	12 acres	Alpena County
Nordhouse Dunes Wilderness	National Wilderness Area	3,450 acres	Manistee County
Rock River Canyon Wilderness	National Wilderness Area	4,640 acres	Alger County
Round Island Wilderness	National Wilderness	378 acres	Mackinac County
Seney Wildernes	National Wilderness Area	25,150 acres	Schoolcraft County
Sturgeon River Gorge Wilderness	National Wilderness Area	14,729 acres	Baraga County
Sylvania Wilderness	National Wilderness Area	18,327 acres	Gogebic County

New York

There are no rivers designated as wild and scenic within the portion of New York that is within LRD's civil works boundary.

New York has one designated National Scenic Byway within the portion of the state that lies within LRD's civil works boundary (Table A-14): the Great Lakes Seaway Trail (DOT-FHA, n.d.e).

New York has 16 designated National Natural Landmarks within the portion of the state that lies within LRD's civil works boundary (Table A-14): Bergen-Byron Swamp (designated 1964), Deer Lick Nature Sanctuary (designated 1967), Dexter Marsh (designated 1973), Fall Brook Gorge (designated 1970), Fossil Coral Reef (designated 1967), Hart's Woods (designated 1972), Ironsides Island (designated 1967), Lakeview Marsh and Barrier Beach (designated 1973), McLean Bogs (designated 1973), Mendon Ponds Park (designated 1967), Moss Island (designated 1976), Moss Lake Bog (designated 1973), Montezuma Marshes (designated 1973), Oak Orchard Creek Marsh (designated 1973), Round Lake (designated 1973), and Zurich Bog (designated 1973) (NPS, n.d.).

New York has only one national forest, the Finger Lakes National Forest (Table A-14). The state is also home to the Iroquois National Wildlife Refuge.

Table A-14. Aesthetic and recreational resources in portion of New York within LRD's civil works boundary.

Name	Designation	Size/Length	Locale
Great Lakes Seaway Trail	National Scenic Byway	518 miles	Portions of State Highway 5, State Highway 18, State Highway 12, State Highway 104, State Highway 104A, State Highway 104B, State Highway 3, State Highway 12E, State Highway 37, and State Highway 131.
Mohawk Towpath Byway	National Scenic Byway	26.2 miles	Portions of Aqueduct Road, Riverview Road, Fonda Road, and Cohoes Crescent Road.
Bergen-Byron Swamp	National Natural Landmark	2,000 acres	Genesee County
Deer Lick Nature Sanctuary	National Natural Landmark	410 acres	Cattaraugus County
Dexter Marsh	National Natural Landmark	1,350 acres	Jefferson County
Fall Brook Gorge	National Natural Landmark	102 acres	Livingston County
Fossil Coral Reef	National Natural Landmark	50 acres	Genesee County
Hart's Woods	National Natural Landmark	9 acres	Monroe County
Ironsides Island	National Natural Landmark	20 acres	Jefferson County
Lakeview Marsh and Barrier Beach	National Natural Landmark	3,533 acres	Jefferson County
McLean Bogs	National Natural Landmark	81 acres	Tompkins County
Mendon Ponds Park	National Natural Landmark	2,462 acres	Monroe County
Moss Island	National Natural Landmark	14 acres	Herkimer County
Moss Lake Bog	National Natural Landmark	84 acres	Allegany County
Montezuma Marshes	National Natural Landmark	2,100 acres	Seneca County
Oak Orchard Creek Marsh	National Natural Landmark	600 acres	Genesee County
Round Lake	National Natural Landmark	100 acres	Onondaga County
Zurich Bog	National Natural Landmark	490 acres	Wayne County
Finger Lakes National Forest	National Forest	16,259 acres	Seneca and Schuyler counties
Iroquois National Wildlife Refuge	National Wildlife Refuge	10,828 acres	Orleans and Genesee counties

Ohio

Ohio has 212.9 miles of river designated as a wild and scenic (Table A-15) (BLM et al., n.d.s). In 1973, 18 miles of the Little Miami River were designated as scenic and 48 miles were designated as recreational for a total of 66 miles (BLM et al., n.d.t). In 1981, an additional 28 miles were designated as recreational bringing the total mileage to 94 miles (BLM et al., n.d.t). In 1975, 33 miles of Little Beaver Creek were designated as scenic (BLM et al., n.d.u). In 1994, 85.9 miles of the Big and Little Darby Creeks were designated as scenic (BLM et al., n.d.v).

Ohio has five designated National Scenic Byways (Table A-15): Amish Country Byway, Historic National Road, Lake Erie Coastal Ohio Trail, Ohio and Erie Canalway, and Ohio River Scenic Byway (DOT-FHA, n.d.f). The Amish Country Byway is 76.2 miles in length, the Historic National Road is 824.2 miles in length, the Lake Erie Coastal Ohio Trail is 293 miles in length, the Ohio and Erie Canalway is 110 miles in length, and the Ohio River Scenic Byway is 943 miles in length (DOT-FHA, n.d.f).

Ohio has 23 designated National Natural Landmarks (Table A-15): Arthur B. Williams Memorial Woods (designated 1974), Blacklick Woods (designated 1974), Brown's Lake Bog (designated 1967), Buzzardroost Rock-Lynx Prairie-The Wilderness (designated 1967), Cedar Bog (designated 1967), Clear Fork Gorge (designated 1967), Clifton Gorge (designated 1967), Cranberry Bog (designated 1968), Crall Woods (designated 1974), Dysart Woods (designated 1967), Fort Hill State Memorial (designated 1974), Glacial Grooves State Memorial (designated 1967), Glen Helen Natural Area (designated 1965), Goll Woods (designated 1974), Hazelwood Botanical Preserve (designated 1974), Highbanks Natural Area (designated 1980), Holden Natural Areas (designated 1967), Hueston Woods (designated 1967), Mantua Swamp (designated 1976), Mentor Marsh (designated 1964), Serpent Mound Cryptoexplosive Structure (designated 1980), Tinkers Creek Gorge (designated 1967), and White Pine Bog Forest (designated 1976) (NPS, n.d.).

Ohio has only one national forest, the Wayne National Forest (Table A-15).

Ohio is home to Cuyahoga National Park (Table A-15).

Table A-15. Aesthetic and recreational resources in portion of Ohio within LRD's civil works boundary.

Name	Designation	Size/Length	Locale
Big and Little Darby Creeks	Wild and Scenic River	85.9 miles	Franklin, Madison, and Pickaway counties 1) Upper Darby Creek from the Champaign-Union County line to the Conrail railroad trestle (0.9 miles upstream of U.S. 40). 2) Lower Darby Creek from the confluence with Little Darby Creek near Georgesville to the Scioto River. 3) Little Darby Creek from the Lafayette-Plain City Road Bridge to 0.8 miles upstream from the confluence with Big Darby Creek.
Little Beaver Creek	Wild and Scenic River	33 miles	Columbiana County 1) The main stem from the confluence of the West Fork with the Middle Fork near Williamsport to the mouth. 2) The North Fork from its confluence with Brush Run to its confluence with the main stem at Fredericktown. 3) The Middle Fork from the vicinity of the County Road 901 (Elkston Road) bridge crossing to its confluence with the West Fork near Williamsport. 4) The West Fork from the vicinity of the County Road 914 (Y-Camp Road) bridge crossing to its confluence with the Middle Fork near Williamsport.
Little Miami River	Wild and Scenic River	94 miles	Greene, Warren, and Hamilton counties 1) From State Highway 72 at Clifton to the Ohio River, including the lower two miles of Caesars Creek.
Amish Country Byway	National Scenic Byway	76.2 miles	Portions of State Highway 39, State Highway 60, U.S. Highway 62, and State Highway 515.
Historic National Road	All-American Road	824.2 miles	Portions of U.S. Highway 40.
Lake Erie Coastal Ohio Trail	National Scenic Byway	293 miles	Portions of U.S. Highway 6, State Highway 283, and State Highway 531.
Ohio and Erie Canalway	National Scenic Byway	110 miles	Portions of State Highway 236 and State Highway 800.
Ohio River Scenic Byway	National Scenic Byway	943 miles	Portions of State Highway 56, State Highway 156, U.S. Highway 50, U.S. Highway 53, U.S. Highway 23, State Highway 7, U.S. Highway 33, and State Highway 618.
Arthur B. Williams Memorial Woods	National Natural Landmark	111 acres	Cuyahoga County
Blacklick Woods	National Natural Landmark	63 acres	Fairfield County
Brown's Lake Bog	National Natural Landmark	82 acres	Wayne County
Buzzardroost Rock-Lynx Prairie-The Wilderness	National Natural Landmark	1,129 acres	Adams County
Cedar Bog	National Natural Landmark	225 acres	Champaign County
Clear Fork Gorge	National Natural landmark	115 acres	Ashland County
Clifton Gorge	National Natural Landmark	8 acres	Greene County
Cranberry Bog	National natural Landmark	21 acres	Licking County
Crall Woods	National Natural Landmark	126 acres	Ashland County
Dysart Woods	National Natural Landmark	516 acres	Belmont County
Fort Hill State Memorial	National Natural Landmark	1,273 acres	Highland County
Glacial Grooves State Memorial	National Natural Landmark	4 acres	Erie County
Glen Helen Natural Area	National Natural Landmark	96 acres	Greene County
Goll Woods	National Natural Landmark	218 acres	Fulton County
Hazelwood Botanical Preserve	National Natural Landmark	66 acres	Hamilton County

Name	Designation	Size/Length	Locale
Highbanks Natural Area	National Natural Landmark	192 acres	Delaware and Franklin counties
Holden Natural Areas	National Natural Landmark	1,491 acres	Geauga and Lake counties
Hueston Woods	National Natural Landmark	226 acres	Butler and Preble counties
Mantua Swamp	National Natural Landmark	285 acres	Portage County
Mentor Marsh	National Natural Landmark	829 acres	Lake County
Serpent Mound Cryptoexplosive Structure	National Natural Landmark	10,096 acres	Adams, Highland, and Pike counties
Tinkers Creek Gorge	National Natural Landmark	683 acres	Cuyahoga County
White Pine Bog Forest	National Natural Landmark	359 acres	Geauga County
Wayne National Forest	National Forest	240,101 acres	Athens, Gallia, Lawrence, Mariette-Washington, Monroe, Miesgs, Noble, Perry, Scioto, and Vinton counties
Cuyahoga National Park	National Park	32,572 acres	Cuyahoga and Summit counties

Pennsylvania

The portion of Pennsylvania within LRD's civil works boundary has 138.3 miles of river designated as wild and scenic (Table A-16) (BLM et al., n.d.w). In 1992, 86.6 miles of the Allegheny River were designated as recreational (BLM et al., n.d.w). In 1996, 17.1 miles of the Clarion River were designated as scenic and 34.6 miles were designated as recreational (total 51.7 miles) (BLM et al., n.d.x).

Pennsylvania has two designated National Scenic Byways within the portion of the state that lies within LRD's civil works boundary (Table A-16): Great Lakes Seaway Trail and Historic National Road (DOT-FHA, n.d.g).

Pennsylvania has nine designated National Natural Landmarks within the portion of the state that lies within LRD's civil works boundary (Table A-16): Cook Forest (designated 1967), Hearts Content Scenic Area (designated 1973), McConnell's Mill State Park (designated 1972), Presque Isle (designated 1967), Tamarack Swamp (designated 1977), Tionesta Scenic and Research Natural Area (designated 1973), and Titus and Wattsburg Bogs (designated 1977) (NPS, n.d.).

Pennsylvania has only one national forest, the Allegheny National Forest (Table A-16).

Pennsylvania has one National Wilderness Area, the Allegheny Islands Wilderness (Table A-16).

Table A-16. Aesthetic and recreational resources in portion of Pennsylvania within LRD's civil works boundary.

Name	Designation	Size/Length	Locale
Allegheny River	Wild and Scenic River	86.6 miles	Venango, Forest, and Warren counties 1) From Kinzua Dam downstream to the U.S. Route 62 Bridge. 2) From Buckaloons Recreation Area at Irvine downstream to the southern end of Alcron Island at Oil City. 3) From the sewage treatment plant at Franklin to the refinery at Emlenton.
Clarion River	Wild and Scenic River	51.7 miles	Clarion, Jefferson, and Elk counties 1) From the Allegheny National Forest/State Game Lands Number 44 boundary, approximately 0.7 miles downstream from the Ridgway Borough limit, to an unnamed tributary at the backwaters of Piney Dam, approximately 0.6 miles downstream from Blyson Run.
Great Lakes Seaway Trail	National Scenic Byway	518 miles	Portions of U.S. Highway 20 and State Highway 5.
Historic National Road	All-American Road	824.42 miles	Portions of U.S. Highway 40.
Cook Forest	National Natural Landmark	171 acres	Clarion and Forest counties
Ferncliff Peninsula Natural Area	National Natural Landmark	160 acres	Fayette County
Hearts Content Scenic Area	National Natural Landmark	120 acres	Warren County
McConnell's Mill State Park	National Natural Landmark	1,459 acres	Lawrence County
Presque Isle	National Natural Landmark	3,200	Erie County
Tamarack Swamp	National Natural Landmark	981 acres	Warren County
Tionesta Scenic and Research Natural Areas	National Natural Landmark	4,131 acres	McKean and Warren counties
Titus and Wattsburg Bogs	National Natural Landmark	126 acres	Erie County
Allegheny National Forest	National Forest	517,000 acres	Elk, Forest, McKean, and Warren counties
Allegheny Islands Wilderness	National Wilderness Area	368 acres	Warren and Forest counties

Tennessee

Tennessee has designated 45.3 miles of one river as wild and scenic (Table A-17) (BLM et al., n.d.y). In 1976, 43.3 miles of the Obed River were designated as wild and 2 miles were designated as recreational (total 45.3 miles) (BLM et al., n.d.y).

Tennessee has four designated National Scenic Byways within the portion of the state that lies within LRD's civil works boundary (Table A-17): Cherohala Skyway, East Tennessee Crossing, Natchez Trace Parkway, and Woodlands Trace (DOT-FHA, n.d.h).

Tennessee has 11 designated National Natural Landmarks in the portion of the state that lies within LRD's civil works boundary (Table A-17): Arnold Engineering Development Center Natural Areas (designated 1974), Big Bone Cave (1973), Cedar Glades Natural Area (designated 1973), Conley Hole (designated 1973), Cumberland Cavern (Higginbotham and Henshaw Caves) (designated 1973), Dick Cove (designated 1973), Grassy Cove Karst Area (designated 1973), Lost Sea (Craighead Caverns) (designated 1974), May Prairie (designated 1974), Piney Falls (designated 1974), Savage Gulf (designated 1971) (NPS, n.d.).

Tennessee is home to one national forest — Cherokee National Forest (Table A-17). The state also has the Land Between the Lakes National Recreation Area and the Great Smoky Mountains National Park.

Tennessee has 11 National Wilderness Area within the state (Table A-17): Big Frog Wilderness, Big Laurel Branch Wilderness, Citico Creek Wilderness, Cohutta Wilderness, Gee Creek Wilderness, Joyce Kilmer-Slickrock Wilderness, Little Frog Mountain Wilderness, Pond Mountain Wilderness, Sampson Mountain Wilderness, Unaka Mountain Wilderness, and Upper Bald River Wilderness.

Table A-17. Aesthetic and recreational resources in portion of Tennessee within LRD's civil works boundary.

Name	Designation	Size/Length	Locale
Obed River	Wild and Scenic River	45.3 miles	Morgan and Cumberland counties 1) The segment from the western edge of the Catoosa Wildlife Management Area to the confluence with the Emory River. 2) Clear Creek from the Morgan County line to the confluence with the Obed River. 3) Daddy's Creek from the Morgan County line to the confluence with the Obed River. 4) The Emory River from the confluence with the Obed River to Nemo Bridge.
Cherohala Skyway	National Scenic Byway	43 miles	Portions of State Highway 165.
East Tennessee Crossing	National Scenic Byway	83 miles	Portions of U.S. Highway 25E and U.S. Highway 25.
Natchez Trace Parkway	All-American Road	444 miles	Portions of the Natchez Trace Parkway.
Woodlands Trace	National Scenic Byway	43 miles	Portions of State Highway 453.
Arnold Engineering Development Center Natural Areas	National Natural Landmark	280 acres	Coffee County
Big Bone Cave	National Natural Landmark	234 acres	Van Buren County
Cedar Glades Natural Area	National Natural Landmark	1,024 acres	Wilson County
Conley Hole	National Natural Landmark	88 acres	Warren County
Cumberland Cavern (Higginbotham and Henshaw Caves)	National Natural Landmark	425 acres	Warren County
Dick Cove	National Natural Landmark	247 acres	Franklin County
Grassy Cove Karst Area	National Natural Landmark	7,283 acres	Cumberland County
Lost Sea (Craighead Caverns)	National Natural Landmark	304 acres	Monroe County
May Prairie	National Natural Landmark	101 acres	Coffee County
Piney Falls	National Natural Landmark	157 acres	Rhea County
Savage Gulf	National Natural Landmark	2,617 acres	Grundy County
Land Between the Lakes National Recreational Area	National Recreational Area	171,280 acres	Stewart County
Cherokee National Forest	National Forest	655,598 acres	Polk, Monroe, Unicoi, Cocke, Johnson, Greene, Sullivan, Washington, and McMinn counties
Great Smoky Mountains National Park	National Park	522,419 acres	Sevier, Blount, and Cocke counties
Big Frog Wilderness	National Wilderness Area	7,993 acres	Polk County
Big Laurel Branch Wilderness	National Wilderness Area	6,332 acres	Carter County
Citico Creek Wilderness	National Wilderness Area	16,226 acres	Monroe County
Cohutta Wilderness	National Wilderness Area	1,709 acres	Polk County
Gee Creek Wilderness	National Wilderness Area	2,493 acres	Polk County
Joyce Kilmer-Slickrock Wilderness	National Wilderness Area	17,394 acres	Monroe County
Little Frog Mountain Wilderness	National Wilderness Area	5,634 acres	Polk County
Pond Mountain Wilderness	National Wilderness Area	6,937 acres	Carter County
Sampson Mountain Wilderness	National Wilderness Area	10,895 acres	Unicoi County
Unaka Mountain Wilderness	National Wilderness Area	4,472 acres	Unicoi and Carter counties
Upper Bald River Wilderness	National Wilderness Area	9,037 acres	Monroe County

West Virginia

West Virginia has approximately 32,260 miles of river, of which 10 miles are designated at wild and scenic (BLM et al., n.d.z). In 1988, 10 miles of the Bluestone River were designated as scenic (Table A-18) (BLM et al., n.d.z).

West Virginia has six designated National Scenic Byways (Table A-18): Coal Heritage Trail, Highland Scenic Highway, Historic National Road, Midland Trail, Staunton-Parkersburg Turnpike, and Washington Heritage Trail (DOT-FHA, n.d.i).

West Virginia has 11 designated National Natural Landmarks within the portion of the state that lies within LRD's civil works boundary (Table A-18): Bear Rocks and Allegheny Front Preserve (designated 2021), Big Run Bog (designated 1974), Blister Run Swamp (designated 1974), Cathedral Park (designated 1965), Cranberry Glades Botanical Area (designated 1974), Fisher Spring Run Bog (designated 1974), Gaudineer Scenic Area (designated 1974), Greenville Saltpeter Cave (designated 1973), Lost World Caverns (designated 1973), Organ Cave System (designated 1973), and Shavers Mountain Spruce-Hemlock Stand (designated 1974) (NPS, n.d.).

West Virginia is home to one national forest, the Monongahela National Forest (Table A-18).

West Virginia has one National Park, the New River Gorge National Park & Preserve (Table A-18).

Table A-18. Aesthetic and recreational resources in portion of West Virginia within LRD's civil works boundary.

Name	Designation	Size/Length	Locale
Bluestone River	Wild and Scenic River	10 miles	Mercer and Summers counties 1) From a point two miles upstream of the Summers and Mercer County lines down to Bluestone Lake.
Coal Heritage Trail	National Scenic Byway	97.6 miles	Portions of U.S. Highway 52, State Highway 16, U.S. Highway 19, and U.S. Highway 60.
Highland Scenic Highway	National Scenic Byway	43 miles	Portions of State Highway 39 and State Highway 150.
Historic National Road	All-American Road	824.2 miles	Portions of U.S. Highway 40.
Midland Trail	National Scenic Byway	116.8 miles	Portions of U.S. Highway 60.
Staunton-Parkersburg Turnpike	National Scenic Byway	180 miles	Portions of State Highway 47 and State Highway 250.
Washington Heritage Trail	National Scenic Byway	16 miles	Portions of State Highway 9, State Highway 480, State Highway 51, and State Highway 230.
Bear Rocks and Allegheny Front Preserve	National Natural Landmark	1,204 acres	Grant and Tucker counties
Big Run Bog	National Natural Landmark	731 acres	Tucker County
Blister Run Swamp	National Natural Landmark	186 acres	Randolph County
Cathedral Park	National Natural Landmark	150 acres	Preston County
Cranberry Glades Botanical Area	National Natural Landmark	785 acres	Pocahontas County
Fisher Spring Run Bog	National Natural Landmark	415 acres	Tucker County
Gaudineer Scenic Area	National Natural Landmark	143 acres	Pocahontas and Randolph counties
Greenville Saltpeter Cave	National Natural Landmark	81 acres	Monroe County
Lost World Caverns	National Natural Landmark	620 acres	Greenbrier County
Organ Cave System	National Natural Landmark	1,335 acres	Greenbrier County
Shavers Mountain Spruce-Hemlock Stand	National Natural Landmark	183 acres	Randolph County
Monongahela National Forest	National Forest	921,150 acres	Grant, Tucker, Randolph, Greenbrier, Webster, Preston, Nicholas, Pendleton, and Pocahontas counties
New River Gorge National Park & Preserve	National Park	72,808 acres	Fayette and Summers counties

Wisconsin

Wisconsin has approximately 56,884 miles of river, of which 24 miles are designated as wild and scenic within the portion of the state that lies within LRD's civil works boundary (Table A-19) (BLM et al., n.d.aa). In 1968, 24 miles of the Wolf River were designated as scenic (BLM et al., n.d.bb).

Wisconsin has no designated National Scenic Byways within the portion of the state that lies within LRD's civil works boundary.

Wisconsin has 11 designated National Natural Landmarks within the portion of the state that lies within LRD's civil works boundary (Table A-19): Baraboo Range (designated 1980), Bose Lake Hemlock Hardwoods (designated 1980), Cedarburg Bog (designated 1973), Chiwaukee Prairie (designated 1973), Finnerud Forest Scientific Area (designated 1973), Kakagon Sloughs (designated 1973), Moquah Barrens Research Natural Area (designated 1980), Point Beach Ridges (designated 1980), Ridges Sanctuary-Toft's Point-Mud Lake Area (designated 1967), Spruce Lake Bog (designated 1973), and Summerton Bog (designated 1973) (NPS, n.d.).

Wisconsin has only one national forest, the Chequamegon-Nicolet National Forest (Table A-19). The state is also home to Apostle Island National Lakeshore. Wisconsin is home to six National Wilderness Areas (Table A-19): Gaylord Nelson Wilderness, Headwaters Wilderness, Porcupine Lake Wilderness, Rainbow Lake Wilderness, Whisker Lake Wilderness, and Wisconsin Islands Wilderness.

Table A-19. Aesthetic and recreational resources in portion of Wisconsin within LRD's civil works boundary.

Name	Designation	Size/Length	Locale
Wolf River	Wild and Scenic River	24 miles	Menominee County 1) From the Langlade-Menominee County line downstream to Keshena Falls.
Baraboo Range	National Natural Landmark	53,531 acres	Columbia and Sauk counties
Bose Lake Hemlock Hardwoods	National Natural Landmark	62 acres	Forest County
Cedarburg Bog	National Natural Landmark	2,706 acres	Ozaukee County
Chiwaukee Prairie	National Natural Landmark	94 acres	Kenosha County
Finnerud Forest Scientific Area	National Natural Landmark	117 acres	Oneida County
Kakagon Sloughs	National Natural Landmark	2,932 acres	Ashland County
Moquah Barrens Research Natural Area	National Natural Landmark	632 acres	Bayfield County
Point Beach Ridges	National Natural Landmark	151 acres	Manitowoc County
Ridges Sanctuary-Toft's Point-Mud Lake Area	National Natural Landmark	2,281 acres	Door County
Spruce Lake Bog	National Natural Landmark	162 acres	Fond du Lac County
Summerton Bog	National Natural Landmark	266 acres	Marquette County
Chequamegon-Nicolet National Forest	National Forest	858,400 acres	Ashland, Bayfield, Sawyer, Price, Taylor, and Vilas counties
Apostle Islands National Lakeshore	National Lakeshore	69,732 acres	Ashland and Bayfield counties
Blackjack Springs Wilderness	National Wilderness	5,800 acres	Vilas County
Gaylord Nelson Wilderness	National Wilderness	33,497 acres	Bayfield and Ashland counties
Headwaters Wilderness	National Wilderness	22,033 acres	Forest County
Porcupine Lake Wilderness	National Wilderness	4,446 acres	Bayfield County
Rainbow Lake Wilderness	National Wilderness	7,135 acres	Bayfield County
Whisker Lake Wilderness	National Wilderness	7,270 acres	Florence County
Wisconsin Islands Wilderness	National Wilderness	29 acres	Door County

3.3.12 CULTURAL RESOURCES

Issuing a Section 408 permission is a federal action and is thus subject to compliance with Section 106 of the NHPA of 1966, as amended (Section 106; 54 U.S.C. 306108). Section 408 permissions are also subject to other laws and EO's pertaining to cultural resources, including the American Indian Religious Freedom Act, the Archaeological and Historic Preservation Act, the Archaeological Resources Protection Act, the Native American Graves and Repatriation Act, EO 13007 (Indian Sacred Sites), and EO 13175 (Consultation with Indian Tribes, Alaska Natives, and Native Hawaiians). These laws and EO's are described in more detail in Chapter 4, Regulatory Setting. Cultural resources can be defined as a site, structure, landscape, object, or natural feature of significance to a group of people traditionally associated with it. The NHPA defines a historic property as "any prehistoric or historic district, site, building, structure, or object included on, or eligible for inclusion in, the National Register, including artifacts, records, and material remains relating to the district, site, building, structure, or object" (54 U.S.C. 300308). When a federal action has the potential to cause effects to historic properties, Section 106 of the NHPA requires that the agency consult with the appropriate SHPO or THPO as well as any Indian tribes that might attach religious and cultural significance to historic properties in the area of potential effects (36 C.F.R. 800).

In order to describe the broad affected environment for this resource category, listings on the NRHP and National Historic Landmarks within each state are provided.

The NRHP, which includes archaeological sites as well as historic properties, is the official list of the Nation's historic places worthy of preservation. Authorized by the NHPA of 1966, the National Park Service's NRHP is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect America's historic and archaeological resources.

National Historic Landmarks (NHLs) are historic properties that illustrate the heritage of the United States. There are over 2,600 NHLs throughout the United States which are comprised of historic buildings, sites, structures, objects, and districts.

AFFECTED ENVIRONMENT

Illinois

The portion of Illinois within LRD's civil works boundary has over 1,200 archaeological sites, properties, and districts listed on the NRHP (Wikipedia, 2022a). Of the over 1,200 NRHPs in Illinois, 66 of those are NHLs (NPS, 2022). For the number of NRHPs and NHLs per County within the state, refer to Table A-20.

Table A-20. Number of NRHPs and NHLs in Illinois counties within LRD's civil works boundary.

County	Type	Number
Alexander	National Register of Historic Places	7
Champaign	National Register of Historic Places	59
	National Historic Landmarks	2

County	Type	Number
Clark	National Register of Historic Places	9
Clay	National Register of Historic Places	6
Coles	National Register of Historic Places	21
Cook	National Register of Historic Places	572
	National Historic Landmarks	54
Crawford	National Register of Historic Places	7
Cumberland	National Register of Historic Places	3
DeKalb	National Register of Historic Places	17
Douglas	National Register of Historic Places	3
DuPage	National Register of Historic Places	48
Edgar	National Register of Historic Places	9
Edwards	National Register of Historic Places	1
Effingham	National Register of Historic Places	2
Fayette	National Register of Historic Places	4
Ford	National Register of Historic Places	5
Gallatin	National Register of Historic Places	6
Grundy	National Register of Historic Places	7
	National Historic Landmarks	1
Hamilton	National Register of Historic Places	4
Hardin	National Register of Historic Places	5
Iroquois	National Register of Historic Places	6
Jasper	National Register of Historic Places	1
Johnson	National Register of Historic Places	4
Kane	National Register of Historic Places	77
Kankakee	National Register of Historic Places	16
Kendall	National Register of Historic Places	10
	National Historic Landmarks	1
LaSalle	National Register of Historic Places	32
	National Historic Landmarks	3
Lake	National Register of Historic Places	96
	National Historic Landmarks	2
Lawrence	National Register of Historic Places	2
Livingston	National Register of Historic Places	13
Massac	National Register of Historic Places	3
	National Historic Landmarks	1
McHenry	National Register of Historic Places	13
McLean	National Register of Historic Places	35
	National Historic Landmarks	1
Moultrie	National Register of Historic Places	1
Piatt	National Register of Historic Places	6
Pope	National Register of Historic Places	3
	National Historic Landmark	1
Pulaski	National Register of Historic Places	4

County	Type	Number
Richland	National Register of Historic Places	4
Saline	National Register of Historic Places	4
Vermilion	National Register of Historic Places	13
Wabash	National Register of Historic Places	1
Wayne	National Register of Historic Places	3
White	National Register of Historic Places	11
Will	National Register of Historic Places	36
	National Historic Landmarks	1
Williamson	National Register of Historic Places	5

Indiana

Indiana has over 1,900 archaeological sites, properties, and districts listed on the NRHPs (Wikipedia, 2022b). Of the over 1,900 NRHPs in Indiana, 43 of those are NHLs (NPS, 2022). For the number of NRHPs and NHLs per County within the state, refer to Table A-21.

Table A-21. Number of NRHPs and NHLs in Indiana counties within LRD’s civil works boundary.

County	Type	Number
Adams	National Register of Historic Places	9
Allen	National Register of Historic Places	73
	National Historic Landmarks	2
Bartholomew	National Register of Historic Places	24
	National Historic Landmark	4
Benton	National Register of Historic Places	6
Blackford	National Register of Historic Places	4
Boone	National Register of Historic Places	15
Brown	National Register of Historic Places	8
Carroll	National Register of Historic Places	29
Cass	National Register of Historic Places	15
	National Historic Landmark	1
Clark	National Register of Historic Places	21
Clay	National Register of Historic Places	13
Clinton	National Register of Historic Places	13
Crawford	National Register of Historic Places	2
Daviess	National Register of Historic Places	13
Dearborn	National Register of Historic Places	28
	National Historic Landmark	1
Decatur	National Register of Historic Places	10
DeKalb	National Register of Historic Places	29
	National Historic Landmark	1
Delaware	National Register of Historic Places	43
Dubois	National Register of Historic Places	15
Elkhart	National Register of Historic Places	38

County	Type	Number
Fayette	National Register of Historic Places	8
Floyd	National Register of Historic Places	21
Fountain	National Register of Historic Places	18
Franklin	National Register of Historic Places	14
	National Historic Landmark	1
Fulton	National Register of Historic Places	8
Gibson	National Register of Historic Places	9
Grant	National Register of Historic Places	20
	National Historic Landmark	1
Greene	National Register of Historic Places	8
Hamilton	National Register of Historic Places	34
Hancock	National Register of Historic Places	12
Harrison	National Register of Historic Places	6
Hendricks	National Register of Historic Places	21
Henry	National Register of Historic Places	15
Howard	National Register of Historic Places	15
Huntington	National Register of Historic Places	20
Jackson	National Register of Historic Places	20
Jasper	National Register of Historic Places	11
Jay	National Register of Historic Places	8
Jefferson	National Register of Historic Places	13
	National Historic Landmark	4
Jennings	National Register of Historic Places	7
Johnson	National Register of Historic Places	21
Knox	National Register of Historic Places	21
	National Historic Landmark	1
Kosciusko	National Register of Historic Places	16
LaGrange	National Register of Historic Places	8
Lake	National Register of Historic Places	81
LaPorte	National Register of Historic Places	34
Lawrence	National Register of Historic Places	14
Madison	National Register of Historic Places	18
Marion	National Register of Historic Places	256
	National Historic Landmark	9
Marshall	National Register of Historic Places	32
Martin	National Register of Historic Places	2
Miami	National Register of Historic Places	15
	National Historic Landmark	1
Monroe	National Register of Historic Places	49
Montgomery	National Register of Historic Places	21
	National Historic Landmark	1
Morgan	National Register of Historic Places	27
Newton	National Register of Historic Places	6

County	Type	Number
Noble	National Register of Historic Places	16
Ohio	National Register of Historic Places	3
Orange	National Register of Historic Places	16
	National Historic Landmark	1
Owen	National Register of Historic Places	18
Parke	National Register of Historic Places	47
	National Historic Landmark	1
Perry	National Register of Historic Places	8
	National Historic Landmark	1
Pike	National Register of Historic Places	3
Porter	National Register of Historic Places	37
	National Historic Landmark	1
Posey	National Register of Historic Places	18
	National Historic Landmark	1
Pulaski	National Register of Historic Places	7
Putnam	National Register of Historic Places	25
Randolph	National Register of Historic Places	14
Ripley	National Register of Historic Places	16
Rush	National Register of Historic Places	28
St. Joseph	National Register of Historic Places	96
	National Historic Landmark	1
Scott	National Register of Historic Places	3
Shelby	National Register of Historic Places	13
Spencer	National Register of Historic Places	9
	National Historic Landmark	1
Starke	National Register of Historic Places	2
Steuben	National Register of Historic Places	15
Sullivan	National Register of Historic Places	11
Switzerland	National Register of Historic Places	9
	National Historic Landmark	1
Tippecanoe	National Register of Historic Places	50
	National Historic Landmark	2
Tipton	National Register of Historic Places	2
Union	National Register of Historic Places	3
Vanderburgh	National Register of Historic Places	96
	National Historic Landmark	1
Vermillion	National Register of Historic Places	9
Vigo	National Register of Historic Places	50
	National Historic Landmark	1
Wabash	National Register of Historic Places	32
Warren	National Register of Historic Places	4
Warrick	National Register of Historic Places	8
Washington	National Register of Historic Places	10

County	Type	Number
Wayne	National Register of Historic Places	39
	National Historic Landmark	1
Wells	National Register of Historic Places	5
White	National Register of Historic Places	4
Whitley	National Register of Historic Places	6

Kentucky

Kentucky has over 3,400 archaeological sites, properties, and districts listed on the NRHP (Wikipedia, 2022c). Of the over 3,400 NRHPs in Kentucky, 32 of those are NHLs (NPS, 2022). For the number of NRHPs and NHLs per County within the state, refer to Table A-22.

Table A-22. Number of NRHPs and NHLs in Kentucky counties within LRD’s civil works boundary.

County	Type	Number
Adair	National Register of Historic Places	10
Allen	National Register of Historic Places	12
Anderson	National Register of Historic Places	12
Ballard	National Register of Historic Places	6
Barren	National Register of Historic Places	35
Bath	National Register of Historic Places	9
Bell	National Register of Historic Places	10
Boone	National Register of Historic Places	107
Bourbon	National Register of Historic Places	61
Boyd	National Register of Historic Places	26
Boyle	National Register of Historic Places	98
	National Historic Landmark	3
Bracken	National Register of Historic Places	23
Breathitt	National Register of Historic Places	7
Breckinridge	National Register of Historic Places	11
Bullitt	National Register of Historic Places	10
Butler	National Register of Historic Places	16
	National Historic Landmark	1
Caldwell	National Register of Historic Places	10
Calloway	National Register of Historic Places	17
Campbell	National Register of Historic Places	66
Carroll	National Register of Historic Places	11
Carter	National Register of Historic Places	4
Casey	National Register of Historic Places	2
Christian	National Register of Historic Places	49
Clark	National Register of Historic Places	68
Clay	National Register of Historic Places	4
Clinton	National Register of Historic Places	2
Crittenden	National Register of Historic Places	3

County	Type	Number
Cumberland	National Register of Historic Places	3
Daviess	National Register of Historic Places	38
Edmonson	National Register of Historic Places	24
Elliott	National Register of Historic Places	1
Estill	National Register of Historic Places	8
Fayette	National Register of Historic Places	176
	National Historic Landmark	3
Fleming	National Register of Historic Places	10
Floyd	National Register of Historic Places	15
	National Historic Landmark	1
Franklin	National Register of Historic Places	56
	National Historic Landmark	3
Gallatin	National Register of Historic Places	4
Garrard	National Register of Historic Places	67
Grant	National Register of Historic Places	2
Graves	National Register of Historic Places	11
Grayson	National Register of Historic Places	11
Green	National Register of Historic Places	47
Greenup	National Register of Historic Places	20
Hancock	National Register of Historic Places	12
Hardin	National Register of Historic Places	90
Harlan	National Register of Historic Places	6
	National Historic Landmark	1
Harrison	National Register of Historic Places	25
Hart	National Register of Historic Places	18
Henderson	National Register of Historic Places	27
	National Historic Landmark	1
Henry	National Register of Historic Places	12
Hopkins	National Register of Historic Places	32
Jackson	National Register of Historic Places	5
Jefferson	National Register of Historic Places	492
	National Historic Landmark	8
Jessamine	National Register of Historic Places	73
	National Historic Landmark	1
Johnson	National Register of Historic Places	39
Kenton	National Register of Historic Places	66
	National Historic Landmark	2
Knott	National Register of Historic Places	5
Knox	National Register of Historic Places	8
LaRue	National Register of Historic Places	31
Laurel	National Register of Historic Places	9
Lawrence	National Register of Historic Places	10
Lee	National Register of Historic Places	9

County	Type	Number
Leslie	National Register of Historic Places	5
	National Historic Landmark	1
Letcher	National Register of Historic Places	4
Lewis	National Register of Historic Places	6
Lincoln	National Register of Historic Places	22
Livingston	National Register of Historic Places	8
Logan	National Register of Historic Places	22
Lyon	National Register of Historic Places	3
Madison	National Register of Historic Places	81
	National Historic Landmark	2
Magoffin	National Register of Historic Places	3
Marion	National Register of Historic Places	12
	National Historic Landmark	1
Marshall	National Register of Historic Places	6
Martin	National Register of Historic Places	2
Mason	National Register of Historic Places	41
McCracken	National Register of Historic Places	33
McCreary	National Register of Historic Places	3
McLean	National Register of Historic Places	9
	National Historic Landmark	1
Meade	National Register of Historic Places	13
Menifee	National Register of Historic Places	6
Mercer	National Register of Historic Places	71
	National Historic Landmark	1
Metcalfe	National Register of Historic Places	5
Monroe	National Register of Historic Places	6
Montgomery	National Register of Historic Places	18
Morgan	National Register of Historic Places	9
Muhlenberg	National Register of Historic Places	12
	National Historic Landmark	1
Nelson	National Register of Historic Places	41
Nicholas	National Register of Historic Places	12
Ohio	National Register of Historic Places	19
	National Historic Landmark	2
Oldham	National Register of Historic Places	48
Owen	National Register of Historic Places	17
Owsley	National Register of Historic Places	1
Pendleton	National Register of Historic Places	20
Perry	National Register of Historic Places	1
Pike	National Register of Historic Places	16
Powell	National Register of Historic Places	16
Pulaski	National Register of Historic Places	39
	National Historic Landmark	1

County	Type	Number
Robertson	National Register of Historic Places	3
Rockcastle	National Register of Historic Places	4
Rowan	National Register of Historic Places	13
Russell	National Register of Historic Places	1
Scott	National Register of Historic Places	83
Shelby	National Register of Historic Places	139
	National Historic Landmark	1
Simpson	National Register of Historic Places	14
Spencer	National Register of Historic Places	14
Taylor	National Register of Historic Places	14
Todd	National Register of Historic Places	15
Trigg	National Register of Historic Places	8
Trimble	National Register of Historic Places	29
Union	National Register of Historic Places	7
Warren	National Register of Historic Places	102
Washington	National Register of Historic Places	68
Wayne	National Register of Historic Places	8
	National Historic Landmark	1
Webster	National Register of Historic Places	3
Whitley	National Register of Historic Places	13
Wolfe	National Register of Historic Places	4
Woodford	National Register of Historic Places	85
	National Historic Landmark	1

Michigan

Michigan has over 1,900 archaeological sites, properties, and districts listed on the NRHP (Wikipedia, 2022d). Of the over 1,900 NRHPs in Michigan, 43 of those are NHLs (NPS, 2022). For the number of NRHPs and NHLs per County within the state, refer to Table A-23.

Table A-23. Number of NRHPs and NHLs in Michigan counties within LRD’s civil works boundary.

County	Type	Number
Alcona	National Register of Historic Places	1
Alger	National Register of Historic Places	16
Allegan	National Register of Historic Places	34
Alpena	National Register of Historic Places	10
Antrim	National Register of Historic Places	7
Arenac	National Register of Historic Places	2
Baraga	National Register of Historic Places	8
Barry	National Register of Historic Places	8
Bay	National Register of Historic Places	16
	National Historic Landmark	1

County	Type	Number
Benzie	National Register of Historic Places	9
	National Historic Landmark	1
Berrien	National Register of Historic Places	30
Calhoun	National Register of Historic Places	44
	National Historic Landmark	1
Cass	National Register of Historic Places	10
Charlevoix	National Register of Historic Places	24
Cheboygan	National Register of Historic Places	10
	National Historic Landmark	1
Chippewa	National Register of Historic Places	27
	National Historic Landmark	1
Clare	National Register of Historic Places	3
Clinton	National Register of Historic Places	6
Crawford	National Register of Historic Places	3
Delta	National Register of Historic Places	19
Dickinson	National Register of Historic Places	9
Eaton	National Register of Historic Places	17
Emmet	National Register of Historic Places	52
	National Historic Landmark	2
Genesee	National Register of Historic Places	70
	National Historic Landmark	1
Gladwin	National Register of Historic Places	0
Gogebic	National Register of Historic Places	11
Grand Traverse	National Register of Historic Places	13
Gratiot	National Register of Historic Places	10
Hillsdale	National Register of Historic Places	9
Houghton	National Register of Historic Places	42
	National Historic Landmark	2
Huron	National Register of Historic Places	27
Ingham	National Register of Historic Places	52
	National Historic Landmark	1
Ionia	National Register of Historic Places	16
Iosco	National Register of Historic Places	4
Iron	National Register of Historic Places	79
Isabella	National Register of Historic Places	6
Jackson	National Register of Historic Places	29
Kalamazoo	National Register of Historic Places	51
Kalkaska	National Register of Historic Places	0
Kent	National Register of Historic Places	54
	National Historic Landmark	1
Keweenaw	National Register of Historic Places	41
	National Historic Landmark	1

County	Type	Number
Lake	National Register of Historic Places	3
Lapeer	National Register of Historic Places	24
Leelanau	National Register of Historic Places	25
	National Historic Landmark	1
Lenawee	National Register of Historic Places	44
Livingston	National Register of Historic Places	14
Luce	National Register of Historic Places	1
Mackinac	National Register of Historic Places	27
	National Historic Landmark	3
Macomb	National Register of Historic Places	16
	National Historic Landmark	1
Manistee	National Register of Historic Places	18
Marquette	National Register of Historic Places	40
Mason	National Register of Historic Places	10
	National Historic Landmark	1
Mecosta	National Register of Historic Places	3
Menominee	National Register of Historic Places	10
Midland	National Register of Historic Places	27
	National Historic Landmark	2
Missaukee	National Register of Historic Places	2
Monroe	National Register of Historic Places	19
Montcalm	National Register of Historic Places	3
Montmorency	National Register of Historic Places	0
Muskegon	National Register of Historic Places	15
	National Historic Landmark	2
Newaygo	National Register of Historic Places	5
Oakland	National Register of Historic Places	81
	National Historic Landmark	2
Oceana	National Register of Historic Places	8
Ogemaw	National Register of Historic Places	0
Ontonagon	National Register of Historic Places	5
Osceola	National Register of Historic Places	0
Oscoda	National Register of Historic Places	1
Otsego	National Register of Historic Places	3
Ottawa	National Register of Historic Places	27
Presque Isle	National Register of Historic Places	14
Roscommon	National Register of Historic Places	1
Saginaw	National Register of Historic Places	41
St. Clair	National Register of Historic Places	25
	National Historic Landmark	2
St. Joseph	National Register of Historic Places	16
Sanilac	National Register of Historic Places	12
Schoolcraft	National Register of Historic Places	6

County	Type	Number
Shiawassee	National Register of Historic Places	45
Tuscola	National Register of Historic Places	13
Van Buren	National Register of Historic Places	7
Washtenaw	National Register of Historic Places	81
Wayne	National Register of Historic Places	361
	National Historic Landmark	16
Wexford	National Register of Historic Places	8

New York

The portion of New York within LRD's civil works boundary has over 2,200 archaeological sites, properties, and districts listed on the NRHP (Wikipedia, 2022e). Of the over 2,200 NRHPs in New York, 55 of those are NHLs (NPS, 2022). For the number of NRHPs and NHLs per County within the state, refer to Table A-24.

Table A-24. Number of NRHPs and NHLs in New York counties within LRD's civil works boundary.

County	Type	Number
Allegany	National Register of Historic Places	30
Buffalo	National Historic Landmark	1
Cattaraugus	National Register of Historic Places	36
Cayuga	National Register of Historic Places	70
	National Historic Landmark	4
Chautauqua	National Register of Historic Places	48
	National Historic Landmark	2
Chemung	National Register of Historic Places	44
	National Historic Landmark	1
Cortland	National Register of Historic Places	29
Erie	National Register of Historic Places	245
	National Historic Landmark	11
Franklin	National Register of Historic Places	84
	National Historic Landmark	1
Genesee	National Register of Historic Places	25
	National Historic Landmark	1
Hamilton	National Register of Historic Places	22
	National Historic Landmark	3
Herkimer	National Register of Historic Places	72
	National Historic Landmark	2
Jefferson	National Register of Historic Places	147
Lewis	National Register of Historic Places	34
	National Historic Landmark	1
Livingston	National Register of Historic Places	89
	National Historic Landmark	1
Madison	National Register of Historic Places	84

County	Type	Number
	National Historic Landmark	3
Monroe	National Register of Historic Places	216
	National Historic Landmark	3
Niagara	National Register of Historic Places	94
	National Historic Landmark	2
Oneida	National Register of Historic Places	87
	National Historic Landmark	6
Onondaga	National Register of Historic Places	165
	National Historic Landmark	1
Ontario	National Register of Historic Places	69
	National Historic Landmark	1
Orleans	National Register of Historic Places	27
	National Historic Landmark	2
Oswego	National Register of Historic Places	95
	National Historic Landmark	2
St. Lawrence	National Register of Historic Places	77
	National Historic Landmark	1
Schuyler	National Register of Historic Places	20
	National Historic Landmark	1
Seneca	National Register of Historic Places	41
	National Historic Landmark	3
Steuben	National Register of Historic Places	59
Tompkins	National Register of Historic Places	62
	National Historic Landmark	1
Wayne	National Register of Historic Places	39
	National Historic Landmark	1
Wyoming	National Register of Historic Places	26
Yates	National Register of Historic Places	66

Ohio

Ohio has over 4,000 archaeological sites, properties, and districts listed on the NRHP (Wikipedia, 2022f). Of the over 4,000 NRHPs in Ohio, 76 of those are NHLs (NPS, 2022). For the number of NRHPs and NHLs per County within the state, refer to Table A-25.

Table A-25. Number of NRHPs and NHLs in Ohio counties within LRD's civil works boundary.

County	Type	Number
Adams	National Register of Historic Places	16
	National Historic Landmark	1
Allen	National Register of Historic Places	31
	National Historic Landmark	1
Ashland	National Register of Historic Places	19
Ashtabula	National Register of Historic Places	41

County	Type	Number
	National Historic Landmark	2
Athens	National Register of Historic Places	29
	National Historic Landmark	1
Auglaize	National Register of Historic Places	24
Belmont	National Register of Historic Places	27
	National Historic Landmark	1
Brown	National Register of Historic Places	26
	National Historic Landmark	3
Butler	National Register of Historic Places	90
	National Historic Landmark	3
Carroll	National Register of Historic Places	11
Champaign	National Register of Historic Places	35
Clark	National Register of Historic Places	41
Clermont	National Register of Historic Places	28
Clinton	National Register of Historic Places	18
Columbiana	National Register of Historic Places	44
	National Historic Landmark	1
Coshocton	National Register of Historic Places	20
Crawford	National Register of Historic Places	26
Cuyahoga	National Register of Historic Places	417
	National Historic Landmark	5
Darke	National Register of Historic Places	26
Defiance	National Register of Historic Places	12
Delaware	National Register of Historic Places	58
Erie	National Register of Historic Places	179
	National Historic Landmark	3
Fairfield	National Register of Historic Places	47
	National Historic Landmark	1
Fayette	National Register of Historic Places	17
Franklin	National Register of Historic Places	345
	National Historic Landmark	3
Fulton	National Register of Historic Places	7
Gallia	National Register of Historic Places	8
Geauga	National Register of Historic Places	18
Greene	National Register of Historic Places	44
	National Historic Landmark	2
Guernsey	National Register of Historic Places	21
	National Historic Landmark	1
Hamilton	National Register of Historic Places	373
	National Historic Landmark	15
Hancock	National Register of Historic Places	14
Hardin	National Register of Historic Places	7
Harrison	National Register of Historic Places	7

County	Type	Number
Henry	National Register of Historic Places	4
Highland	National Register of Historic Places	27
Hocking	National Register of Historic Places	13
Holmes	National Register of Historic Places	16
Huron	National Register of Historic Places	17
Jackson	National Register of Historic Places	14
Jefferson	National Register of Historic Places	25
	National Historic Landmark	2
Knox	National Register of Historic Places	45
Lake	National Register of Historic Places	80
	National Historic Landmark	2
Lawrence	National Register of Historic Places	20
Licking	National Register of Historic Places	64
	National Historic Landmark	1
Logan	National Register of Historic Places	10
Lorain	National Register of Historic Places	121
	National Historic Landmark	3
Lucas	National Register of Historic Places	91
	National Historic Landmark	2
Madison	National Register of Historic Places	11
Mahoning	National Register of Historic Places	71
	National Historic Landmark	1
Marion	National Register of Historic Places	17
	National Historic Landmark	1
Medina	National Register of Historic Places	31
Meigs	National Register of Historic Places	9
Mercer	National Register of Historic Places	30
Miami	National Register of Historic Places	45
	National Historic Landmark	1
Monroe	National Register of Historic Places	10
Montgomery	National Register of Historic Places	152
	National Historic Landmark	7
Morgan	National Register of Historic Places	6
Morrow	National Register of Historic Places	15
Muskingum	National Register of Historic Places	80
Noble	National Register of Historic Places	10
Ottawa	National Register of Historic Places	31
	National Historic Landmark	2
Paulding	National Register of Historic Places	4
Perry	National Register of Historic Places	14
Pickaway	National Register of Historic Places	32
Pike	National Register of Historic Places	8
Portage	National Register of Historic Places	49

County	Type	Number
	National Historic Landmark	1
Preble	National Register of Historic Places	19
Putnam	National Register of Historic Places	10
Richland	National Register of Historic Places	68
Ross	National Register of Historic Places	44
	National Historic Landmark	2
Sandusky	National Register of Historic Places	12
	National Historic Landmark	1
Scioto	National Register of Historic Places	41
Seneca	National Register of Historic Places	44
Shelby	National Register of Historic Places	20
	National Historic Landmark	1
Stark	National Register of Historic Places	90
	National Historic Landmark	1
Summit	National Register of Historic Places	182
	National Historic Landmark	2
Trumbull	National Register of Historic Places	36
	National Historic Landmark	1
Tuscarawas	National Register of Historic Places	24
	National Historic Landmark	2
Union	National Register of Historic Places	9
Van Wert	National Register of Historic Places	8
Vinton	National Register of Historic Places	11
Warren	National Register of Historic Places	53
	National Historic Landmark	1
Washington	National Register of Historic Places	37
	National Historic Landmark	1
Wayne	National Register of Historic Places	20
Williams	National Register of Historic Places	7
Wood	National Register of Historic Places	33
	National Historic Landmark	1
Wyandot	National Register of Historic Places	10

Pennsylvania

The portion of Pennsylvania within LRD's civil works boundary has over 900 archaeological sites, properties, and districts listed on the NRHP (Wikipedia, 2022g). Of the over 900 NRHPs in Pennsylvania, 36 of those are NHLs (NPS, 2022). For the number of NRHPs and NHLs per County within the state, refer to Table A-26.

Table A-26. Number of NRHPs and NHLs in Pennsylvania counties within LRD’s civil works boundary.

County	Type	Number
Allegheny	National Register of Historic Places	250
	National Historic Landmark	11
Armstrong	National Register of Historic Places	14
Beaver	National Register of Historic Places	22
	National Historic Landmark	3
Bedford	National Register of Historic Places	32
	National Historic Landmark	2
Blair	National Register of Historic Places	29
	National Historic Landmark	4
Butler	National Register of Historic Places	12
	National Historic Landmark	1
Cambria	National Register of Historic Places	31
	National Historic Landmark	3
Clarion	National Register of Historic Places	5
Clearfield	National Register of Historic Places	20
Crawford	National Register of Historic Places	19
Elk	National Register of Historic Places	12
Erie	National Register of Historic Places	47
Fayette	National Register of Historic Places	68
	National Historic Landmark	5
Forest	National Register of Historic Places	4
Greene	National Register of Historic Places	44
	National Historic Landmark	1
Indiana	National Register of Historic Places	24
Jefferson	National Register of Historic Places	15
Lawrence	National Register of Historic Places	9
McKean	National Register of Historic Places	10
Mercer	National Register of Historic Places	15
Potter	National Register of Historic Places	5
Somerset	National Register of Historic Places	32
Venango	National Register of Historic Places	19
	National Historic Landmark	1
Warren	National Register of Historic Places	11
Washington	National Register of Historic Places	99
	National Historic Landmark	4
Westmoreland	National Register of Historic Places	54
	National Historic Landmark	1

Tennessee

The portion of Tennessee within LRD’s civil works boundary has over 1,800 archaeological sites, properties, and districts listed on the NRHP (Wikipedia, 2022h). Of

the over 1,800 NRHPs in Tennessee, 26 of those are NHLs (NPS, 2022). For the number of NRHPs and NHLs per County within the state, refer to Table A-27.

Table A-27. Number of NRHPs and NHLs in Tennessee counties within LRD’s civil works boundary.

County	Type	Number
Anderson	National Register of Historic Places	19
Bedford	National Register of Historic Places	32
Benton	National Register of Historic Places	4
Bledsoe	National Register of Historic Places	9
Blount	National Register of Historic Places	75
Bradley	National Register of Historic Places	24
Campbell	National Register of Historic Places	8
Cannon	National Register of Historic Places	8
Carroll	National Register of Historic Places	6
Carter	National Register of Historic Places	13
	National Historic Landmark	1
Cheatham	National Register of Historic Places	8
	National Historic Landmark	1
Chester	National Register of Historic Places	3
Claiborne	National Register of Historic Places	12
Clay	National Register of Historic Places	2
Cocke	National Register of Historic Places	15
Coffee	National Register of Historic Places	15
Cumberland	National Register of Historic Places	8
Davidson	National Register of Historic Places	197
	National Historic Landmark	8
Decatur	National Register of Historic Places	5
DeKalb	National Register of Historic Places	5
Dickson	National Register of Historic Places	23
Fentress	National Register of Historic Places	12
	National Historic Landmark	1
Franklin	National Register of Historic Places	21
Giles	National Register of Historic Places	33
Grainger	National Register of Historic Places	10
Greene	National Register of Historic Places	17
Grundy	National Register of Historic Places	22
Hamblen	National Register of Historic Places	13
Hamilton	National Register of Historic Places	107
	National Historic Landmark	2
Hancock	National Register of Historic Places	2
Hardin	National Register of Historic Places	9
	National Historic Landmark	1
Hawkins	National Register of Historic Places	12
Henderson	National Register of Historic Places	5

County	Type	Number
Henry	National Register of Historic Places	14
Hickman	National Register of Historic Places	11
Houston	National Register of Historic Places	3
Humphreys	National Register of Historic Places	10
Jackson	National Register of Historic Places	6
Jefferson	National Register of Historic Places	13
Johnson	National Register of Historic Places	7
Knox	National Register of Historic Places	115
	National Historic Landmark	1
Lawrence	National Register of Historic Places	15
Lewis	National Register of Historic Places	7
Lincoln	National Register of Historic Places	16
Loudon	National Register of Historic Places	24
Macon	National Register of Historic Places	7
Marion	National Register of Historic Places	18
Marshall	National Register of Historic Places	23
Maury	National Register of Historic Places	69
	National Historic Landmark	2
McMinn	National Register of Historic Places	19
McNairy	National Register of Historic Places	4
Meigs	National Register of Historic Places	37
Monroe	National Register of Historic Places	19
	National Historic Landmark	1
Montgomery	National Register of Historic Places	53
Moore	National Register of Historic Places	6
Morgan	National Register of Historic Places	5
Overton	National Register of Historic Places	7
Perry	National Register of Historic Places	6
Pickett	National Register of Historic Places	3
Polk	National Register of Historic Places	18
Putnam	National Register of Historic Places	15
Rhea	National Register of Historic Places	8
	National Historic Landmark	1
Roane	National Register of Historic Places	20
	National Historic Landmark	1
Robertson	National Register of Historic Places	28
Rutherford	National Register of Historic Places	47
Scott	National Register of Historic Places	6
Sequatchie	National Register of Historic Places	5
Sevier	National Register of Historic Places	38
Smith	National Register of Historic Places	13
Stewart	National Register of Historic Places	16
Sullivan	National Register of Historic Places	46

County	Type	Number
	National Historic Landmark	1
Sumner	National Register of Historic Places	38
	National Historic Landmark	2
Trousdale	National Register of Historic Places	7
Unicoi	National Register of Historic Places	4
Union	National Register of Historic Places	7
Van Buren	National Register of Historic Places	4
Warren	National Register of Historic Places	23
Washington	National Register of Historic Places	37
	National Historic Landmark	1
Wayne	National Register of Historic Places	10
White	National Register of Historic Places	12
Williamson	National Register of Historic Places	134
	National Historic Landmark	2
Wilson	National Register of Historic Places	24

West Virginia

The portion of West Virginia within LRD's civil works boundary has over 700 archaeological sites, properties, and districts listed on the NRHP (Wikipedia, 2022i). Of the over 700 NRHPs in West Virginia, 15 of those are NHLs (NPS, 2022). For the number of NRHPs and NHLs per County within the state, refer to Table A-28.

Table A-28. Number of NRHPs and NHLs in West Virginia counties within LRD's civil works boundary.

County	Type	Number
Barbour	National Register of Historic Places	11
Boone	National Register of Historic Places	4
Braxton	National Register of Historic Places	10
Brooke	National Register of Historic Places	24
	National Historic Landmark	2
Cabell	National Register of Historic Places	39
	National Historic Landmark	1
Calhoun	National Register of Historic Places	1
Clay	National Register of Historic Places	1
Doddridge	National Register of Historic Places	9
Fayette	National Register of Historic Places	28
Gilmer	National Register of Historic Places	10
Greenbrier	National Register of Historic Places	44
	National Historic Landmark	1
Hancock	National Register of Historic Places	11
Harrison	National Register of Historic Places	21
Jackson	National Register of Historic Places	10

County	Type	Number
Kanawha	National Register of Historic Places	86
	National Historic Landmark	1
Lewis	National Register of Historic Places	13
	National Historic Landmark	1
Lincoln	National Register of Historic Places	2
Logan	National Register of Historic Places	4
Marion	National Register of Historic Places	22
Marshall	National Register of Historic Places	12
	National Historic Landmark	1
Mason	National Register of Historic Places	12
McDowell	National Register of Historic Places	17
Mercer	National Register of Historic Places	18
Mingo	National Register of Historic Places	8
	National Historic Landmark	1
Monongalia	National Register of Historic Places	44
	National Historic Landmark	1
Monroe	National Register of Historic Places	25
Nicholas	National Register of Historic Places	13
Ohio	National Register of Historic Places	51
	National Historic Landmark	2
Pleasants	National Register of Historic Places	2
Pocahontas	National Register of Historic Places	22
	National Historic Landmark	1
Preston	National Register of Historic Places	21
	National Historic Landmark	1
Putnam	National Register of Historic Places	6
Raleigh	National Register of Historic Places	9
Randolph	National Register of Historic Places	36
	National Historic Landmark	1
Ritchie	National Register of Historic Places	6
Roane	National Register of Historic Places	6
Summers	National Register of Historic Places	8
Taylor	National Register of Historic Places	6
	National Historic Landmark	1
Tucker	National Register of Historic Places	10
Tyler	National Register of Historic Places	10
Upshur	National Register of Historic Places	7
Wayne	National Register of Historic Places	6
Webster	National Register of Historic Places	7
Wetzel	National Register of Historic Places	4
Wirt	National Register of Historic Places	6
Wood	National Register of Historic Places	47
Wyoming	National Register of Historic Places	4

Wisconsin

The portion of Wisconsin within LRD's civil works boundary has over 1,400 archaeological sites, properties, and districts listed on the NRHP (Wikipedia, 2022j). Of the over 1,400 NRHPs in Wisconsin, 19 of those are NHLs (NPS, 2022). For the number of NRHPs and NHLs per County within the state, refer to Table A-29.

Table A-29. Number of NRHPs and NHLs in Wisconsin counties within LRD's civil works boundary.

County	Type	Number
Adams	National Register of Historic Places	3
Ashland	National Register of Historic Places	41
Bayfield	National Register of Historic Places	26
Brown	National Register of Historic Places	61
Calumet	National Register of Historic Places	10
Dodge	National Register of Historic Places	37
Door	National Register of Historic Places	73
	National Historic Landmark	1
Douglas	National Register of Historic Places	19
Florence	National Register of Historic Places	7
Fond du Lac	National Register of Historic Places	50
	National Historic Landmark	1
Forest	National Register of Historic Places	10
Green Lake	National Register of Historic Places	16
Iron	National Register of Historic Places	5
Jefferson	National Register of Historic Places	58
	National Historic Landmark	1
Kenosha	National Register of Historic Places	29
Kewaunee	National Register of Historic Places	12
Langlade	National Register of Historic Places	5
Manitowoc	National Register of Historic Places	37
	National Historic Landmark	1
Marathon	National Register of Historic Places	32
Marinette	National Register of Historic Places	12
Marquette	National Register of Historic Places	6
	National Historic Landmark	1
Menominee	National Register of Historic Places	1
Milwaukee	National Register of Historic Places	279
	National Historic Landmark	10
Oconto	National Register of Historic Places	26
	National Historic Landmark	1
Oneida	National Register of Historic Places	24
Outagamie	National Register of Historic Places	50
Ozaukee	National Register of Historic Places	41

County	Type	Number
Portage	National Register of Historic Places	20
Racine	National Register of Historic Places	57
	National Historic Landmark	2
Shawano	National Register of Historic Places	6
Sheboygan	National Register of Historic Places	61
Vilas	National Register of Historic Places	18
Walworth	National Register of Historic Places	49
Washington	National Register of Historic Places	29
Waukesha	National Register of Historic Places	153
	National Historic Landmark	1
Waupaca	National Register of Historic Places	25
Waushara	National Register of Historic Places	3
Winnebago	National Register of Historic Places	92

3.3.13 FARMLAND AND AGRICULTURE

The Farmland Protection Policy Act (FPPA) of 1984 (7 U.S.C. 4201 *et seq.*) was instituted in order to “minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, and to assure that Federal programs are administered in a manner that, to the extent practicable, will be compatible with State, unit of local government, and private programs and policies to protect farmland.” However, federal permitting for activities on private or non-federal lands is not considered to be a federal program under the FPPA (7 C.F.R. 658.2). Most Section 408 requests are for activities on private or non-federal land, excluding them from review under the FPPA. USACE would review any Section 408 requests for alterations to federal lands using the FPPA regulations (7 C.F.R. 658).

AFFECTED ENVIRONMENT

Illinois

In 2016, Illinois had a total of 27,381,000 acres in agriculture (FIC, 2022a). Of the total land in agriculture, cropland occupied 23,413,700 acres, pastureland occupied 2,198,700 acres, rangeland occupied zero acres, and woodland occupied 1,768,600 acres. Of the total acreage of land in agriculture in 2016, 23,084,100 acres were considered nationally significant agricultural land and 17,174,200 acres were considered best agricultural land. Nationally significant agricultural land is the land best-suited to long-term intensive crop production within the conterminous United States; and each state’s “best land” is approximately the better half of all agricultural land in each state (FIC, 2022a).

Indiana

In 2016, Indiana had a total of 16,362,500 acres in agriculture (FIC, 2022b). Of the total land in agriculture, cropland occupied 13,176,700 acres, pastureland occupied 1,660,800 acres, rangeland occupied zero acres, and woodland occupied 1,524,900 acres. Of the total acreage of land in agriculture in 2016, 12,026,000 acres were considered nationally significant agricultural land and 9,824,000 acres were considered best agricultural land (FIC, 2022b).

Kentucky

In 2016, Kentucky had a total of 12,286,800 acres in agriculture (FIC, 2022c). Of the total land in agriculture, cropland occupied 4,975,900 acres, pastureland occupied 4,067,300 acres, rangeland occupied zero acres, and woodland occupied 3,243,600 acres. Of the total acreage of land in agriculture in 2016, 5,690,500 acres were considered nationally significant agricultural land and 5,987,900 acres were considered best agricultural land (FIC, 2022c).

Michigan

In 2016, Michigan had a total of 11,740,400 acres in agriculture (FIC, 2022d). Of the total land in agriculture, cropland occupied 7,894,200 acres, pastureland occupied 2,138,300 acres, rangeland occupied zero acres, and woodland occupied 1,707,900 acres. Of the total acreage of land in agriculture in 2016, 7,785,900 were considered

nationally significant agricultural land and 6,147,800 acres were considered best agricultural land (FIC, 2022d).

New York

In 2016, New York had a total of 9,194,800 acres in agriculture (FIC, 2022e). Of the total land in agriculture, cropland occupied 4,550,900 acres, pastureland occupied 2,336,400 acres, rangeland occupied 1,300 acres, and woodland occupied 2,306,300 acres. Of the total acreage of land in agriculture in 2016, 4,923,800 acres were considered nationally significant agricultural land and 4,760,000 acres were considered best agricultural land (FIC, 2022e).

Ohio

In 2016, Ohio had a total of 15,279,800 acres in agriculture (FIC, 2022f). Of the total land in agriculture, cropland occupied 11,519,500 acres, pastureland occupied 1,847,300 acres, rangeland occupied 400 acres, and woodland occupied 1,912,600 acres. Of the total acreage of land in agriculture in 2016, 10,983,800 acres were considered nationally significant agricultural land and 8,268,600 acres were considered best agricultural land (FIC, 2022f).

Pennsylvania

In 2016, Pennsylvania had a total of 9,034,700 acres in agriculture (FIC, 2022g). Of the total land in agriculture, cropland occupied 4,907,100 acres, pastureland occupied 1,841,900 acres, rangeland occupied zero acres, and woodland occupied 2,285,700 acres. Of the total acreage of land in agriculture in 2016, 4,724,000 acres were considered nationally significant agricultural land and 4,688,500 acres were considered best agricultural land (FIC, 2022g).

Tennessee

In 2016, Tennessee had a total of 12,299,200 acres in agriculture (FIC, 2022h). Of the total land in agriculture, cropland occupied 4,536,000 acres, pastureland occupied 4,070,700 acres, rangeland occupied zero acres, and woodland occupied 3,692,500 acres. Of the total acreage of land in agriculture in 2016, 4,455,900 acres were considered nationally significant agricultural land and 6,403,800 acres were considered best agricultural land (FIC, 2022h).

West Virginia

In 2016, West Virginia had a total of 2,819,700 acres in agriculture (FIC, 2022i). Of the total land in agriculture, cropland occupied 539,500 acres, pastureland occupied 963,500 acres, rangeland occupied zero acres, and woodland occupied 1,316,700 acres. Of the total acreage of land in agriculture in 2016, 583,900 acres were considered nationally significant agricultural land and 1,381,400 acres were considered best agricultural land (FIC, 2022i).

Wisconsin

In 2016, Wisconsin had a total of 14,996,300 acres in agriculture (FIC, 2022j). Of the total land in agriculture, cropland occupied 9,762,700 acres, pastureland occupied

2,790,800 acres, rangeland occupied zero acres, and woodland occupied 2,442,900 acres. Of the total acreage of land in agriculture in 2016, 9,106,600 acres were considered nationally significant agricultural land and 7,451,700 acres were considered best agricultural land (FIC, 2022j).

3.3.14 TRANSPORTATION AND TRAFFIC

Federal projects in urban areas oftentimes have major highways bordering them, bridges crossing over them, and even highways located on them. These federal projects may see large volumes of traffic and may even play a key role in local or regional transportation, particularly the projects that have a highway located on them. Projects that are in rural, agricultural areas may have agricultural access roads located near them and may be used by farm traffic.

AFFECTED ENVIRONMENT

Illinois

Within Illinois there are 2,185 interstate miles, making Illinois the third ranking state in the U.S. (ILDOT, n.d.a). The state includes portions of coast-to-coast interstates I-80 and I-90, along with I-70 that extends from the east coast to Utah. These major corridors are joined by multiple north-south corridors including I-39, I-55, and I-57 and additional east-west corridors such as I-24, I-64, and I-74. Besides interstates, there are 15,969 miles of state highways and 7,847 bridges making the interstate routes accessible across the entire state. Illinois is also home to seven of the 150 nationally designated scenic byways (ILDOT, n.d.a).

Illinois has a comprehensive rail network consisting of approximately 9,982 miles of railroad tracks, 7,792 of which are operated by Class I railroads – primarily Burlington Northern Santa Fe (BNSF) Railway and the Union Pacific Railroad (UP) (ILDOT, n.d.b). Class I railroads are large freight companies, Class II and Class III are small regional railroad companies. The remaining 2,190 miles of track are operated by Class III short line or regional railroads. A total of 41 railroads currently operate in Illinois. They range in size from a shore one-mile interstate carrier to larger railroads extending from Illinois to the West and East Coasts, Gulf of Mexico, Canada, and Mexico. Seven are freight (class I) carriers and 34 are regional, local, switching, and terminal railroads. In 2011, Illinois ranked first in the nation in terms of rail freight volume at 490.4 million tons. Illinois also has four intercity passenger rail corridors that make connections to 32 Amtrak station across the state. Amtrak offers travelers 14 station that quickly connect with bus service, two that connect with ferry service, and six that connect with intercity bus service (ILDOT, n.d.b).

Illinois has approximately 107 public/private airports with over 4,800 registered aircraft (ILDOT, n.d.c). Across the state, there are over 750 aviation facilities, including heliports, balloon, glider and ultra-light landing facilities, and grass landing strips. In Fiscal Year 2013, nearly 2 million aircrafts took off or landed at Illinois airports that have traffic control towers and nearly 42 million passengers boarded commercial flights across the state. Chicago's O'Hare International Airport consistently ranks among the

top 10 in North America and in the top 25 of the world in terms of its annual air cargo, with a total of 1.5 million tons (ILDOT, n.d.c).

Illinois has 1,095 miles of navigable waterways that either border or pass through the state (ILDOT, n.d.d). These waterways provide the state with connections to both the Atlantic Ocean (through the St. Lawrence Seaway and the Great Lakes) and the Gulf of Mexico (via the Mississippi). The port of Chicago offers terminals that handle ocean and lake vessels as well as barges. Owned by the Illinois International Port District, the Lake Michigan port is served by 12 railroads and has direct access to Interstates 90 and 94. There are an additional 18 port districts established by statute in the state. The Illinois Department of Transportation owns and operates two vehicle ferries that cross the Illinois River (ILDOT, n.d.d).

Across Illinois there are 63 public transit operators/providers (ILDOT, n.d.e). Ninety-six of the state's 102 counties offer some type of transit service to their communities. The Chicago Transit Authority (CTA) operates the second largest public transportation system in the nation, covering the city of Chicago and nearby suburbs, and transporting over 545 million riders a year. The CTA system is composed of 140 bus routes and 242 miles of rapid transit rail track. The six-county Chicago region is also served by Metra, the commuter rail agency in Northeastern Illinois, with 11 lines and 241 stations and Pace, the suburban bus agency (ILDOT, n.d.e).

Indiana

Indiana has 97,553 public roadway miles of which 11,175 miles are state highways. The state also has 19,017 road bridges of which 5,484 are state highway bridges. Major interstates traversing the state include I-80, I-94, I-69, I-65, I-74, I-70, and I-64.

Indiana has 4,075 miles of railroad (INDOT, 2018). The state has been ranked as 4th in the number of freight railroads and 6th in tonnage carriers when compared to other states across the United States (INDOT, 2021a). Regarding the types of railroads within the state, Indiana has three Class I Freight Railroads, one Class II Freight Railroad, 38 Class III Freight Railroads, one Intercity Passenger Railroad, one Commuter Railroad, and five Tourist Railroads (INDOT, 2021a).

Indiana is home to 118 public-use aviation facilities, of which 69 have been identified as having state significance (INDOT, 2012). Primary airports in the state include Gary/Chicago International, South Bend Regional, Fort Wayne International, Indianapolis International, and Evansville Regional. Primary airports are those airports that support and sustain operation by commercial service carriers. General aviation public-use airports in the state include Porter County Municipal, Elkhart Municipal, Goshen Municipal, Warsaw Municipal, DeKalb County Municipal, Purdue University, Marion Municipal, Delaware County, Indianapolis Executive, Indianapolis Metro, Indianapolis Regional, Eagle Creek, Columbus Municipal, Monroe County, Clark Regional, and Huntingburg. Regional general aviation airports support regional economies by connecting communities to statewide and interstate markets (INDOT, 2012).

Indiana is home to three public ports (i.e., Burns Harbor, Mount Vernon, and Jeffersonville) as well as 67 private water terminals. The state also has 350 inland waterway miles (INDOT, 2018). The three public ports can link vessels to the Atlantic Ocean and the Gulf of Mexico.

Indiana maintains a public transit network of 63 urban and rural public transit systems (INDOT, 2021b). The largest transit systems within the state are in Bloomington, Evansville, Fort Wayne, Indianapolis, Lafayette, Muncie, and South Bend. These seven transit systems in the state provide service to over 1.78 million residents, approximately 27 percent of the state's population (INDOT, 2021b).

Kentucky

Kentucky has approximately 80,006 miles of public roads within the state (KYTC, 2021a). Interstates traversing the state include I-24, I-64, I-65, I-69, I-71, and I-75 (KYTC, 2021b). The state also has 14,017 bridges of which 9,038 are owned and maintained by the state and 5,083 are locally owned and maintained (KYTC, 2017).

Kentucky has 3,191 miles of railroad within the state as of 2017 (KYTC, 2017). There are 16 freight railroads, four recreational railroads, and two passenger railroads. Class I railroads that operate in the state include BNSF, Canadian National, Canadian Pacific, CSX Transportation, Kansas City Southern, Norfolk Southern, and Union Pacific (KYTC, 2017).

In terms of airports, Kentucky is home to 60 airports (KYTC, 2017). Of the total, six airports are for commercial planes, 50 are for general aviation, and four are for other uses (KYTC, 2017). Primary National Plan of Integrated Airport Systems airports within the state include Cincinnati Northern Kentucky International Airport, Louisville International Standiford Field, Blue Grass Airport, Owensboro – Daviess County Airport, and Barkley Regional Airport (KYTC, 2017).

Kentucky has 1,983 miles of navigable waterways (KYTC, 2017). Primary navigable waterways located within the state include Big Sandy River, Cumberland River, Green River, Kentucky River, Licking River, Ohio River, and Tennessee River. Marine corridors within the state include M-65 on the Tennessee River and M-70 on the Ohio River. In addition to navigable waterways, there are also 12 public river ports, over 100 private river ports, and 10 ferry boats that operate in the state (KYTC, 2017).

Lastly, within Kentucky there are 34 public transportation systems of which nine are in urban areas of the state and 25 are located within rural areas (KYTC, 2017).

Michigan

Michigan has a total of 120,256 miles of paved roadway (9,669 route miles of state trunkline; 89,444 route miles of county roads; and 21,198 route miles of city and village streets) (MIDOT, 2022a). In addition, there are 10,754 roadway bridges in Michigan. Of these, 4,411 are on the state highway system and 6,343 are located on county roads or

city streets (MIDOT, 2022a). Interstates that traverse Michigan include I-69, I-75, I-94, and I-96.

Michigan's rail system has approximately 3,600 miles of rail corridors, operated by 29 railroads (MIDOT, 2022b). Four of the seven Class I railroads also operate in Michigan: the Canadian National Railway, the CSX Transportation, and the Norfolk Southern Railway. This system also supports three intercity passenger-rail routes discussed under public transportation (MIDOT, 2022b).

Michigan has 230 airports statewide, including 19 commercial airports and four state-owned airports (MIDOT, 2021). Primary airports offering commercial flights in Michigan include Detroit Metropolitan Wayne County Airport, Gerald R. Ford International Airport, Bishop International Airport, Cherry Capital Airport, Lansing Capital City Airport, Kalamazoo/Battle Creek Airport, Midland International Airport, Sawyer International Airport, Pellston Regional Airport, Houghton County Memorial Airport, Chippewa County International Airport, Muskegon County Airport, Delta County Airport, Iron Mountain Airport, and Alpena County Regional Airport. Nationwide, the Detroit Metropolitan Airport was ranked 18th in total passengers for 2019 (MIDOT, 2021).

Michigan has more than 36,000 miles of navigable waterways and 88 ports throughout the state (MCMP, 2010). Of the total number of ports, numerous functions are service by some of them. Thirty-seven ports have cargo capabilities meaning they have deep-water harbors that host cargo shipping vessels. Twenty-four ports provide ferry services that accommodate passengers, vehicles, package freight or a combination of those. Sixty ports provide commercial functions such as vessel construction, maintenance, repair; commercial fishing; marine contractors; salvage, dredging and towing service; charters, and other excursion services; and land-based support operations. Lastly, 78 of the 88 total ports in the state provide recreational functions (MCMP, 2010).

Regarding public transit, Michigan has 81 transit agencies ranging from city and county-level transit systems to multi-county authorities and one fixed guided-way system (MIDOT, 2021). Michigan also provides support for 37 specialized transportation service providers, the Michigan van pool program, three intercity bus carriers, and four marine passenger systems. There are also three intercity Amtrak passenger routes that cover 520 miles of the state; they include the Wolverine, the Blue Water, and the Pere Marquette. There are 22 active passenger stations in Michigan, 12 of which are multi-modal, serving passenger rail as well as intercity bus and transit. The Amtrak Thruway bus service provides connections between Amtrak routes and communities around Michigan (MIDOT, 2021).

New York

New York has approximately 240,000 miles of roadways including 17,456 bridges (American Society of Civil Engineers). Interstates that traverse the state include I-78, I-81, I-84, I-86, I-90, I-95, and I-99. Regarding the over 17,000 bridges within the state, including seven international bridges that provide trade routes between Canada and the U.S. in upstate New York (American Society of Civil Engineers).

New York is home to about 3,500 miles of railroad track (Burns, 2022a). Four major Class I railroads operate within New York – CSX, Canadian National, CP, and Northern Suffolk – as well as about 40 smaller railroads (NYDOT, n.d.). Major freight facilities are in Buffalo and Syracuse (NYDOT, n.d.). Amtrak serves the Northeast Corridor and operates several passenger trains in, around, and through New York State. Some of these services include the Lake Shore Limited between Boston-New York City-Chicago, Empire Service between New York City-Albany-Niagra, and the Maple Leaf to Toronto (NYDOT, n.d.).

Regarding aviation, public airports, 18 larger commercial service airports, six seaplane bases, and five heliports (American Society of Civil Engineers, 2015). Commercial airports within the state include Buffalo Niagara International, Greater Rochester International, Syracuse Hancock International, Ithaca Tompkins Regional, Chautauqua County/Jamestown, Watertown International, Adirondack Regional, Massena International/Richards Field, and Ogdensburg International (American Society of Civil Engineers, 2015).

New York State has approximately 500 miles of navigable waterways allowing connection between the Atlantic Ocean and the Great Lakes (NPS, 2020). Major ports in New York include Port of Buffalo, Port of Rochester, Sodus-Point Harbor, Port of Oswego, Port of Cape Vincent, Port of Clayton, Port of Alexandria Bay, Port of Ogdensburg (World Port Source, n.d.).

The public transportation network includes over 100 transit systems across the state providing over 550,000 people with essential service in urban, suburban, and rural areas (American Society of Civil Engineers, 2015).

Ohio

Ohio's total road network is more than 121,000 miles and includes 44,047 bridges (OHDOT, n.d.a). Interstates that traverse the state include I-75, I-90, I-80, I-70, I-71, I-77, and I-76 (OHDOT, n.d.a).

In terms of railroads, Ohio has three Class I railroads, one regional railroad, and 34 local railroads (OHDOT, n.d.b). The three Class I railroads that operate in Ohio include Norfolk Southern Corporation, Canadian National, and CSX. Ohio also 4,989 miles of railroad track upon which railroads operate (OHDOT, n.d.b).

Ohio has 104 publicly owned airports and eight commercial airports (OHDOT, n.d.c). Commercial airports in Ohio include Cleveland-Hopkins International Airport, John Glenn Columbus International Airport, Dayton International Airport, Akron-Canton Regional Airport, Rickenbacker International Airport, Toledo Express Airport, Youngstown-Warren Regional Airport, and Cincinnati Municipal Lunken Airport.

Ohio has 736 miles of navigable waterways—265 miles along Lake Erie, 451 miles along the Ohio River, 11 miles along the Maumee River, and 9 miles along the Cuyahoga River (OHDOT, n.d.d). In addition, Ohio has eight principal ports on Lake

Erie, nine locks and dams on the Ohio portion of the Ohio River, and 162 commercial docks. Of Lake Erie's eight ports, the Ports of Cleveland and Toledo are the two most significant (OHDOT, n.d.d).

Ohio's public transit operations include fixed route transit systems, demand response transit systems, specialized transportation program agencies, and mobility management projects (OHDOT, n.d.e). The state has 61 public transit systems of which 27 are in urban areas and 34 are in rural areas. In addition, Ohio has 86 intercity bus stops. The Columbus Greyhound Bus Station is the largest transfer location, serving four intercity bus operations with 21 route options (OHDOT, n.d.e).

Pennsylvania

Pennsylvania has a total of 120,852 miles of roadway of which 72,335 miles are within rural areas and 48,517 miles are within urban areas (PDOT, 2021). Interstates extending through the state include I-70, I-76, I-78, I-79, I-80, I-90, and I-99 (PDOT, 2021).

Regarding railroads, Pennsylvania ranks first in the country in the number of operating railroads (i.e., 65) (Burns, 2022b). The primary Class I railroads that operate in the state are CSX and Norfolk Southern. Other important regional and short line railroads include New York, Susquehanna & Western; Wheeling & Lake Erie; Morristown & Erie; Middletown & Hummelstown; New Hope & Ivyland; Reading & Northern; Nittany & Bald Eagle Railroad; Stourbridge Railroad; and Delaware-Lackawanna. These railroads operate on more than 5,600 miles of track within the state (Burns, 2022b).

Pennsylvania has 122 public-use aviation facilities (e.g., airports, heliports, and seaplane bases) within the state (PDOT, 2022a). The state also supports 230 private-use airports and 284 private-use heliports (PDOT, 2022a). Commercial service airports within the state include Altoona-Blair County Airport, Arnold Palmer Regional Airport, Bradford Regional Airport, Dubois Regional Airport, Erie International Airport, John Murtha Johnstown-Cambria County Airport, Pittsburgh International Airport, and Venango Regional Airport (PDOT, 2022b).

Pennsylvania has three major ports in the state, two of which are located within LRD civil works boundary: Port of Pittsburgh and Port of Erie (Pennsylvania Department of Community and Economic Development, 2022). The Port of Pittsburgh is the second busiest inland port in the United States and ultimately provides access to the Gulf of Mexico; while the Port of Erie can ultimately provide access to the Atlantic Ocean (Pennsylvania Department of Community and Economic Development, 2022). In terms of public transit, public transportation is available in every county in Pennsylvania. Service includes fixed-route transit service in Pittsburgh, 21 small urban areas, and 22 rural areas; forty-four public transit systems offering share-ride services in all Pennsylvania counties; 13 intercity bus routes; and Pennsylvanian Amtrak service running from Pittsburgh to Philadelphia; and 66 counties with rural transportation for persons with disabilities (PDOT, 2022c).

Tennessee

Tennessee has 96,187 total miles of highway and 20,026 bridges including 8,443 that are state owned and 11,547 that are locally owned (TNDOT, n.d.). Primary interstates that traverse the state are I-24, I-26, I-40, I-55, I-65, I-75, and I-81.

Tennessee has six Class I rail lines on 2,138 route miles of railroad track (TNDOT, n.d.). The six Class I railroads that operate in the state are CSX, Norfolk Southern, Kansas City Southern Railway, Union Pacific, BNSF, and Canadian National. In addition, the state has 23 short line railroads on 817 miles of mainline railroad track (TNDOT, n.d.). Some of the state's short lines include Caney Fork & Western Railroad, Conecuh Valley Railroad, East Tennessee Railway, Knoxville & Holston River Railroad, KWT Railway, Nashville & Eastern Railroad, Nashville & Western Railroad, Sequatchie Valley Railroad, Tennken Railroad, Tennessee Southern Railroad, Walking Horse & Eastern Railroad, West Tennessee Railroad, Wiregrass Central Railroad.

Tennessee has 71 general aviation and six commercial airports (TNDOT, n.d.). The commercial airports in the state within LRD's civil works boundary are Nashville International Airport, McGhee Tyson Airport, Lovell Field Airport, and Tri-Cities Airport.

Regarding navigable waterways, the state has 976 main channel miles of commercially navigable waterways and two ferries (TNDOT, n.d.). Major ports in Tennessee include Port of New Johnsonville, Port of Nashville, Port of Chattanooga, and Port of Knoxville.

In terms of public transit, the state has 28 transit systems serving all 95 counties: four large urban systems, eight small urban systems, 10 rural systems, one regional commuter transit system in Middle Tennessee, and local transit in five towns (TNDOT, n.d.).

West Virginia

West Virginia has approximately 38,850 miles of roads and 7,269 bridges maintained by the state (WVDOT, n.d.a). Interstates that traverse the state include I-64, I-68, I-70, I-77, I-79, and I-81.

The West Virginia railroad system is comprised of two Class I railroads and 11 short line or regional railroads (WVDOT, n.d.b). The system contains 2,401 route miles of railroad track. The two Class I railroads that operate in the state, CSX Transportation and Norfolk Southern, operate on a combined total of 1,914 miles of track. Short lines and regional railroads make up the remaining 487 route miles of track. Short line and regional railroads include Appalachian & Ohio Railroad, Beech Mountain Railroad, CSXT, Elk River Railroad, Kanawha River Railroad, Little Kanawha River Rail, Norfolk Southern, RJ Corman Railroad Company/West Virginia Line, South Branch Valley Railroad, Vaughan Railroad Company, West Virginia Central Railroad, Wheeling & Lake Erie Railroad, Winchester & Western Railroad, and Winifrede Railroad Company (WVDOT, n.d.b).

West Virginia has 34 public-use airports including seven commercial service airports (WVDOT, n.d.c). The commercial airports in the state are Yeager Airport, Tri-State/Milton J. Ferguson Field Airport, North Central West Virginia Airport, Greenbrier Valley Airport, Morgantown Municipal-Walter L. Bill Hart Field Airport, and Mid-Ohio Valley Regional Airport.

West Virginia has 680 miles of navigable inland waterways (McCoy, n.d.). The three main river systems in the state are the Ohio River, Monongahela River, and Kanawha River. There is also one public port within the state—The West Virginia Public Port Authority (McCoy, n.d.).

In terms of public transportation, West Virginia has 18 public transit agencies serving 32 counties (West Virginia Public Transportation Association, n.d.). Services are provided to citizens on fixed routes, deviated fixed routes, demand response, and non-emergency medical transportation services (West Virginia Public Transportation Association, n.d.).

Wisconsin

Wisconsin has 122,177 miles of highways and local roadways (WDOT, n.d.). Of the total miles of road, 11,769 miles are state and interstate highways while 102,936 miles are county, town, and municipal streets. In addition to roadways, the road system also includes 4,900 bridges. Interstates that traverse the state include I-39, I-43, I-90, and I-94.

The total rail network in Wisconsin include 3,500 miles of which 477 miles are publicly owned and operated primarily by Wisconsin and Southern Railroad Company. Two passenger rail lines and eight stations also serve the state. Amtrak provides passenger rail service on the Hiawatha and the Empire Builder lines.

Wisconsin's public-use airport system includes five types of airport facilities: 1) Air Carrier/Cargo facilities accommodate virtually all aircraft, including commercial jets and military transports; 2) Transport Corporate airports serve corporate jets, small passenger jets and cargo jet aircraft used for regional service; 3) General Utility airports serve small, general aviation aircraft typically used for business and charter flying and for personal reasons; 4) Basic Utility-A airports serve small aircraft used for business and charter flying; and 5) Basic Utility-B airports which serve the same type of planes as Basic Utility-A but can also accommodate heavier planes. There are 134 public-use airports in Wisconsin of which eight are classified as "Air Carrier/Air Cargo."

Wisconsin has 15 ports that handle millions of tons of international and domestic cargo each year. Many commodities ship through the ports including agricultural products, coal, iron ore, wood pulp, cement, and road salt. The 15 ports are Milwaukee, Green Bay, Marinette, Duluth-Superior, Marinette/Menominee, Manitowoc, Sheboygan, Ashland, Bayfield, Washburn, Port Washington, Sturgeon Bay, and Washington Island. International connections can be made through the St. Lawrence Seaway via the Great Lakes. In addition to commercial vessels, four passenger ferries, located within LRD's civil works boundary, provide almost year-round service in Wisconsin. Two ferries

provide access to and from Madeline Island and Washington Island. Lastly, two ferries provide service to and from Michigan across Lake Michigan (e.g., Lake Express Carferry and Lake Michigan Carferry).

Wisconsin's transit system includes local bus and paratransit, commuter bus, subsidized shared-ride taxi service and specialized transit. In all there are 71 public bus and shared-ride taxi systems with most transit trips occurring on Milwaukee's local bus systems. In addition to the above transit system, Wisconsin is also served by two fixed-guideway transit systems. Kenosha, Wisconsin has a 1.9-mile streetcar route while the Metra commuter rail serves communities between Kenosha and Chicago.

Appendix B – State Resource Agencies and Tribal Nations Notified for Scoping

Table B-1. State agencies notified.

Illinois			
Illinois Coastal Management Program	Illinois Department of Natural Resources, State Historic Preservation Office	Illinois Department of Natural Resources	Illinois Environmental Protection Agency
Indiana			
Indiana Department of Natural Resources, Lake Michigan Coastal Program	Indiana Department of Natural Resources, Division of Historic Preservation & Archaeology	Indiana Department of Natural Resources, Division of Fish and Wildlife	Indiana Department of Environmental Management
Kentucky			
Kentucky Department of Fish & Wildlife	Kentucky Department of Environmental Protection	Kentucky Heritage Council	Kentucky Division of Water
Michigan			
Michigan Department of Natural Resources	Michigan Department of Environment, Great Lakes, and Energy	Michigan State Historic Preservation Office	
New York			
New York State Department of Environmental Conservation	New York State Division of Fish, Wildlife, and Marine Resources	New York Coastal Management Program	New York State Historic Preservation Office
Ohio			
Ohio Department of Natural Resources, Division of Wildlife	Ohio Environmental Protection Agency	Ohio Coastal Management Program	Ohio State Historic Preservation Office
Pennsylvania			
Pennsylvania Game Commission	Pennsylvania Fish & Boat Commission	Pennsylvania Department of Environmental Protection, Coastal Resources Management Program	Pennsylvania Department of Environmental Protection, Division of Water Quality
Pennsylvania State Historic Preservation Office			

Tennessee			
Tennessee Wildlife Resources Agency	Tennessee Valley Authority	Tennessee Department of Environment & Conservation	Tennessee Historical Commission
West Virginia			
West Virginia Division of Natural Resources	West Virginia Department of Environmental Protection	West Virginia State Historic Preservation Office	
Wisconsin			
Wisconsin Coastal Management Program	Wisconsin Department of Natural Resources	Wisconsin Department of Natural Resources, Southeastern Region	Wisconsin Department of Natural Resources, Southern Region
Wisconsin Department of Natural Resources, Northeastern Region	Wisconsin Department of Natural Resources, Northern Region	Wisconsin Department of Natural Resources, Western Region	Wisconsin Historical Society

Table B-2. Tribal Nations notified.

Illinois			
Citizen Potawatomi Nation	Forest County Potawatomi Community of Wisconsin	Hannahville Indian Community	Kickapoo Tribe of Indians of the Kickapoo Reservation in Kansas
Kickapoo Tribe of Oklahoma	Little Traverse Bay Bands of Odawa Indians	Menominee Indian Tribe of Wisconsin	Miami Tribe of Oklahoma
Peoria Tribe of Indiana of Oklahoma	Prairie Band of Potawatomi Nation		
Indiana			
Citizen Potawatomi Nation	Delaware Nation	Delaware Tribe of Indians	Eastern Shawnee Tribe of Oklahoma
Forest County Potawatomi Community of Wisconsin	Hannahville Indian Community	Kickapoo Tribe of Indians	Little Traverse Bay Bands of Odawa Indians

Miami Tribe of Oklahoma	Osage Nation	Ottawa Tribe of Oklahoma	Peoria Tribe of Indians of Oklahoma
Pokagon Band of Potawatomi Indians	Prairie Band of Potawatomi Nation	Quapaw Tribe of Indians	Seneca-Cayuga Nation
Shawnee Tribe	Wyandotte Nation		
Kentucky			
Cherokee Nation	Chickasaw Nation	Choctaw Nation of Oklahoma	Delaware Nation
Eastern Band of Cherokee Indians	Eastern Shawnee Tribe of Oklahoma	Miami Tribe of Oklahoma	Muscogee (Creek) Nation
Osage Nation	Peoria Tribe of Indians of Oklahoma	Quapaw Tribe of Indians	Santee Sioux Nation
Seneca-Cayuga Nation			
Michigan			
Bad River Band of the Lake Superior Tribe of Chippewa Indians	Bay Mills Indian Community	Citizen Potawatomi Nation	Fond du Lac Band of the Minnesota Chippewa Tribe
Forest County Potawatomi Community	Grand Portage Band of the Minnesota Chippewa Tribe	Hannahville Indian Community	Ho-Chunk Nation of Wisconsin
Keweenaw Bay Indian Community	Lac Vieux Desert Band of Lake Superior Chippewa Indians	Lac du Flambeau Band of Lake Superior Chippewa Indians	Leech Lake Band of the Minnesota Chippewa Tribe
Little River Band of Ottawa Indians	Little Traverse Bay Bands of Odawa Indians	Match-e-be-nash-she-wish Band of Pottawatomi Indians	Menominee Indian Tribe
Miami Tribe of Oklahoma	Mille Lacs Band of Ojibwe	Minnesota Chippewa Tribe	Nottawaseppi Huron Band of the Potawatomi
Ottawa Tribe	Pokagon Band of Potawatomi Indians	Prairie Band of Potawatomi Nation	Prairie Island Indian Community
Red Cliff Band of Lake Superior Chippewa Indians	Saginaw Chippewa Indian Tribe	Sault Ste. Marie Tribe of Chippewa Indians	Seneca-Cayuga Nation
Sokaogon Chippewa Community	White Earth Band of the Minnesota Chippewa Tribe		

New York			
Cayuga Nation	Delaware Nation	Oneida Indian Nation	Oneida Tribe of Indians of Wisconsin
Onondaga Nation	Sac & Fox Tribe of the Mississippi in Iowa	Sac & Fox Nation of Missouri in Kansas and Nebraska	Sac & Fox Nation
Saint Regis Mohawk Tribe	Seneca-Cayuga Nation	Seneca Nation of Indians	Tonawanda Seneca Nation
Tuscarora Nation	Wyandotte Nation		
Ohio			
Absentee Shawnee Tribe	Bad River Band of Lake Superior Chippewa	Bay Mills Indian Community	Chippewa Cree Tribe
Citizen Potawatomi Nation	Delaware Nation	Delaware Tribe of Indians	Eastern Shawnee Tribe of Oklahoma
Forest County Potawatomi	Hannahville Indian Community	Keweenaw Bay Indian Community	Lac Courte Oreilles Band of Lake Superior Chippewa Indians
Little River Band of Ottawa Indians	Little Traverse Bay Bands of Odawa Indians	Match-e-be-nash-she-wish Band of Pottawatomi	Miami Tribe of Oklahoma
Nottawapeseipi Huron Band of the Potawatomi	Ottawa Tribe of Oklahoma	Pokagon Band of Potawatomi	Prairie Band Potawatomi Nation
Red Lake Band of Chippewa Indians	Seneca-Cayuga Nation	Seneca Nation of Indians	Shawnee Tribe
Sokaogon Chippewa Community	St. Croix Chippewa Indians of Wisconsin	Tonawanda Seneca Nation	Turtle Mountain Band of Chippewa Indians
Wyandotte Nation			
Pennsylvania			
Delaware Nation	Delaware Tribe of Indians	Seneca-Cayuga Nation	Seneca Nation of Indians
Tonawanda Seneca Nation	Wyandotte Nation		
Tennessee			
Alabama-Coushatta Tribe of Texas	Alabama-Quassarte Tribal Town	Catawba Indian Nation	Cherokee Nation
Chickasaw Nation	Choctaw Nation of Oklahoma	Coushatta Tribe of Louisiana	Eastern Band of Cherokee Indians

Eastern Shawnee Tribe of Oklahoma	Mississippi Band of Choctaw Indians	Muscogee (Creek) Nation	Quapaw Tribe of Indians
West Virginia			
Catawba Indian Nation	Cherokee Nation	Delaware Nation	Eastern Band of Cherokee Indians
Eastern Shawnee Tribe of Oklahoma	Monacan Indian Nation	Osage Nation	Seneca-Cayuga Nation
Tuscarora Nation			
Wisconsin			
Bad River Band of the Lake Superior Tribe of Chippewa Indians of the Bad River Reservation	Citizen Potawatomi Nation	Fond du Lac Band of the Minnesota Chippewa Tribe	Forest County Potawatomi Community of Wisconsin
Fort Belknap Indiana Community of the Fort Belknap Reservation of Montana	Grand Portage Band of the Minnesota Chippewa Tribe	Hannahville Indian Community	Ho-Chunk Nation of Wisconsin
Keweenaw Bay Indian Community, Michigan	Kickapoo Tribe of Oklahoma	Lac Courte Oreilles Band of Lake Superior Chippewa Indians of Wisconsin	Lac du Flambeau Band of Lake Superior Chippewa Indians
Lac Vieux Desert Band of Lake Superior Chippewa Indians of Michigan	Leech Lake Band of the Minnesota Chippewa Tribe	Little Traverse Bay Bands of Odawa Indians	Menominee Indian Tribe of Wisconsin
Miami Tribe of Oklahoma	Mille Lacs Band of Ojibwe	Minnesota Chippewa Tribe	Oneida Tribe of Indians of Wisconsin
Osage Nation	Ottawa Tribe of Oklahoma	Prairie Band Potawatomi Nation	Red Cliff Band of Lake Superior Chippewa Indians of Wisconsin
Sokaogon Chippewa Community	St. Croix Chippewa Indians	Stockbridge Munsee Community	White Earth Band of the Minnesota Chippewa Tribe
Winnebago Tribe of Nebraska			

Appendix C – Scoping Public Notice and Public Responses



**US Army Corps
Of Engineers**
Great Lakes and
Ohio River Division

Public Notice

Comment Period Begins:
March 14, 2022
Comment Period Ends:
April 13, 2022

PROPOSED REGIONAL CATEGORICAL PERMISSION PROGRAM FOR SECTION 408 REQUESTS

AUTHORITY:

The authority to grant permission for temporary or permanent use, occupation or alteration of any U.S. Army Corps of Engineers (USACE) civil works project is contained in Section 14 of the Rivers and Harbors Act of 1899, as amended, codified at 33 U.S.C. 408 ("Section 408"). Section 408 authorizes the Secretary of the Army, on the recommendation of the Chief of Engineers, to grant permission for the alteration or occupation or use of a USACE project if the Secretary determines that the activity will not be injurious to the public interest and will not impair the usefulness of the project. The Secretary of the Army's authority under Section 408 has been delegated to the USACE, Chief of Engineers. The USACE Chief of Engineers has further delegated the authority to the USACE, Directorate of Civil Works, Division and District Commanders, and supervisory Division Chiefs depending upon the nature of the activity.

INTRODUCTION: There are numerous USACE civil works projects within the boundaries of the Great Lakes and Ohio River Division (LRD). These projects have been federally authorized by the U.S. Congress and then turned over to a non-federal sponsor to operate and maintain. Projects may include flood risk reduction projects, ecosystem restoration projects, navigation projects, etc. Each year the Districts within LRD receive requests through a non-federal sponsor from private, public, tribal, and other federal entities (requesters) to alter USACE federally authorized civil works projects ("USACE projects") pursuant to Section 408.

When a District within LRD receives a request to alter a USACE project, the district follows a review process outlined by Engineering Circular (EC) 1165-2-220, Policy and Procedural Guidance for Processing Requests to Alter US Army Corps of Engineers Civil Works Project Pursuant to 33 USC 408 (Attachment 1). To simplify the review process, EC 1165-2-220 states that USACE districts can develop categorical permissions to cover potential alterations that are similar in nature and that have similar impacts.

Districts within LRD receive numerous Section 408 requests for minor alterations to USACE projects each year; a total of 129 requests were received in 2020 and 174 requests were received in 2021. The majority of these requests are for relatively minor alterations. Many of the project descriptions for proposed alterations are similar and the effects tend to be minor or negligible. However, the current review and approval process is time intensive and can take months. The need for the proposed action is to increase

efficiencies in the review process of Section 408 requests for minor alterations to USACE federal projects.

Districts within LRD propose to implement a categorical permission in order to create efficiencies in the review process for Section 408 requests for minor alterations to USACE projects within the civil works boundaries LRD.

ALTERNATIVES: The decision options are: 1) No Action Alternative: continue with the current process of reviewing and making decisions on Section 408 requests individually, as described in EC 1165-2-220, or 2) Preferred Alternative: approve a categorical permission to cover potential alterations that are similar in nature and have similar impacts.

SCOPE OF THE DECISION: LRD's area of responsibility covers a wide geographic area and includes all or portions of the following states: Alabama, Georgia, Illinois, Indiana, Kentucky, Maryland, Michigan, Minnesota, Mississippi, New York, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and Wisconsin (Attachment 2). The geographic scope of the decision to be made is limited to USACE federal projects within the following states in LRD's boundaries: Illinois, Indiana, Kentucky, Michigan, New York, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and Wisconsin. The decision does not apply to civil works projects within the following states in LRD's boundary — Alabama, Georgia, North Carolina, Maryland, Minnesota, Mississippi, and Virginia — or to any other USACE Division. The decision only applies to federally authorized levees, channel modification projects, ecosystem restoration projects, dredging projects, and navigation projects. The temporal scope of the decision to be made is for five years; after five years the decision would be reevaluated and may be renewed or revised, if appropriate.

PROPOSED CATEGORICAL PERMISSION: The proposed categorical permission would encompass a list of potential alterations that are similar in nature and have similar and minor impacts. If an environmental assessment (EA) or environmental impact statement (EIS) is needed for the National Environmental Policy Act (NEPA) documentation of a proposed alteration, then the proposed categorical permission would not apply and the Section 408 request would be reviewed and a decision made following the current process described in EC 1165-2-220.

In order for the categorical permission to apply, a Section 408 request must incorporate standard mitigation measures and best management practices into the project plan. Projects would be required to minimize disturbance to surrounding vegetation, return disturbed areas to pre-project conditions, remove spoils, control storm water runoff and erosion, and not to exceed federal *de minimis* levels of criteria air pollutants or precursors.

The proposed categorical permission would encompass the following types of alterations:

1. **Utility Line Activities:** Alterations under this category are activities (including necessary for temporary access) related to the installation, replacement, maintenance, or abandonment of utility lines (including electric lines, telecommunication lines, lines for water and other substances, and excluding oil and natural gas pipelines) such as:
 - **Overhead pipes and cables** (including stabilizing guy wires and anchors and other related work);
 - **Underground pipes and cables** (including pipes, cables, and conduits installed via directional drilling, boring, tunneling, cut-and-fill, open trench, water jet, and similar techniques); and
 - **Related utility appurtenances** (including headwalls, pipe slip-lining, corrosion prevention devices, backflow prevention devices, outfalls, intakes, fish screens, etc.).
2. **Vertical Drilling Activities:** Alterations under this category include activities related to the installation, development, maintenance, and abandonment of vertical features such as:
 - **Geophysical or geotechnical investigations and borings;**
 - **Measurement devices** (including monitoring wells, piezometers, etc.); and
 - **Foundations** (including piles, caissons, drilled shafts, and footings).
3. **Development Activities:** Alterations under this category include activities related to residential, commercial, or institutional developments with a total project land disturbance of one acre or less, such as:
 - **Simple buildings** (including appurtenances such as dumpster/trash areas, decks, patios, storage containers, and storage sites);
 - **Decorative, recreational, or aesthetic features** (including shelters, sheds, outbuildings, signage/billboards, lighting, pools, small ponds, fire pits, sculptures, fencing, cattle crossings, and simple retaining walls);
 - **Access structures** (including stairs, ramps, walkways, gangways, landings, and pads);
 - **Landscaping activities** (including trees, bushes, and other vegetation, and soil grading, fill, and other structural geo-forming);
 - **Stormwater control features** (including catch basins, energy dissipation measures, and other best management practices); and
 - **Related temporary construction activities** (including staging areas, borrow areas, stockpiles, access roads).
4. **Linear Transportation Activities:** Alterations under this category include activities related to the construction, maintenance, modification, or removal of linear transportation projects, such as:
 - **Simple roads and driveways** (including crossings, culverts, roadway markings, guard railings, ramps, noise barriers, shoulders, sidewalks);
 - **Simple bridges** (including pedestrian, recreational, vehicular, railroad); and
 - **Recreational trails** (including pedestrian, bicycle, other off-road vehicles).

5. **Water-Based Activities:** Alterations under this category include activities related to the installation, maintenance, replacement, modification, and removal of activities incident to water-related development, such as:
 - **Access structures** (including piers, decks, mooring buoys and dolphins, boat hoists, boat storage);
 - **Protective structures** (including dolphins, fenders, piles);
 - **Aids to navigation;**
 - **Bank stabilization** (including revetments, bulkheads, biotechnical practices) no greater than 1,000 feet in length along the bank;
 - **Removal of wrecks and obstructions;** and
 - **Maintenance dredging** to previously authorized depths or controlling depths for ingress/egress, whichever is less.
6. **Operations, Maintenance, and Safety Improvements to Federal Projects:** Alterations under this category include activities proposed by a third-party to improve features of a USACE Civil Works Project, such as:
 - **Safety measures** (including railings, guardrails, handrails);
 - **Drainage and erosion control improvements** (including ditches, interior drainage pipes, and riprap or other hard stabilization techniques);
 - **Instrumentation and automation** (including Supervisory Controls and Data Acquisition [SCADA], automation of gates and project features); and
 - **Activities to improve or maintain the level of protection** (including minor raising of a flood wall/levee in order to meet FEMA accreditation requirements, per 44 CFR 65.10(b)(1), seepage and stability berms, permanently abandon obsolete structures).
7. **Activities Meeting a USACE Categorical Exclusion from NEPA:** Alterations under this category include activities meeting the USACE-promulgated categorical exclusion from the National Environmental Policy Act (NEPA), such as:
 - **Activities listed in 33 CFR 230.9;** and
 - **Activities listed in 33 CFR 325 Appendix B.**
8. **Ecosystem Enhancement Activities:** Alterations under this category include activities with a primary purpose of restoration, establishment, or enhancement of the environment, such as:
 - **Habitat improvement activities** (including green breakwaters and other fish habitat structures, bird nesting features, floating gardens, reestablishment of aquatic vegetation); and
 - **Research and monitoring devices** (including wildlife tracking equipment, observation blinds).
9. **Resolution of Enforcement Actions:** Alterations under this category include activities remaining in place that altered a USACE Civil Works project without authorization, and/or activities undertaken for mitigation, restoration, or environmental benefit in compliance with:
 - (i) The terms of a final written **Corps non-judicial settlement agreement** resolving a violation of Section 14 of the Rivers and Harbors Act of 1899; or

- (ii) The terms of a final **Federal court decision, consent decree, or settlement agreement** resulting from an enforcement action brought by the United States under Section 14 of the Rivers and Harbors Act of 1899; or
- (iii) The terms of a **final court decision, consent decree, settlement agreement, or non-judicial settlement agreement resulting from a natural resource damage claim** brought by a trustee or trustees for natural resources (as defined by the National Contingency Plan at 40 CFR subpart G) under Section 311 of the Clean Water Act, Section 107 of the Comprehensive Environmental Response, Compensation and Liability Act, Section 312 of the National Marine Sanctuaries Act, section 1002 of the Oil Pollution Act of 1990, or the Park System Resource Protection Act at 16 USC 19jj, to the extent that a Corps Section 408 permission is required.

ENVIRONMENTAL IMPACTS OF PROPOSED ACTION: The District's within LRD propose to implement a categorical permission that, in accordance with EC 1165-2-220, would simplify the review process for Section 408 requests for minor alterations to USACE projects. The Districts within LRD have determined that, in compliance with NEPA, a programmatic EA will be prepared. As the implementation of the categorical permission would not involve any on-the-ground work, there are no anticipated direct effects to environmental resources resulting from the programmatic decision at hand. Although the categorical permission would be for a variety of alteration types that individually could result in impacts to resources, it is important to note that the decision to be made on the categorical permission would not authorize any specific Section 408 requests or any on-the-ground work. If the proposed categorical permission is approved, future Section 408 requests would be individually reviewed to determine if they fit under the categorical permission.

Under the proposed categorical permission each individual Section 408 request would be evaluated on a case-by-case basis for compliance with all applicable environmental laws. Additionally, adequacy of the existing NEPA documentation (a programmatic EA for the categorical permission) would be verified for each individual Section 408 request. If the existing NEPA documentation is not adequate, a separate NEPA analysis would be conducted. Section 408 requests for alterations that are not described in the categorical permission (see descriptions above) or that do not adhere to the standard mitigation measures would be evaluated using the current review process for an individual request as described in EC 1165-2-220.

Although the decision on whether or not to implement the proposed categorical permission would not have direct impacts on resources, the types of alterations described under the proposed categorical permission have the potential to impact a number of different resources. Resources that could potentially be affected by these types of alterations include aesthetics, air quality, cultural resources, fish and wildlife, floodplains, invasive species, noise, physiography/soils, recreation, threatened and endangered species, transportation/traffic, vegetation, water quality, and wetlands. It is

expected that the effects associated with the types of alterations covered by the categorical permission described above would be minor or negligible. If a proposed alteration is determined to involve more than minor impacts or would not meet the parameters identified in the project description, the categorical permission would not apply and a categorical exclusion, EA or EIS would be prepared, as appropriate.

Under the proposed categorical permission, the Districts within LRD would continue to individually evaluate each Section 408 request on a case-by-case basis for potential effects to threatened and endangered species (and their designated critical habitat) listed under the federal Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et seq.) and, as appropriate, conduct consultation pursuant to Section 7 of the ESA with the U.S. Fish and Wildlife Service (USFWS).

Under the proposed categorical permission the Districts within LRD would continue to individually evaluate each Section 408 request on a case-by-case basis for the potential to affect cultural resources and, when there is the potential for effects, conduct consultation with the appropriate State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO) pursuant to Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended (54 U.S.C. 306108 et seq.). When a proposed alteration has the potential to affect cultural resources, the Districts within LRD would coordinate, and consult as appropriate, with potentially interested Native American tribes.

PUBLIC INVOLVEMENT: The purpose of this notice is to solicit comments from the public; federal, state, and local agencies and officials; tribes; and other interested parties regarding the proposed Section 408 Categorical Permission. Comments received within 30 days of publication of this notice will be used in the evaluation to potential impacts of the proposed action on important resources.

SUBMITTING COMMENTS: Written comments, referencing "Section 408 Categorical Permission" must be submitted by email to the office listed below on or before April 13, 2022.

Mr. Colin Smalley of the Chicago District is collecting the comments on behalf of LRD.

Email: Chicago408@usace.army.mil

Attachments (web links):

- 1) [EC 1165-2-220](#)
- 2) [LRD Division Boundary and District Boundary Map](#)

Smalley, Colin C CIV USARMY CELRC (USA)

From: Swiatek, David CIV USARMY CELRB (USA)
Sent: Thursday, March 17, 2022 9:56 AM
To: CELRC-Chicago408
Subject: FW: SCOPING NOTIFICATION: Categorical Permission for Section 408 Requests, U.S. Army Corps of Engineers, Great Lakes and Ohio River Division

FYSA.

From: Raymond, John D <JRaymond@monroecounty.gov>
Sent: Thursday, March 17, 2022 8:22 AM
To: Swiatek, David CIV USARMY CELRB (USA) <David.Swiatek@usace.army.mil>
Cc: Polech, Thomas D <ThomasPolech@monroecounty.gov>; Monroe County Dept. of Transportation <MCDOT@monroecounty.gov>; MCPARKS <MCPARKS@monroecounty.gov>; Murphy, Timothy P <TMurphy@monroecounty.gov>; MCENVSERVICES <MCDES@monroecounty.gov>
Subject: [URL Verdict: Neutral][Non-DoD Source] RE: SCOPING NOTIFICATION: Categorical Permission for Section 408 Requests, U.S. Army Corps of Engineers, Great Lakes and Ohio River Division

A permit will be required from Monroe County Department of Transportation for any work occurring in the Monroe County right-of-way. On MCDOT's web site (below), there are links (under Mission Statement) for both the Highway map and highway system listing. For other Monroe County properties, I have copied the departments of Real Property, Environmental Services and Parks, as well as their web sites.

<https://www.monroecounty.gov/dot>
<https://www.monroecounty.gov/property>
<https://www.monroecounty.gov/parks>
<https://www.monroecounty.gov/des>

John D. Raymond, Engineer
Monroe County Department of Transportation
Division of Highway Permits
City Place, 50 W Main St, Suite 6100
Rochester, NY 14614
Office: 585-753-7711
Fax: 585-324-4327
jraymond@monroecounty.gov

From: Monroe County Dept. of Transportation <MCDOT@monroecounty.gov>
Sent: Wednesday, March 16, 2022 5:49 PM
To: Raymond, John D <JRaymond@monroecounty.gov>
Cc: Polech, Thomas D <ThomasPolech@monroecounty.gov>
Subject: FW: SCOPING NOTIFICATION: Categorical Permission for Section 408 Requests, U.S. Army Corps of Engineers, Great Lakes and Ohio River Division

John,

I'm not sure if MCDOT would have any comments on this or not or who this should go to within MCDOT.

1

Smalley, Colin C CIV USARMY CELRC (USA)

From: Butzler, Julia M CIV USARMY CELRP (USA)
Sent: Thursday, March 24, 2022 11:10 AM
To: CELRC-Chicago408
Subject: FW: [External] SCOPING NOTIFICATION: Categorical Permission for Section 408 Requests, U.S. Army Corps of Engineers, Great Lakes and Ohio River Division

From: Schrecengost, Jessica <jeschrecen@pa.gov>
Sent: Thursday, March 24, 2022 11:17 AM
To: Butzler, Julia M CIV USARMY CELRP (USA) <julia.butzler@usace.army.mil>
Cc: Mucha, Matthew <mmucha@pa.gov>
Subject: [URL Verdict: Neutral][Non-DoD Source] RE: [External] SCOPING NOTIFICATION: Categorical Permission for Section 408 Requests, U.S. Army Corps of Engineers, Great Lakes and Ohio River Division

Hi Julia,

Having a categorical permission is a great idea! I do want to ask that a checklist for this permission be created to ensure that we are providing everything needed for USACE to process the permission. I did notice that PNDI, and Section 106 clearance would still be required and would appreciate an inclusive list for what all you would need.

Thank you,

Jessica L. Schrecengost | Sr. Civil Engineer Supervisor Transportation
PA Department of Transportation | Engineering District 10-0
2550 Oakland Avenue | Indiana, PA 15701
Phone: 724.357.2982
<https://www.PennDOT.pa.gov>

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From: Butzler, Julia M CIV USARMY CELRP (USA) <julia.butzler@usace.army.mil>
Sent: Tuesday, March 22, 2022 1:38 PM
To: Butzler, Julia M CIV USARMY CELRP (USA) <julia.butzler@usace.army.mil>
Subject: [External] SCOPING NOTIFICATION: Categorical Permission for Section 408 Requests, U.S. Army Corps of Engineers, Great Lakes and Ohio River Division

ATTENTION: This email message is from an external sender. Do not open links or attachments from unknown sources. To report suspicious email, forward the message as an attachment to CWOPA_SPAM@pa.gov.

Hello:

Smalley, Colin C CIV USARMY CELRC (USA)

From: Footey <footey@verizon.net>
Sent: Sunday, April 3, 2022 8:19 PM
To: CELRC-Chicago408
Subject: [Non-DoD Source] Categorical Permission Comments

Hello Mr. Smalley (Colin),

This is Bruce Foote from the Bradford District Flood Control Authority (BDFCA) in Bradford, PA.

I am writing in response to the:
SCOPING NOTIFICATION: Categorical Permission for Section 408 Requests, U.S. Army Corps of Engineers, Great Lakes and Ohio River Division email.

This correspondence was received recently and after reviewing the information, it seems like a very good idea to categorize the requests to condense and hopefully expedite the 408 processes. We believe that this action can only benefit those needing for the 408 approvals. Much of the work permissions we request for alterations fall into the non intrusive category and therefore would benefit from this action.

We appreciate the opportunity to be heard and voice our opinions on the matter. Therefore the BDFCA would like to see;
Option #2) Preferred Alternative: approve a categorical permission to cover potential alterations that are similar in nature and have similar impacts.

Should you have any additional questions regarding the matter for our project feel free to reach out to me.

Bruce Foote
BDFCA Chairman
814-598-2600



Metropolitan Water Reclamation District of Greater Chicago

100 EAST ERIE STREET

CHICAGO, ILLINOIS 60611-3154

312.751.5600

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Catherine A. O'Connor, Ph.D., P.E.
Director of Engineering

312.751.7905 f: 312.751.5681
catherine.o'connor@mwrdd.org

April 1, 2022

Mr. Colin C. Smalley, PG
Section 408 Coordinator and Regulatory Project Manager
US Army Corps of Engineers, Chicago District
231 South La Salle Street, Suite 1500
Chicago, Illinois 60604
Colin.C.Smalley@usace.army.mil

Dear Mr. Smalley:

Subject: Proposed Regional Categorical Permission Program for
Section 408 Requests

Reference is made to the Public Notice dated March 14, 2022, concerning the subject matter. MWRD has reviewed the Proposed Regional Categorical Permission Program for Section 408 Requests document and has no objection to USACE's proposed procedural changes. We find the changes could streamline approval of modifications to existing permits and save time, money, and maintain public support. The process can result in a more expeditious process but still allow for protection against major safety hazards, environmental impacts, or encroachments, for example. This will have a positive impact to existing, under construction, and future joint USACE/MWRD projects.

If you have any questions regarding this matter, please contact Joe Schuessler, Principal Civil Engineer, at extension 312-751-3236 (SchuesslerJ@mwrdd.org).

Very truly yours,

Catherine A. O'Connor
Director of Engineering

KMF:JMS:cw



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

April 6, 2022

REPLY TO THE ATTENTION OF:
Mail Code RM-19J

VIA ELECTRONIC MAIL ONLY

Colin Smalley
U.S. Army Corps of Engineers – Chicago District
231 S. LaSalle St., Ste. 1500
Chicago, Illinois 60604

RE: EPA scoping comments – Proposed Regional Categorical Permission Program for Section 408 Requests within the Great Lakes and Ohio River Division

Dear Mr. Smalley:

The U.S. Environmental Protection Agency has reviewed the U.S. Army Corps of Engineers' (USACE) public notice dated March 14, 2022, requesting scoping comments on the proposed Regional Categorical Permission (CP) Program for Section 408 Requests within the USACE's Great Lakes and Ohio River Division (LRD). This letter provides our comments on the proposal, pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality's NEPA Implementing Regulations (40 CFR 1500-1508), and Section 309 of the Clean Air Act.

The LRD includes the Chicago, Detroit, Louisville, Nashville, Buffalo, Huntington, and Pittsburgh districts of USACE. USACE has constructed numerous federal civil works projects within these boundaries. Each year, the Districts within LRD receive numerous requests annually from private, public, tribal, or other Federal entities to alter or modify these civil works projects ("USACE projects") pursuant to Section 408¹. As part of a District's evaluation of the requests, it must determine if the alteration would impair the usefulness of the Federal project or be otherwise injurious to the public interest. Each District must also ensure its granting approval for a proposed alteration is in full compliance with NEPA.

For NEPA compliance, there is no simple documentation for granting approval for those minor alterations to civil works projects with associated environmental impacts determined to be less than significant. Many of the project descriptions for proposed alterations are similar and the effects tend to be minor or negligible. However, the current review and approval process is time intensive and can take months. USACE proposes to implement a CP program within LRD to increase efficiencies in the review process of Section 408 requests for minor alterations to USACE projects.

¹ Section 408 refers to USACE's authority to grant permission for temporary or permanent alterations to federally authorized civil works projects, as contained in Section 14 of the Rivers and Harbors Act of 1899, as amended, codified at 33 U.S.C. 408 ("Section 408").

Categorical permissions are intended to be a flexible tool to be used to streamline the approval of “categories” of alterations that are similar in nature, similar in effects to a District civil works project, and that are expected to have similar impacts to the environment. The premise behind a categorical permission is identifying a specific and commonly occurring set of activities requiring Section 408 permissions within a specified geographic area, and determination that implementation of those activities, both individually and cumulatively, will not impact the usefulness of the District civil works project(s); associated environmental impacts would be less than significant; and the activities would not be injurious to the public interest.

A CP is similar to a categorical exclusion under NEPA, except CPs concern only Section 408 requests and are limited to the actions within a specific geographic area, while categorical exclusions cover a variety of agency-wide actions. While LRD’s area of responsibility covers a wide geographic area,² the geographic scope of the proposed LRD CPs would be limited to USACE federal projects within the following states in LRD’s boundaries: Illinois, Indiana, Kentucky, Michigan, New York, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and Wisconsin.

The Public Notice proposes two alternatives for detailed analysis: the No Action Alternative and one action alternative (Adoption of Nine Individual Categorical Permissions). If the proposed CP program is approved, future Section 408 requests would still be individually reviewed to determine if they fit under a specific categorical permission. EPA offers the following comments on the proposed CP program, which are enclosed herein.

Thank you for the opportunity to provide scoping comments on this project. Please send us a copy of the Draft Environmental Assessment once issued. If you have any questions about this letter, please contact the lead NEPA reviewer, Ms. Liz Pelloso, PWS, at 312-886-7425 or via email at pelloso.elizabeth@epa.gov.

Sincerely,

Kenneth A. Westlake, Deputy Director
Tribal and Multimedia Programs Office

Enclosure:

EPA’s Detailed Comments: *Proposed Regional Categorical Permission Program for Section 408 Requests within the Great Lakes and Ohio River Division*

² LRD includes all or portions of the following states: Alabama, Georgia, Illinois, Indiana, Kentucky, Maryland, Michigan, Minnesota, Mississippi, New York, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and Wisconsin.

EPA's Detailed Comments: Proposed Regional Categorical Permission Program
for Section 408 Requests within the Great Lakes and Ohio River Division

April 6, 2022

DOCUMENT / ALTERNATIVES CLARIFICATION AND PROPOSED CHANGES

- Many of the proposed Categorical Permissions (CPs) allow for installation of structures, poles, piers, pipes, etc., and generally assume that the alteration will have a small or defined permanent project footprint.

Recommendation: The language of the CPs should specify expectations or disturbance thresholds for site access needs that may be required to implement any and all proposed alterations, including, but not limited to, temporary access roads, vehicle staging areas, construction materials staging areas, etc. USACE's expectations on site access needs, including, but not limited to, temporary access roads and staging areas, should be addressed in the descriptions and requirements of each of the proposed CPs.

- CP-4 (Linear Transportation Activities) includes installation of "simple roads and driveways" (to include "crossings and culverts) and "simple bridges." EPA has concerns about the use of the word "simple."

Recommendation: USACE's description of "simple" should be fully explained in the CP language. The description of CP-4 should clarify if the CP is for new culverts/bridges/crossings only, replacement of existing culverts/bridges/crossings only, or could authorize both. Additionally, the requirement to fully restore any temporary impacts to wetlands or Waters of the U.S. associated with implementation of a project under CP-4 should be required in the description and requirements for this CP.

- EPA has concerns about the potential for wetlands and Waters of the U.S. to be impacted by the construction of structures, trails or access roads, drainage ditches, boat ramps, erosion protection, permanent structures, etc., in "undeveloped areas."

Recommendation: USACE's expectations on accounting for the potential for permanent impacts to wetlands and Waters of the U.S., including temporary impacts that may be authorized by any of the proposed CPs, should be addressed in the descriptions and requirements of each CP. Additionally, grade changes that permanently affect a Federal project's authorized grade should be excluded from CPs unless determined to be necessary. USACE should clarify how any temporary impacts will be authorized (e.g., to include temporary impacts to wetlands and Waters of the U.S.), or how USACE will ensure that permanent impacts to wetlands and Waters of the U.S. are avoided by a proposed action under each CP, or if unavoidable, what mitigation is expected.



**Department of
Transportation**

KATHY HOCHUL
Governor

MARIE THERESE DOMINGUEZ
Commissioner

NICOLAS A. CHOUBAH, P.E.
Acting Chief Engineer

April 11, 2022

Colin Smalley
US Army Corps of Engineers Chicago District
231 S. LaSalle St., Suite 1500
Chicago, IL 60604

RE: Proposed Regional Categorical Permission Program for Section 408 Requests

Dear Mr. Smalley:

The New York State Department of Transportation (NYSDOT) appreciates the opportunity to review the public notice for the proposed regional categorical permission program for Section 408 requests within the Great Lakes and Ohio River Division. NYSDOT's comments on the notice are below:

Comments on specific language in the Public Notice:

- Item 3 "Development Activities, Related Temporary Construction Activities" lists access roads as a categorical permission. We recommend that temporary access roads be explicitly included.
- Item 4 "Linear Transportation Activities" – Please provide clarification on what the term "Simple Roads and Driveways" means. We recommend that temporary construction access roads be explicitly included, and "simple roads" be further defined.
- A common maintenance situation for NYSDOT involves repairing scour holes around piers of bridges (within the limits of flood control areas). Would that type of activity be covered by the proposed categorical permission? While it appears that this work could be consistent with the "Water Based Activity" description on page 4, paragraph 5, we recommend that installing or repairing scour protection/stream to previous dimensions be explicitly included in the list of examples

General Comments:

- Please provide clarification regarding what documentation would be needed for a request to be approved under the categorical permission. For requests where there is a Non-Federal Sponsor involved, would an activity covered under the categorical

50 Wolf Road, Albany, NY 12232 | www.dot.ny.gov

permission still require that the Non-Federal Sponsor provide a Statement of No Objection for the request to be deemed complete?

- Many of NYSDOT's 408 requests are submitted with the intent of gaining US Army Corps' permission to travel across a structure. A simple process allowing for temporary access for this reason would be very helpful.
- Overall, it appears that this program would be beneficial to NYSDOT, depending on the final details regarding what activities are covered and what the required mitigation measures would be. At worst, it appears that it would help to alleviate the lengthy review time for the 408 requests.

Thank you for your consideration of NYSDOT's comments. We look forward for future developments and opportunities to comment on this proposed program. Please contact Stephen Scaduto at Stephen.Scaduto@dot.ny.gov or (518) 485-7202.

Sincerely,

Terence C. Smith

Terence C. Smith
Director, Environmental Science Bureau

TS/sd/bb



Ohio Department of Natural Resources

MIKE DeWINE, GOVERNOR

MARY MERTZ, DIRECTOR

Office of Real Estate
John Keszler, Chief
2045 Morse Road – Bldg. E-2
Columbus, OH 43229
Phone: (614) 265-6621
Fax: (614) 267-4764

April 12, 2022

Brett C. Latta
U.S. Army Corps of Engineers – Huntington District
Building 10 / Section 10
P.O. Box 3990
Columbus, OH 43218-3990

Re: 22-0283; Proposed Regional Categorical Permission for Section 408 Requests

Project: The proposed action is intended to increase efficiencies in the review process of Section 408 requests for minor alterations to USACE federal projects. The decision only applies to federally authorized levees, channel modification projects, ecosystem restoration projects, dredging projects, and navigation projects.

Location: The geographic scope of the decision to be made is limited to USACE federal projects within the following states in LRD's boundaries: Illinois, Indiana, Kentucky, Michigan, New York, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and Wisconsin.

The Ohio Department of Natural Resources (ODNR) has completed a review of the above referenced project. These comments were generated by an inter-disciplinary review within the Department. These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the National Environmental Policy Act, the Coastal Zone Management Act, Ohio Revised Code and other applicable laws and regulations. These comments are also based on ODNR's experience as the state natural resource management agency and do not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

Real Estate and Land Management, Parks and Watercraft, & Natural Areas and Preserves: The Division of Real Estate and Land Management (REALM), the Division of Parks and Watercraft (Parks), and the Division of Natural Areas and Preserves (DNAP) has the following comment.

REALM, DNAP and Parks recommends that any future projects considered under this Proposed Regional Categorical Permission for Section 408 Requests be submitted individually to ODNR for Environmental Review (ER) to ensure impacts to state listed threatened and endangered plant and animal species are properly avoided and/or minimized. In addition, the ODNR ER will provide comments on projects that may involve or impact ODNR operations and/or facilities.

Office of the Director • 2045 Morse Rd • Columbus, OH 43229 • ohiodnr.gov

Coastal Management: The Office of Coastal Management has the following comment.

The Office of Coastal Management comments that pursuant to the Coastal Zone Management Act of 1972, as amended, and its corresponding Federal Regulations, all Federal agency activities including development projects affecting any coastal use or resource of Ohio's coastal zone must be undertaken in a manner consistent to the maximum extent practicable with the enforceable policies of the Ohio Coastal Management Program. The term "Federal agency activity" means any functions performed by or on behalf of a Federal agency in the exercise of its statutory responsibilities. The term "Federal agency activity" includes a range of activities where a Federal agency makes a proposal for action initiating an activity or series of activities when coastal effects are reasonably foreseeable, e.g., a Federal agency's proposal to physically alter coastal resources, a plan that is used to direct future agency actions, a proposed rulemaking that alters uses of Ohio's coastal zone. For additional information on Federal Consistency reviews, please see <https://ohiodnr.gov/discover-and-learn/safety-conservation/about-ODNR/coastal-management/ohio-coastal-mgmt-program/federal-consistency>.

Water Resources: The Division of Water Resources has the following comment.

The local floodplain administrator should be contacted concerning the possible need for any floodplain permits or approvals. The local floodplain administrator contact information can be found at the website below.

<https://ohiodnr.gov/static/documents/water/floodplains/Floodplain%20Administrator%20List.pdf>

ODNR appreciates the opportunity to provide these comments. Please contact Mike Pettegrew at mike.pettegrew@dnr.ohio.gov if you have questions about these comments or need additional information.

Mike Pettegrew
Environmental Services Administrator

The Kentucky Division of Water, Water Quality Certification section submits the following comments on LRD Section 408 Categorical Permission Scoping PN:

Activities occurring within surface waters assessed by the Kentucky Division of Water as designated Outstanding State Resource Waters, National Resource Waters, Cold Water Aquatic Habitat, Exceptional Waters, or identified as candidate Outstanding State Resource Waters or candidate Exceptional Waters are not authorized under this General Certification and require an Individual Certification.

Activities impacting surface waters assessed by the Kentucky Division of Water as impaired for warm water or cold water aquatic habitat where the parameter or source is related to habitat* are not authorized under this General Certification and require an Individual Certification.

Activities impacting surface waters assessed by the Kentucky Division of Water as full support for warm water or cold water aquatic habitat are not authorized under this General Certification and require an Individual Certification.

The activity will not occur within surface waters identified as perpetually-protected mitigation sites (e.g., deed restriction or conservation easement).

Stream relocation, realignment, straightening, and/or widening are not authorized under this General Certification and require an Individual Certification.

Utility line activities which impact wetlands shall not result in conversion of the area to non-wetland status.

Clearing of forested wetlands for the installation or maintenance of utility lines is not authorized under this certification.

New stormwater detention/ retention basins constructed in surface waters or modifications to stormwater detention/ retention basins resulting in the reduction in reach or that cause impairment of flow of surface waters are not authorized under this General Certification and require an Individual Certification.

No quantifiable limits on any of the alterations proposed under the categorical permissions. Many of the NWP's are certified with conditions with quantifiable impact limitations and exclusions on certain designated uses waters and specific existing uses. Federal definition of *de minimis* actions does not necessarily align with compliance of Kentucky's water quality standards.

Linear Transportation Activities – define “simple” structures. Does this have a length and height requirement, weight requirement, structurally simple?

Categorical Exclusion doesn't exempt Water Quality Certification review

Enforcement Actions we would want coordination on all actions involving WQC.

The language proposed under Section 11(d)(6) is unclear what coordination or 401 Water Quality Certification authorization will be obtained. Any Section 408 Categorical Permissions should not preclude any activity from receiving appropriate authorizations from Kentucky Division of Water, including Water Quality Certification, Section 402 permitting, or floodplain permitting.

If question of clarifications on the comments are required, please contact Samantha Vogeler at Samantha.vogeler@ky.gov

 Recoverable Signature

X 

Signed by: Shawn Hokanson
Shawn Hokanson
Manage, Water Resources Branch
Kentucky Division of Water

Smalley, Colin C CIV USARMY CELRC (USA)

From: Latta, Brett C CIV USARMY CELRH (USA)
Sent: Thursday, April 14, 2022 3:53 PM
To: Smalley, Colin C CIV USARMY CELRC (USA)
Cc: Jennings, Bonnie F CIV (USA)
Subject: FW: [Non-DoD Source] RE: SCOPING NOTIFICATION: Categorical Permission for Section 408 Requests, U.S. Army Corps of Engineers, Great Lakes and Ohio River Division

FYSA- some ODOT comments below

Sent with BlackBerry Work
(www.blackberry.com)

From: Heather.McColeman@dot.ohio.gov <Heather.McColeman@dot.ohio.gov>
Date: Thursday, Apr 14, 2022, 2:06 PM
To: Latta, Brett C CIV USARMY CELRH (USA) <Brett.C.Latta@usace.army.mil>
Cc: Adrienne.Earley@dot.ohio.gov <Adrienne.Earley@dot.ohio.gov>, Tim.Hill@dot.ohio.gov <Tim.Hill@dot.ohio.gov>
Subject: [Non-DoD Source] RE: SCOPING NOTIFICATION: Categorical Permission for Section 408 Requests, U.S. Army Corps of Engineers, Great Lakes and Ohio River Division

Hi Brett,

I do not have any specific comments. Very happy to see this is being developed. Seems like most of the projects I have involvement with require reconstruction of the civil works project, so this would not be an option. But there was one phase of the Downtown 70/71 project that required a 408 (separate from our larger project 408) for a power line relocation. I'm 'guessing' that project may have fit under the scope of this future programmatic. This would have been a great option to have as that specific example did get shut down and construction delayed to go thru the 408 process.

Respectfully,

Heather McColeman, P.E.
Major New Project Coordinator
ODOT Office of Environmental Services
1980 W. Broad Street, Mail Stop 4170, Columbus, Ohio 43223
614.644.7097
transportation.ohio.gov



From: Latta, Brett C CIV USARMY CELRH (USA) <Brett.C.Latta@usace.army.mil>
Sent: Wednesday, March 16, 2022 7:08 AM
To: Ohio Fish and Wildlife Service <Ohio@fws.gov>; DLL-CELRH-Public Notices Ohio <publicnoticesohio@usace.army.mil>; DLL-CELRH-Public Notices West Virginia <publicnoticeswestva@usace.army.mil>;



**EASTERN SHAWNEE
CULTURAL PRESERVATION DEPARTMENT**

70500 East 128 Road, Wyandotte, OK 74370

March 22, 2022
USACE Nashville&Mobile Districts
3701 Bell Road
Nashville, TN 37214

RE: Public Notice: Scoping Notification, Section 408 Categorical Permission Great Lakes and Ohio River Division, Multiple County, Multiple

Dear Mr. Smalley,

The Eastern Shawnee Tribe has received your letter regarding the above referenced project(s) within Multiple County, Multiple. The Eastern Shawnee Tribe is committed to protecting sites important to Tribal Heritage, Culture and Religion. Furthermore, the Tribe is particularly concerned with historical sites that may contain but not limited to the burial(s) of human remains and associated funerary objects.

As described in your correspondence, and upon research of our database(s) and files, we find our people occupied these areas historically and/or prehistorically. However, the project proposes **NO Adverse Effect** or endangerment to known sites of interest to the Eastern Shawnee Tribe. Please continue project as planned. However, should this project inadvertently discover an archeological site or object(s) we request that you immediately contact the Eastern Shawnee Tribe, as well as the appropriate state agencies (within 24 hours). We also ask that all ground disturbing activity stop until the Tribe and State agencies are consulted. Please note that any future changes to this project will require additional consultation.

In accordance with the NHPA of 1966 (16 U.S.C. § 470-470w-6), federally funded, licensed, or permitted undertakings that are subject to the Section 106 review process must determine effects to significant historic properties. As clarified in Section 101(d)(6)(A-B), historic properties may have religious and/or cultural significance to Indian Tribes. Section 106 of NHPA requires Federal agencies to consider the effects of their actions on all significant historic properties (36 CFR Part 800) as does the National Environmental Policy Act of 1969 (43 U.S.C. § 4321-4347 and 40 CFR § 1501.7(a)). This letter evidences NHPA and NEPA historic properties compliance pertaining to consultation with this Tribe regarding the referenced proposed projects.

Thank you, for contacting the Eastern Shawnee Tribe, we appreciate your cooperation. Should you have any further questions or comments please contact our Office.

Sincerely,

Paul Barton, Tribal Historic Preservation Officer (THPO)
Eastern Shawnee Tribe of Oklahoma
(918) 666-5151 Ext:1833



**EASTERN SHAWNEE
CULTURAL PRESERVATION DEPARTMENT**

70500 East 128 Road, Wyandotte, OK 74370

April 5, 2022

Department of the Army Buffalo District, Corps of Engineers
1776 Niagara Street
Buffalo, New York 14207-3199

RE: USACE Great Lakes and Ohio River Division-Categorical Permission, Multiple County, Multiple

Dear Mr. Smalley,

The Eastern Shawnee Tribe has received your letter regarding the above referenced project(s) within Multiple County, Multiple. The Eastern Shawnee Tribe is committed to protecting sites important to Tribal Heritage, Culture and Religion. Furthermore, the Tribe is particularly concerned with historical sites that may contain but not limited to the burial(s) of human remains and associated funerary objects.

As described in your correspondence, and upon research of our database(s) and files, we find our people occupied these areas historically and/or prehistorically. However, the project proposes **NO Adverse Effect** or endangerment to known sites of interest to the Eastern Shawnee Tribe. Please continue project as planned. However, should this project inadvertently discover an archeological site or object(s) we request that you immediately contact the Eastern Shawnee Tribe, as well as the appropriate state agencies (within 24 hours). We also ask that all ground disturbing activity stop until the Tribe and State agencies are consulted. Please note that any future changes to this project will require additional consultation.

In accordance with the NHPA of 1966 (16 U.S.C. § 470-470w-6), federally funded, licensed, or permitted undertakings that are subject to the Section 106 review process must determine effects to significant historic properties. As clarified in Section 101(d)(6)(A-B), historic properties may have religious and/or cultural significance to Indian Tribes. Section 106 of NHPA requires Federal agencies to consider the effects of their actions on all significant historic properties (36 CFR Part 800) as does the National Environmental Policy Act of 1969 (43 U.S.C. § 4321-4347 and 40 CFR § 1501.7(a)). This letter evidences NHPA and NEPA historic properties compliance pertaining to consultation with this Tribe regarding the referenced proposed projects.

Thank you, for contacting the Eastern Shawnee Tribe, we appreciate your cooperation. Should you have any further questions or comments please contact our Office.

Sincerely,

Paul Barton, Tribal Historic Preservation Officer (THPO)
Eastern Shawnee Tribe of Oklahoma
(918) 666-5151 Ext:1833
THPO@estoo.net



Little Traverse Bay Bands of Odawa Indians
Natural Resource Department
7500 Odawa Circle
Harbor Springs, MI 49740
Phone: (231)242-1670
Fax: (231)242-1690



April 8th, 2022

Mr. Colin Smalley
US Army Corps of Engineers, Chicago District
231 S. LaSalle St.
Suite 1500
Chicago, IL 60604
(312) 846-5530

Re: Section 408 Categorical Permission

Dear Mr. Smalley,

On behalf of The Little Traverse Bay Bands of Odawa Indians (LTBB), please accept these comments regarding the proposed "Section 408 Categorical Permission." LTBB appreciates the opportunity to provide feedback on this important topic.

LTBB's traditional way of life and rights to hunt, fish and gather in the Ceded Territory were reserved in the 1836 Treaty of Washington and reaffirmed by Federal Court in the case of *United States v. Michigan* (WD MI Case 2: 73 CV 26). LTBB is party to the 2000 Great Lakes and 2007 Inland Consent Decrees entered in that case.

LTBB is concerned with some of the proposed categorical permissions including bank stabilization and erosion control improvements, specifically, when these types of activities include "hardening the shoreline." These hardened structures will negatively impact the ecological integrity of the riparian areas by destroying habitat utilized by macroinvertebrates and wildlife. In the case of seawalls, there can be a complete severance of the land-water interface entirely disrupting the movements of aforementioned macroinvertebrates and wildlife. The loss of vegetation along the riparian corridor will also negatively impact fish that favor shoreline habitat with vegetative structure. The degradation and loss of riparian habitat may also negatively impact water quality as riparian habitat act as a buffer for contaminants including lawn fertilizers. Moreover, hardened shorelines can possibly harbor an environment favorable to invasive species. Providing an easier pathway for projects like these by way of a categorical permission will come at the cost of decreased ecological function.

Furthermore, the erosion these projects intend to prevent may continue despite the degradation of habitat and ecological function that incurs as a result of shoreline hardening. The hardened shorelines may actually accelerate the process of erosion on neighboring properties by diverting wave energy to adjacent areas. This could cause those neighboring property owners to then initiate shoreline hardening and a "snowball effect" of shoreline hardening can occur. The overall effects of collective shoreline hardening will have detrimental consequences on both the ecological function of our waterways which affects fishing and recreation, and may actually decrease the value of shoreline properties in the long run.

LTBB requests that, if possible, USACE work with requesters to implement bioengineering strategies for these types of projects as those methods will include ecologically advantageous aspects including increased water quality and fish and wildlife habitat while providing the shoreline stabilization requesters seek. It may be possible that requesters can safely utilize the more ecologically beneficial bioengineering methods without sacrificing structural integrity.

LTBB would like to reiterate its appreciation for the opportunity to comment on this important proposal. Our waterways are an invaluable resource and the ecological status of these waterways is reflective of the overall health and quality of our natural environment. Additionally, the health and quality of our environment is indicative of our ability and opportunity to utilize our treaty reserved rights as the ability and opportunity are critically reliant on environmental quality.

In a good way,

Douglas Craven
Natural Resources Department, Director
Little Traverse Bay Bands of Odawa Indians



Miami Tribe of Oklahoma

3410 P St. NW, Miami, OK 74354 • P.O. Box 1326, Miami, OK 74355
Ph: (918) 541-1300 • Fax: (918) 541-7260
www.miamination.com



Via email: Chicago408@usace.army.mil

March 21, 2022

Mr. Colin Smalley
U. S. Army Corps of Engineers
Great Lakes and Ohio River Division

Re: Proposed Regional Categorical Permission Program for Section 408 Requests – Comments of the Miami Tribe of Oklahoma

Dear Mr. Smalley:

Aya, kikwehsitoole – I show you respect. The Miami Tribe of Oklahoma, a federally recognized Indian tribe with a Constitution ratified in 1939 under the Oklahoma Indian Welfare Act of 1936, respectfully submits the following comments regarding the proposed Regional Categorical Permission Program for Section 408 Requests.

The Miami Tribe has deep and enduring interest in protecting cultural property and associated human remains within its historic lands and, therefore, has concerns regarding this proposed program. Although the Public Notice describes the included projects as minor, the list is quite extensive and describes projects that could certainly impact historic properties.

The Miami Tribe requests a tribal consultation meeting to which all tribes with interests in the states impacted by this Categorical Permission are invited. In my capacity as Tribal Historic Preservation Officer, please contact me regarding consultation. Please contact me at 918-541-8966 or by email at dhunter@miamination.com.

Respectfully,

Diane Hunter

Diane Hunter
Tribal Historic Preservation Officer

Smalley, Colin C CIV USARMY CELRC (USA)

From: Douglas Taylor <Douglas.Taylor@nhbp-nsn.gov>
Sent: Monday, March 28, 2022 6:21 PM
To: CELRC-Chicago408
Subject: [URL Verdict: Neutral][Non-DoD Source] SCOPING NOTIFICATION: Categorical Permission for Section 408 Requests, U.S. Army Corps of Engineers, Great Lakes and Ohio River Division

Greetings,

Ref: SCOPING NOTIFICATION: Categorical Permission for Section 408 Requests, U.S. Army Corps of Engineers, Great Lakes and Ohio River Division

Thank you for including the Nottawaseppi Huron Band of the Potawatomi (NHBP) in your consultation process. NHBP has no comments to this notification at this time.

Very Respectfully
Douglas Taylor

Douglas R. Taylor | Tribal Historic Preservation Officer (THPO)
Pine Creek Indian Reservation
1301 T Drive S, Fulton, MI 49052
o: 269-704-8347 | c: 269-419-9434 | f: 269-729-5920
Douglas.Taylor@nhbp-nsn.gov | www.nhbp-nsn.gov



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Smalley, Colin C CIV USARMY CELRC (USA)

From: Douglas Taylor <Douglas.Taylor@nhbp-nsn.gov>
Sent: Thursday, April 14, 2022 10:57 AM
To: White, Nathan M CIV USARMY CELRH (USA); CELRC-Chicago408
Subject: [URL Verdict: Neutral][Non-DoD Source] Proposed Regional Categorical Permission Program for Section 408 Requests

Greetings,

Ref: Proposed Regional Categorical Permission Program for Section 408 Requests

Thank you for including the Nottawaseppi Huron Band of the Potawatomi (NHBP) in your consultation process. This Tribe has no comments for the Proposed Regional Categorical Permission Program for Section 408 Requests. We request your Regional agency contact us by electronic means and provide URLs to post our comments on your USACE region website. The reason for this is due to the COVID-19 pandemic. NHBP personnel are working remotely and in the process of returning to our government facilities. We would prefer electronic communications to improve faster response time over paper communications. Please send any future Tribal Historic Preservation Officer (THPO) related communications through email to Douglas Taylor (Primary THPO) Douglas.Taylor@nhbp-nsn.gov or John Rodwan (Alternate THPO) John.Rodwan@nhbp-nsn.gov.

Very Respectfully
Douglas Taylor

Douglas R. Taylor | Tribal Historic Preservation Officer (THPO)
Pine Creek Indian Reservation
1301 T Drive S, Fulton, MI 49052
o: 269-704-8347 | c: 269-419-9434 | f: 269-729-5920
Douglas.Taylor@nhbp-nsn.gov | www.nhbp-nsn.gov



**NOTTAWASEPPI HURON
BAND OF THE POTAWATOMI**

AN OFFICIAL INDEPENDENT TRIBAL GOVERNMENT

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Smalley, Colin C CIV USARMY CELRC (USA)

From: Andrea Hunter <ahunter@osagenation-nsn.gov>
Sent: Monday, March 21, 2022 10:15 AM
To: CELRC-Chicago408
Cc: Jennings, Bonnie F CIV (USA); Caitlin E. Nichols; Colleen A. Bell
Subject: [URL Verdict: Neutral][Non-DoD Source] RE: SCOPING NOTIFICATION: Categorical Permission for Section 408 Requests, U.S. Army Corps of Engineers, Great Lakes and Ohio River Division

The Osage Nation requests a joint tribal consultation meeting with all interested tribes to discuss this proposed Section 408 Categorical Permission.

Thank you,

Dr. Andrea A. Hunter
Director, Tribal Historic Preservation Officer
Osage Nation
627 Grandview Avenue
Pawhuska, OK 74056

Phone: (918) 287-5671
Fax: (918) 287-5376

From: Smalley, Colin C CIV USARMY CELRC (USA) <Colin.C.Smalley@usace.army.mil>
Sent: Wednesday, March 16, 2022 6:39 PM
To: CELRC-Chicago408 <Chicago408@usace.army.mil>
Cc: Jennings, Bonnie F CIV (USA) <Bonnie.F.Jennings@usace.army.mil>
Subject: SCOPING NOTIFICATION: Categorical Permission for Section 408 Requests, U.S. Army Corps of Engineers, Great Lakes and Ohio River Division

Hello:

The U.S. Army Corps of Engineers (USACE) Great Lakes and Ohio River Division is preparing a Categorical Permission with an integrated National Environmental Policy Act (NEPA) document in order to create efficiencies in the review process for Section 408 requests for minor alterations to USACE projects within the civil works boundaries for the Great Lakes and Ohio River Division.

Attached, please find the public scoping notice for the subject project requesting feedback on the proposed Section 408 Categorical Permission. Please provide input regarding the proposed Section 408 Categorical Permission by April 15, 2022.

Sincerely,
-Colin

Colin C. Smalley, PG [he/him/his]
Section 408 Coordinator and Regulatory Project Manager
US Army Corps of Engineers, Chicago District
231 South La Salle Street, Suite 1500
Chicago, Illinois 60604
312-846-5538 (office)

1

Smalley, Colin C CIV USARMY CELRC (USA)

From: Charla EchoHawk <cechohawk@peoriatribe.com>
Sent: Tuesday, March 22, 2022 11:41 AM
To: CELRC-Chicago408
Subject: [Non-DoD Source] Section 408 Categorical Permission
Attachments: LRD Section 408 Scoping PN.pdf

Mr. Smalley,
Would it be at all possible for you to include the Peoria Tribe of Indians of Oklahoma on your notices for the Great Lakes and Ohio River Division? The Miami Nation of Oklahoma was kind enough to forward the attached because of our historical interest in the State of Ohio.

You are welcome to use the contact information below and address all future notices to me directly. Please let me know if you have any questions regarding this request.

Thank you!

Charla K. EchoHawk
Director of Cultural Preservation
Peoria Tribe of Oklahoma
Office 918.540.2535 Ext. 9228 | Fax 918.540.2538
cechohawk@peoriatribe.com



Smalley, Colin C CIV USARMY CELRC (USA)

From: Matthew Bussler <Matthew.Bussler@pokagonband-nsn.gov>
Sent: Thursday, April 14, 2022 12:39 PM
To: CELRC-Chicago408
Subject: [URL Verdict: Neutral][Non-DoD Source] Section 408 Categorical Permission

Bozho,

After reviewing the proposed regional Categorical Permission program for Section 408 requests, I felt that it is necessary to have a discussion between local/regional Tribes and USACE to discuss concerns related to the type of work that this Categorical Permission would apply to. My primary goal is to ensure that meaningful consultation is achieved with each Tribe for activities and alterations that are ground disturbing. From my perspective, Tribal Consultation must be maintained and not omitted from the process.

Please feel free to reach out to discuss. I look forward to speaking with you.

Migwêthh Thank you,

Matthew Bussler

Tribal Historic Preservation Officer
Center of History & Culture

(269) 462-4316 desk
(269) 519-0838 cell

Pokégnek Bodéwadmik

POKAGON BAND OF POTAWATOMI
www.PokagonBand-nsn.gov

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Smalley, Colin C CIV USARMY CELRC (USA)

From: Sunshine Bear <sunshine.bear@winnebagoTribe.com>
Sent: Monday, March 21, 2022 12:30 PM
To: CELRC-Chicago408
Subject: [URL Verdict: Neutral][Non-DoD Source] Re: SCOPING NOTIFICATION: Categorical Permission for Section 408 Requests, U.S. Army Corps of Engineers, Great Lakes and Ohio River Division

Thank you for your Section 106 correspondence regarding this project. The location is land our ancestors have lived on or passed through. Please include the Winnebago Tribe of Nebraska in any consultation going forward. During ground disturbance activities we are aware that if the ground has already been disturbed, that findings may be minimal to zero. In any case if anything is found please contact me immediately. My information is below. Let me know if you have any questions.

Respectfully,

Sunshine Thomas-Bear
Wihokiri Wiga
Cultural Preservation Director
THPO Office/Angel De Cora Museum
Little Priest Tribal College - Thunder Clan Building
601 E. College Road
Winnebago, NE 68071
(402) 922-2631 Cell
sunshine.bear@winnebagoTribe.com

“Just because something works doesn’t mean it can’t be improved.”

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From: Smalley, Colin C CIV USARMY CELRC (USA) <Colin.C.Smalley@usace.army.mil>
Sent: Wednesday, March 16, 2022 6:39 PM
To: CELRC-Chicago408 <Chicago408@usace.army.mil>
Cc: Jennings, Bonnie F CIV (USA) <Bonnie.F.Jennings@usace.army.mil>
Subject: SCOPING NOTIFICATION: Categorical Permission for Section 408 Requests, U.S. Army Corps of Engineers, Great Lakes and Ohio River Division

Hello:

The U.S. Army Corps of Engineers (USACE) Great Lakes and Ohio River Division is preparing a Categorical Permission with an integrated National Environmental Policy Act (NEPA) document in order to create efficiencies in the review process for Section 408 requests for minor alterations to USACE projects within the civil works boundaries for the Great Lakes and Ohio River Division.

Appendix D – Draft Programmatic EA Distribution List

Table D-1. Federal agencies notified.

U.S. Fish and Wildlife Service			
Midwest Regional Office	Southeast Regional Office	Northeast Regional Office	
New York Ecological Services Field Office	Minnesota-Wisconsin Ecological Services Field Office	Chicago Ecological Services Office	Illinois-Iowa Ecological Services Field Office
Southern Illinois Sub-Office	Michigan Ecological Services Field Office	Ohio Ecological Services Field Office	West Virginia Ecological Services Field Office
Indiana Ecological Services Field Office	Kentucky Ecological Services Field Office	Tennessee Ecological Services Field Office	Pennsylvania Ecological Services Field Office
U.S. Environmental Protection Agency			
Region 2	Region 3	Region 4	Region 5
U.S. Coast Guard			
District 5	District 8	District 9	
Other Federal Agencies			
Tennessee Valley Authority	Federal Emergency Management Agency (FEMA) Region 4	FEMA Region 5	

Table D-2. State agencies notified.

Illinois			
Illinois Coastal Management Program	Illinois Department of Natural Resources, State Historic Preservation Office	Illinois Department of Natural Resources	Illinois Environmental Protection Agency
Indiana			
Indiana Department of Natural Resources, Lake Michigan Coastal Program	Indiana Department of Natural Resources, Division of Historic Preservation & Archaeology	Indiana Department of Natural Resources, Division of Fish and Wildlife	Indiana Department of Environmental Management
Kentucky			
Kentucky Department of Fish & Wildlife	Kentucky Transportation Cabinet	Kentucky Heritage Council	Kentucky Department of Environmental Protection, Division of Water

Michigan			
Michigan Department of Natural Resources	Michigan Department of Environment, Great Lakes, and Energy	Michigan State Historic Preservation Office	
New York			
New York State Department of Environmental Conservation	New York Coastal Management Program	New York State Historic Preservation Office	
Ohio			
Ohio Department of Natural Resources, Division of Wildlife	Ohio Environmental Protection Agency	Ohio Coastal Management Program	Ohio State Historic Preservation Office
Pennsylvania			
Pennsylvania Game Commission	Pennsylvania Fish & Boat Commission	Pennsylvania Department of Environmental Protection, Coastal Resources Management Program	Pennsylvania Department of Environmental Protection, Division of Water Quality
Pennsylvania State Historic Preservation Office	Pennsylvania Department of Conservation and Natural Resources		
Tennessee			
Tennessee Wildlife Resources Agency	Tennessee Department of Transportation	Tennessee Department of Environment & Conservation	Tennessee Historical Commission
West Virginia			
West Virginia Division of Natural Resources	West Virginia Department of Environmental Protection	West Virginia State Historic Preservation Office	
Wisconsin			
Wisconsin Coastal Management Program	Wisconsin Department of Natural Resources, Water Quality Bureau	Wisconsin Department of Natural Resources, Natural Heritage Conservation Bureau	
Wisconsin Department of	Wisconsin Department of	Wisconsin Department of	Wisconsin Historical Society

Natural Resources, Northeastern Region	Natural Resources, Northern Region	Natural Resources, Western Region	
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Table D-3. Tribal Nations notified.

Illinois			
Citizen Potawatomi Nation	Forest County Potawatomi Community of Wisconsin	Hannahville Indian Community	Kickapoo Tribe of Indians of the Kickapoo Reservation in Kansas
Kickapoo Tribe of Oklahoma	Little Traverse Bay Bands of Odawa Indians	Menominee Indian Tribe of Wisconsin	Miami Tribe of Oklahoma
Peoria Tribe of Indiana of Oklahoma	Prairie Band of Potawatomi Nation		
Indiana			
Citizen Potawatomi Nation	Delaware Nation	Delaware Tribe of Indians	Eastern Shawnee Tribe of Oklahoma
Forest County Potawatomi Community of Wisconsin	Hannahville Indian Community	Kickapoo Tribe of Indians	Little Traverse Bay Bands of Odawa Indians
Miami Tribe of Oklahoma	Osage Nation	Ottawa Tribe of Oklahoma	Peoria Tribe of Indians of Oklahoma
Pokagon Band of Potawatomi Indians	Prairie Band of Potawatomi Nation	Quapaw Tribe of Indians	Seneca-Cayuga Nation
Shawnee Tribe	Wyandotte Nation		
Kentucky			
Cherokee Nation	Chickasaw Nation	Choctaw Nation of Oklahoma	Delaware Nation
Eastern Band of Cherokee Indians	Eastern Shawnee Tribe of Oklahoma	Miami Tribe of Oklahoma	Muscogee (Creek) Nation
Osage Nation	Peoria Tribe of Indians of Oklahoma	Quapaw Tribe of Indians	Santee Sioux Nation
Seneca-Cayuga Nation			
Michigan			
Bad River Band of the Lake Superior Tribe of Chippewa Indians	Bay Mills Indian Community	Citizen Potawatomi Nation	Fond du Lac Band of the Minnesota Chippewa Tribe

Forest County Potawatomi Community	Grand Portage Band of the Minnesota Chippewa Tribe	Hannahville Indian Community	Ho-Chunk Nation of Wisconsin
Keweenaw Bay Indian Community	Lac Vieux Desert Band of Lake Superior Chippewa Indians	Lac du Flambeau Band of Lake Superior Chippewa Indians	Leech Lake Band of the Minnesota Chippewa Tribe
Little River Band of Ottawa Indians	Little Traverse Bay Bands of Odawa Indians	Match-e-be-nash-she-wish Band of Pottawatomi Indians	Menominee Indian Tribe
Miami Tribe of Oklahoma	Mille Lacs Band of Ojibwe	Minnesota Chippewa Tribe	Nottawaseppi Huron Band of the Potawatomi
Ottawa Tribe	Pokagon Band of Potawatomi Indians	Prairie Band of Potawatomi Nation	Prairie Island Indian Community
Red Cliff Band of Lake Superior Chippewa Indians	Saginaw Chippewa Indian Tribe	Sault Ste. Marie Tribe of Chippewa Indians	Seneca-Cayuga Nation
Sokaogon Chippewa Community	White Earth Band of the Minnesota Chippewa Tribe		
New York			
Cayuga Nation	Delaware Nation	Oneida Indian Nation	Oneida Tribe of Indians of Wisconsin
Onondaga Nation	Sac & Fox Tribe of the Mississippi in Iowa	Sac & Fox Nation of Missouri in Kansas and Nebraska	Sac & Fox Nation
Saint Regis Mohawk Tribe	Seneca-Cayuga Nation	Seneca Nation of Indians	Tonawanda Seneca Nation
Tuscarora Nation	Wyandotte Nation		
Ohio			
Absentee Shawnee Tribe	Bad River Band of Lake Superior Chippewa	Bay Mills Indian Community	Chippewa Cree Tribe
Citizen Potawatomi Nation	Delaware Nation	Delaware Tribe of Indians	Eastern Shawnee Tribe of Oklahoma
Forest County Potawatomi	Hannahville Indian Community	Keweenaw Bay Indian Community	Lac Courte Oreilles Band of Lake Superior Chippewa Indians

Little River Band of Ottawa Indians	Little Traverse Bay Bands of Odawa Indians	Match-e-be-nash-she-wish Band of Pottawatomi	Miami Tribe of Oklahoma
Nottawapesepe Huron Band of the Potawatomi	Ottawa Tribe of Oklahoma	Pokagon Band of Potawatomi	Prairie Band Potawatomi Nation
Red Lake Band of Chippewa Indians	Seneca-Cayuga Nation	Seneca Nation of Indians	Shawnee Tribe
Sokaogon Chippewa Community	St. Croix Chippewa Indians of Wisconsin	Tonawanda Seneca Nation	Turtle Mountain Band of Chippewa Indians
Wyandotte Nation			
Pennsylvania			
Delaware Nation	Delaware Tribe of Indians	Seneca-Cayuga Nation	Seneca Nation of Indians
Tonawanda Seneca Nation	Wyandotte Nation		
Tennessee			
Alabama-Coushatta Tribe of Texas	Alabama-Quassarte Tribal Town	Catawba Indian Nation	Cherokee Nation
Chickasaw Nation	Choctaw Nation of Oklahoma	Coushatta Tribe of Louisiana	Eastern Band of Cherokee Indians
Eastern Shawnee Tribe of Oklahoma	Mississippi Band of Choctaw Indians	Muscogee (Creek) Nation	Quapaw Tribe of Indians
West Virginia			
Catawba Indian Nation	Cherokee Nation	Delaware Nation	Eastern Band of Cherokee Indians
Eastern Shawnee Tribe of Oklahoma	Monacan Indian Nation	Osage Nation	Seneca-Cayuga Nation
Tuscarora Nation			
Wisconsin			
Bad River Band of the Lake Superior Tribe of Chippewa Indians of the Bad River Reservation	Citizen Potawatomi Nation	Fond du Lac Band of the Minnesota Chippewa Tribe	Forest County Potawatomi Community of Wisconsin
Fort Belknap Indiana Community of the Fort Belknap Reservation of Montana	Grand Portage Band of the Minnesota Chippewa Tribe	Hannahville Indian Community	Ho-Chunk Nation of Wisconsin
Keweenaw Bay Indian Community, Michigan	Kickapoo Tribe of Oklahoma	Lac Courte Oreilles Band of Lake Superior Chippewa	Lac du Flambeau Band of Lake

		Indians of Wisconsin	Superior Chippewa Indians
Lac Vieux Desert Band of Lake Superior Chippewa Indians of Michigan	Leech Lake Band of the Minnesota Chippewa Tribe	Little Traverse Bay Bands of Odawa Indians	Menominee Indian Tribe of Wisconsin
Miami Tribe of Oklahoma	Mille Lacs Band of Ojibwe	Minnesota Chippewa Tribe	Oneida Tribe of Indians of Wisconsin
Osage Nation	Ottawa Tribe of Oklahoma	Prairie Band Potawatomi Nation	Red Cliff Band of Lake Superior Chippewa Indians of Wisconsin
Sokaogon Chippewa Community	St. Croix Chippewa Indians	Stockbridge Munsee Community	White Earth Band of the Minnesota Chippewa Tribe
Winnebago Tribe of Nebraska			

Appendix E – Draft Programmatic EA Public Notice and Public Responses



US Army Corps
Of Engineers
Great Lakes and
Ohio River Division

Public Notice

Comment Period Begins:
July 5, 2023

Comment Period Ends:
August 4, 2023

PROPOSED REGIONAL CATEGORICAL PERMISSION PROGRAM FOR SECTION 408 REQUESTS

AUTHORITY:

The authority to grant permission for temporary or permanent use, occupation or alteration of any U.S. Army Corps of Engineers (USACE) civil works project is contained in Section 14 of the Rivers and Harbors Act of 1899, as amended, codified at 33 U.S.C. 408 ("Section 408"). Section 408 authorizes the Secretary of the Army, on the recommendation of the Chief of Engineers, to grant permission for the alteration or occupation or use of a USACE project if the Secretary determines that the activity will not be injurious to the public interest and will not impair the usefulness of the project. The Secretary of the Army's authority under Section 408 has been delegated to the USACE, Chief of Engineers. The USACE Chief of Engineers has further delegated the authority to the USACE, Directorate of Civil Works, Division and District Commanders, and supervisory Division Chiefs depending upon the nature of the activity.

INTRODUCTION: There are numerous USACE civil works projects within the boundaries of the Great Lakes and Ohio River Division (LRD). These projects have been federally authorized by the U.S. Congress and many are turned over to a non-federal sponsor to operate and maintain. Projects may include flood risk reduction projects, ecosystem restoration projects, navigation projects, etc. Each year the Districts within LRD receive requests (in coordination with a non-federal sponsor, if applicable) from private, public, tribal, and other federal entities (requesters) to alter USACE federally authorized civil works projects ("USACE projects") pursuant to Section 408.

When a District within LRD receives a request to alter a USACE project, the District follows a review process outlined by Engineering Circular (EC) 1165-2-220, *Policy and Procedural Guidance for Processing Requests to Alter US Army Corps of Engineers Civil Works Project Pursuant to 33 USC 408* (Attachment 1). To simplify the review process, EC 1165-2-220 states that USACE districts or divisions can develop categorical permissions to cover potential alterations that are similar in nature and that have similar impacts.

Districts within LRD receive numerous Section 408 requests for minor alterations to USACE projects each year; approximately 120 requests were received in 2020, approximately 150 requests were received in 2021, and approximately 150 requests were received in 2022. The majority of these requests are for relatively minor alterations. Many of the project descriptions for proposed alterations are similar and the effects tend to be minor or negligible. However, the current review and approval process

is time intensive and can take months. The need for the proposed action is to increase efficiencies in the review process of Section 408 requests for minor alterations to USACE federal projects.

ALTERNATIVES: The decision options are: 1) No Action Alternative: continue with the current process of reviewing and making decisions on Section 408 requests individually, as described in EC 1165-2-220, or 2) Preferred Alternative: approve a categorical permission to cover potential alterations that are similar in nature and have similar impacts.

SCOPE OF THE DECISION: LRD's area of responsibility covers a wide geographic area and includes all or portions of the following states: Alabama, Georgia, Illinois, Indiana, Kentucky, Maryland, Michigan, Minnesota, Mississippi, New York, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and Wisconsin (See map in Attachment 2). The geographic scope of the decision to be made is limited to USACE federal projects within the following states in LRD's boundaries: Illinois, Indiana, Kentucky, Michigan, New York, Ohio, Pennsylvania, Tennessee, West Virginia, and Wisconsin. The decision does not apply to civil works projects within the following states in LRD's boundary — Alabama, Georgia, North Carolina, Maryland, Minnesota, Mississippi, and Virginia — or to any other USACE Division. The decision only applies to federally authorized levees, channel modification projects, ecosystem restoration projects, dredging projects, and navigation projects. The temporal scope of the decision to be made is for five years; after five years the decision would be reevaluated and may be renewed or revised, if appropriate.

PROPOSED CATEGORICAL PERMISSION: The proposed categorical permission would encompass a list of potential alterations that are similar in nature and have similar and minor impacts. If an environmental assessment (EA) or environmental impact statement (EIS) is needed for the National Environmental Policy Act (NEPA) documentation of a proposed alteration, then the proposed categorical permission would not apply, and the current process described in EC 1165-2-220 would be used to evaluate the Section 408 request.

For the categorical permission to apply, a Section 408 request must incorporate standard mitigation measures and best management practices into the project plan. Projects would be required to minimize disturbance to surrounding vegetation, return disturbed areas to pre-project conditions, remove spoils, control storm water runoff and erosion, and not exceed federal *de minimis* levels of criteria air pollutants or precursors.

The proposed categorical permission would encompass the following types of alterations. For each category of activities, the RCP lists specific descriptions of suitable activities for both levee and non-levee USACE projects, and the full text is available in Attachment 3.

1. **Utility Line Activities:** This RCP category covers the installation, replacement, maintenance, or abandonment of utility lines, such as electric lines,

telecommunication lines, fiber optic cables, and lines for water, sewage, and other substances, excluding oil and natural gas pipelines. Other activities in this category includes overhead and underground pipes and cables and any related appurtenances such as headwalls, pipe slip-lining, corrosion and backflow prevention devices, outfalls, intakes, and fish screens.

2. **Vertical Drilling Activities:** This RCP category covers installation, development, maintenance, and abandonment of vertical features such as geophysical or geotechnical investigation borings, measurement devices (i.e., monitoring wells and piezometers), and foundation work (i.e., piles, caissons, drilled shafts, and footings).
3. **Development Activities:** This RCP category covers the construction and modification of development activities to include buildings (shelters, sheds, and outbuildings), appurtenances (dumpster and trash areas, decks, patios, storage containers and sites), decorative, recreational or aesthetic features (including signage/billboards, lighting, pools, ponds, fire pits, sculptures, fencing, cattle crossings, and retaining walls), access structures (including stairs, ramps, walkways, gangways, landings, and pads), landscaping activities (including trees, bushes, and other vegetation, soil grading, fill, and other structural geo-forming), stormwater control features (including catch basins, energy dissipation measures, rip rap, and other BMPs), and related temporary construction activities (including staging areas, borrow areas, stockpiles, and access roads), as described and subject to the conditions included in Attachment 3.
4. **Linear Transportation Activities:** This RCP category covers the construction, maintenance, modification, or removal of linear transportation projects such as roads and driveways (including crossings, culverts, ditches, canals, roadway markings, guard railings, ramps, noise barriers, shoulders, sidewalks), bridges (including pedestrian, recreational, vehicular, railroad), and recreational trails (including pedestrian, bicycle, and other off-road vehicles) within the USACE Section 408 geographic jurisdiction as defined in USACE EC 1165-2-220, paragraph 9(a).
5. **Water-Based Activities:** This RCP category covers the installation, maintenance, replacement, modification, and removal of activities incident to water-based development, such as access structures (including piers, docks, mooring buoys and dolphins, boat hoists, boat storage), protective structures (including dolphins, fenders, and piles), aids to navigation, removal of wrecks and obstructions, maintenance dredging to previously authorized depths or controlling depths for ingress/egress, whichever is less.
6. **Operations, Maintenance, and Safety Improvements to Federal Projects:** This RCP category covers any proposed alterations to improve operations, maintenance, or safety at a USACE Civil Works project.
7. **Activities Meeting a USACE Categorical Exclusion from NEPA:** Activities meeting the following USACE-promulgated categorical exclusions from the National Environmental Policy Act (NEPA):
 - 33 CFR 230.9(b): Activities at completed Corps projects which carry out the authorized project purposes;

- 33 CFR 230.9(c): Minor maintenance dredging using existing disposal sites;
 - 33 CFR 325 Appendix B Paragraph 6(a)(1): Fixed or floating small private piers, small docks, boat hoists and boathouses;
 - 33 CFR 325 Appendix B Paragraph 6(a)(2): Minor utility distribution and collection lines including irrigation;
 - 33 CFR 325 Appendix B Paragraph 6(a)(4): Boat launching ramps.
8. **Ecosystem Enhancement Activities:** This RCP category covers research, measurement, restoration, establishment, or enhancement of the environment with activities such as habitat improvement activities (green breakwaters, fish habitat structures, bird nesting features, floating gardens, and reestablishment of aquatic vegetation) and research and monitoring purposes (including wildlife tracking equipment and observation blinds).
 9. **Resolution of Enforcement Actions:** This RCP category covers alterations of a USACE Civil Works project remaining in place that resulted from unauthorized activities and/or alterations resulting from activities undertaken for mitigation, restoration, or environmental benefit, in compliance with the conditions set forth in non-judicial settlements or judicial settlements.

ENVIRONMENTAL IMPACTS OF PROPOSED ACTION: LRD proposes to implement a categorical permission that, in accordance with EC 1165-2-220, would simplify the review process for Section 408 requests for certain categories of minor alterations to USACE projects within the geographical limits described in Attachment 3. LRD has prepared a programmatic EA in compliance with NEPA (Attachment 2). As the implementation of the categorical permission would not involve any on-the-ground work, there are no anticipated direct effects to environmental resources resulting from the programmatic decision at hand. Although the categorical permission would be for a variety of alteration types that individually could result in impacts to resources, it is important to note that the decision to be made on the categorical permission would not authorize any specific Section 408 requests or any on-the-ground work. If the proposed categorical permission is approved, future Section 408 requests would be individually reviewed to determine if they fit under the categorical permission.

Under the proposed categorical permission each individual Section 408 request would be evaluated on a case-by-case basis for compliance with all applicable environmental laws. Additionally, adequacy of the existing NEPA documentation (a programmatic EA for the categorical permission) would be verified for each individual Section 408 request. If the existing NEPA documentation is not adequate, a separate NEPA analysis would be conducted. Section 408 requests for alterations that are not described in the categorical permission (see descriptions above) or that do not adhere to the standard mitigation measures would be evaluated using the current review process for an individual request as described in EC 1165-2-220.

Although the decision on whether or not to implement the proposed categorical permission would not have direct impacts on resources, the types of alterations described under the proposed categorical permission have the potential to impact a

number of different resources. Resources that could potentially be affected by these types of alterations include aesthetics, air quality, cultural resources, fish and wildlife, floodplains, invasive species, noise, physiography/soils, recreation, threatened and endangered species, transportation/traffic, vegetation, water quality, and wetlands. It is expected that the effects associated with the types of alterations covered by the categorical permission described above would be minor or negligible. If a proposed alteration is determined to involve more than minor impacts or would not meet the parameters identified in the project description, the categorical permission would not apply and a categorical exclusion, EA or EIS would be prepared, as appropriate.

Under the proposed categorical permission, the Districts within LRD would continue to individually evaluate each Section 408 request on a case-by-case basis for potential effects to threatened and endangered species (and their designated critical habitat) listed under the federal Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et seq.) and, as appropriate, conduct consultation pursuant to Section 7 of the ESA with the U.S. Fish and Wildlife Service (USFWS).

Under the proposed categorical permission the Districts within LRD would continue to individually evaluate each Section 408 request on a case-by-case basis for the potential to affect cultural resources and, for any potential effects, conduct consultation with the appropriate State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO) pursuant to Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended (54 U.S.C. 306108 et seq.). When a proposed alteration has the potential to affect cultural resources, the Districts within LRD would coordinate, and consult as appropriate, with potentially interested Native American tribes.

PUBLIC INVOLVEMENT: The purpose of this notice is to solicit comments from the public; federal, state, and local agencies and officials; tribes; and other interested parties regarding the proposed Regional Section 408 Categorical Permission described herein as well as the associated programmatic EA. Comments received within 30 days of publication of this notice will be used in the evaluation of the potential impacts of the proposed action on important resources.

PUBLIC HEARING: Any person may request in writing, within the comment period specified in this notice, that a public hearing be held to gather additional input regarding this proposed categorical permission and programmatic EA. Requests for public hearing shall state with particularity the reasons for holding a public hearing. A request for a hearing may be denied if substantive reasons for holding a hearing are not provided or if there is otherwise no valid interest to be served.

SUBMITTING COMMENTS: Written comments, referencing "Section 408 Categorical Permission" must be submitted to the email address listed below on or before August 4, 2023.

Email: CELRD-408@usace.army.mil

Attachments:

- 1) [EC 1165-2-220](#) (web link)
- 2) Draft Programmatic Environmental Assessment
- 3) Draft Categorical Permission
- 4) Draft Finding of No Significant Impact

From: Smar, Matt (EGLE) <SMARM@michigan.gov>
Sent: Wednesday, July 12, 2023 3:18 PM
To: CELRD-408 <CELRD-408@usace.army.mil>
Cc: Lounds, Amy (EGLE) <LOUNDSA@michigan.gov>
Subject: [URL Verdict: Neutral][Non-DoD Source] RE: Public Notice - U.S. Army Corps of Engineers, Section 408 Regional Categorical Permission

Hello Colin – I reviewed the documents in the Public Notice package and it isn't clear to me whether the USACE will submit to states with a NOAA-approved coastal management program a Coastal Zone Management Act consistency determination for the RCP per 15 CFR 930 Subpart C, or a Clean Water Act Section 401 water quality certification request per 40 CFR Part 121. Both sets of federal regulations apply to general permits issued by federal agencies. As you point out, the RCP is a form of general permit.

Will the USACE request these certifications from Michigan? The answer will influence how Michigan will comment on the proposal.

Thanks and all the best,
Matt

Matt Smar
Federal Consistency Specialist
Water Resources Division
Department of Environment, Great Lakes, and Energy
SmarM@Michigan.gov
517-230-7849

Smalley, Colin C CIV USARMY CELRC (USA)

From: Smalley, Colin C CIV USARMY CELRC (USA)
Sent: Tuesday, July 18, 2023 8:10 AM
To: Smar, Matt (EGLE)
Cc: Lounds, Amy (EGLE); CELRD-408; Jennings, Bonnie F CIV (USA)
Subject: RE: Public Notice - U.S. Army Corps of Engineers, Section 408 Regional Categorical Permission

Hi Matt,

The intent is that CZM consistency certifications will be made by the requesters on a case-by-case basis for activities in the coastal zone, pursuant to 15 CFR 930 Subpart D regulations. This would be consistent with how the USACE Regulatory Program handles Nationwide Permits and case-specific NWP verifications.

There is a chance that the USACE District(s) will seek to obtain a "blanket" consistency determination for activities covered under the Regional Categorical Permission within their district boundaries, which presumably would be coordinated directly with the state(s) pursuant to 15 CFR 930.53(b). Since all activities under the RCP will require a case-by-case review, Subpart D regulations should apply to the entire program (see 15 CFR 930.31(d).)

With respect to Water Quality Certification, we similarly expect this to be a case-by-case analysis (including individual WQC where appropriate) unless the USACE District decides to seek a "blanket" WQC for activities covered by the RCP. Also, since our proposed Environmental Condition 11 requires coordination with the USACE Regulatory program for all activities below the OHWM and/or within wetlands, we expect that the need for Section 401 WQC will be addressed through the applicable Regulatory process for most cases where Section 401 is applicable (whether that's an individual WQC or a "blanket" WQC issued for certain general permits).

Finally, I would note that among the items that a requester is required to provide to initiate a request for validation under the RCP, is "all supporting information and documentation that the district identifies as necessary to assess environmental and cultural resources compliance" – which will often include evidence of the requester's submission of a CZM certification and/or WQC application or pre-filing notice. The advantage of using this approach is that it ensures that the proper coordination is started prior to USACE review of the request.

Please let me know if you have any other questions.

Sincerely,
-Colin

Colin C. Smalley, PG [he/him/his]
Section 408 Coordinator and Regulatory Project Manager
US Army Corps of Engineers, Chicago District
231 South La Salle Street, Suite 1500
Chicago, Illinois 60604
312-846-5538 (office)
312-560-4276 (mobile)
312-353-4110 (fax)
<http://www.lrc.usace.army.mil/Missions/Regulatory.aspx>



GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
LANSING



PHILLIP D. ROOS
DIRECTOR

August 4, 2023

VIA E-MAIL

US Army Corps of Engineers
Great Lakes and Ohio River Division
CELRD-408@usace.army.mil

Dear Agency Representative:

Subject: Section 408 Categorical Permission

This letter regards the proposed Regional Categorical Permission (RCP) Program for requests submitted pursuant to 33 U.S.C. 408 ("Section 408"), as described in the public notice and associated documents issued on July 5, 2023, by the United States Army Corps of Engineers (USACE), Great Lakes and Ohio River Division. The Michigan Department of Environment, Great Lakes, and Energy (EGLE), Water Resources Division, has reviewed the proposed RCP Program and appreciates the opportunity to provide comments.

EGLE continues to support the use of general permits to streamline the federal permitting process and believes that certain conditions on the use of the RCP Program, if implemented in Michigan, would be necessary and appropriate. Specifically, RCP authorization for projects located at least partly within Michigan's coastal management boundary, as approved by the National Oceanic and Atmospheric Administration pursuant to the Coastal Zone Management Act, PL 92-583, as amended (CZMA), should be conditioned on obtaining Consistency Certification or a waiver from EGLE as required under Section 307 of the CZMA. Additionally, RCP authorization for projects that result in a discharge to waters of the United States should be conditioned on obtaining Water Quality Certification or a waiver from EGLE as required under Section 401 of the Clean Water Act, 33 U.S.C. 1341. Generally, where a state permit is required for a project that requires Section 408 authorization, issuance of the state permit provides the individual CZMA Consistency Certification or the Water Quality Certification for the project, as applicable.

Please note that EGLE's CZMA Consistency Certifications and Water Quality Certifications do not waive the need for other federal, state, or local permits that may be required for activities authorized under Section 408.

If you have questions regarding these comments, please contact me at 517-230-7849 or SmarM@Michigan.gov.

Sincerely,

Matt Smar, Environmental Quality Specialist
Field Operations Support Section
Water Resources Division

cc: Amy Lounds, EGLE

CONSTITUTION HALL • 525 WEST ALLEGAN STREET • P.O. BOX 30473 • LANSING, MICHIGAN 48909-7973



West Virginia Department of
**ARTS, CULTURE
AND HISTORY**

The Culture Center
1900 Kanawha Blvd., E.
Charleston, WV 25305-3300

Randall Reid-Smith, Curator
Phone 304.558.0220 • www.wvculture.org
Fax 304.558.2779 • TDD 304.558.3562
EEO/AA Employer

August 2, 2023

Mr. Colin C. Smalley, PG
US Army Corps of Engineers
Great Lakes and Ohio River Division
Via email: CELRD-408@usace.army.mil

RE: Proposed Regional Categorical Permission Program For Section 408 Requests
FR#: 23-0803-MULTI

Dear Mr. Smalley:

We have reviewed the above-referenced project to determine potential effects on cultural resources. As required by Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties," we submit our comments.

According to the submitted information, the US Army Corps of Engineers (USACE) intends to streamline the Section 408 process through the proposed regional categorical permission program. The program proposes to approve a categorical permission to cover potential minor alterations with similar impacts. The proposed program does not change the section 106 process or how consultation will occur between USACE and the WV State Historic Preservation Office. We understand that minor alterations as defined under the regional categorical permission program will continue to be submitted for our review when they meet the definition of an "Undertaking" as stated in 36 CFR 800.16(y). We have no objection to the proposed changes and look forward to continuing consultation under Section 106 of the National Historic Preservation Act.

We appreciate the opportunity to be of service. *If you have questions regarding our comments or the Section 106 process, please contact my office at (304) 558-0240.*

Sincerely,

A handwritten signature in blue ink that reads "Susan M. Pierce". The signature is written in a cursive style.

Susan M. Pierce
Deputy State Historic Preservation Officer

SMP/SLG/LLD



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

August 7, 2023

VIA ELECTRONIC MAIL ONLY

Colin Smalley
U.S. Army Corps of Engineers – Chicago District
231 S. LaSalle St., Ste. 1500
Chicago, Illinois 60604

RE: EPA comments – Draft Environmental Assessment for the Proposed Regional Categorical
Permission Program for Section 408 Requests within the Great Lakes and Ohio River
Division

Dear Mr. Smalley:

The U.S. Environmental Protection Agency (EPA) has reviewed the U.S. Army Corps of Engineers' (USACE) Draft Environmental Assessment (Draft EA) released for the proposed Regional Categorical Permission (CP) Program for Section 408 Requests within the USACE's Great Lakes and Ohio River Division (LRD). This letter provides our comments on the proposal, pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality's NEPA Implementing Regulations (40 CFR 1500-1508), and Section 309 of the Clean Air Act.

The LRD includes the Chicago, Detroit, Louisville, Nashville, Buffalo, Huntington, and Pittsburgh districts (Districts) of USACE. USACE has constructed numerous federal civil works projects within these boundaries. Each year, the Districts within LRD receive numerous requests annually from private, public, tribal, or other Federal entities to alter or modify these civil works projects ("USACE projects") pursuant to Section 408¹. As part of a District's evaluation of the requests, it must determine if the alteration would impair the usefulness of the Federal project or be otherwise injurious to the public interest. Each District must also ensure its granting approval for a proposed alteration is in full compliance with NEPA.

For NEPA compliance, there is no simple documentation for granting approval for those minor alterations to civil works projects with associated environmental impacts determined to be "less than significant." Many of the project descriptions for proposed alterations are similar and the effects tend to be minor or negligible. However, the current review and approval process is time intensive and can take months. USACE proposes to implement a CP program within LRD to increase efficiencies in the review process of Section 408 requests for minor alterations to USACE projects.

¹ Section 408 refers to USACE's authority to grant permission for temporary or permanent alterations to federally authorized civil works projects, as contained in Section 14 of the Rivers and Harbors Act of 1899, as amended, codified at 33 U.S.C. 408 ("Section 408").

Categorical permissions are intended to be a flexible tool to be used to streamline the approval of “categories” of alterations that are similar in nature, similar in effects to a District civil works project, and that are expected to have similar impacts to the environment. The premise behind a CP is identifying a specific and commonly occurring set of activities requiring Section 408 permissions within a specified geographic area, and determination that implementation of those activities, both individually and cumulatively, will not impact the usefulness of the District civil works project(s); associated environmental impacts would be less than significant; and the activities would not be injurious to the public interest.

A CP is similar to a categorical exclusion under NEPA, except CPs concern only Section 408 requests and are limited to the actions within a specific geographic area, while categorical exclusions cover a variety of agency-wide actions. While LRD’s area of responsibility covers a wide geographic area,², the geographic scope of the proposed LRD CPs would be limited to USACE Federal projects within the following states in LRD’s boundaries: Illinois, Indiana, Kentucky, Michigan, New York, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and Wisconsin.

The Draft EA analyzed two alternatives for detailed analysis: the No Action Alternative and one action alternative (Adoption of Nine Individual Categorical Permissions). If the proposed CP program is approved, future Section 408 requests would still be individually reviewed to determine if they fit under a specific categorical permission. CPs would only apply to Federally-authorized levees, channel modification projects, ecosystem restoration projects, dredging projects, and navigation projects.

EPA offers the following comments and recommendations to USACE before the EA is finalized.

RCP CLARIFICATION

- The Draft EA states on page 29, “...the Preferred Alternative of implementing the proposed RCP would have no impact to socioeconomics or EJ [environmental justice]. The Preferred Alternative is the implementation of the proposed RCP which only streamlines the review process for qualifying Section 408 requests. However, a proposed alteration implemented under the proposed RCP could have a potential impact to an EJ community, but this would be dependent on the demographics of the area where the proposed alteration is being implemented. Therefore, a more focused evaluation by the district receiving an alteration request would need to occur once a submittal package is received.”

The Draft Regional Categorical Permission document on page 11 has an “ENVIRONMENTAL REVIEWS” section, in which USACE states, “...this RCP does not establish Division-wide programmatic compliance with, for example, the Endangered Species Act, the National Historic Preservation Act, or USACE Tribal Policy Principles, and case-specific consultations may be necessary. Where possible, one federal agency (or the USACE office) will be designated as the lead for environmental compliance and will perform all required consultations, if necessary, for adoption in a validation review under this RCP.”

Recommendations: Ensure that the final version of the RCP includes a commitment that qualified staff within the various districts of LRD will individually evaluate each Section 408 request on a case-by-case basis for the potential to affect communities with environmental

² LRD includes all or portions of the following states: Alabama, Georgia, Illinois, Indiana, Kentucky, Maryland, Michigan, Minnesota, Mississippi, New York, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and Wisconsin.

justice concerns. When there is the potential to disproportionately and adversely affect communities with EJ concerns, EPA recommends that diligent efforts be undertaken to meaningfully engage minority populations and low-income populations in the affected environment regarding possible impacts from the proposed action. The disproportionately high and adverse impacts determination can help inform how to develop and/or select alternative(s) and mitigation measures to avoid, minimize, rectify, reduce, or compensate for adverse impacts. In conducting the EJ analysis, use resources such as the *Promising Practices Report*³ and the *Community Guide to EJ and NEPA Methods*⁴ to appropriately engage in meaningful, targeted, community outreach, analyze impacts, and advance environmental justice through NEPA implementation.

DOCUMENT ERRATA

- The Table of Contents in the Draft EA failed to reference the Appendices.
- Page 8 of the Draft EA incorrectly states that a summary of scoping comments can be found in Appendix A, when they were found in Appendix C.

Recommendations: Make these corrections before finalizing the EA and signing the NEPA decision document.

Thank you for incorporating EPA's recommendations from our 2022 scoping letter in the final version of the RCP. Specifically, we appreciate USACE specifying disturbance thresholds for each category of alterations included in the RCP and for adding additional clarification and specific information for Category 4 (Linear Transportation Facilities) as we recommended.

We appreciate the opportunity to review this Draft EA. The National Archives and Records Administration and the Office of Management and Budget have mandated that Federal agencies transition business processes and recordkeeping to fully electronic environments. Please help achieve this goal by providing EPA with an electronic copy of future NEPA documents, including the decision document, for this project. Please send NEPA documents to our team mailbox at R5NEPA@epa.gov. If you have any questions or comments regarding the contents of this letter or would like to discuss our comments, please contact the lead NEPA reviewer, Liz Pelloso, at 312-886-7425 or via email at pelloso.liz@epa.gov.

Sincerely,

**ELIZABETH
PELLOSO** Digitally signed by
ELIZABETH
PELLOSO
Date: 2023.08.07
12:34:02 -05'00'

for

Krystle Z. McClain, P.E.
NEPA Program Supervisor
Tribal and Multimedia Programs Office

³ https://www.epa.gov/sites/default/files/2016-08/documents/nepa_promising_practices_document_2016.pdf

⁴ <https://www.energy.gov/sites/prod/files/2019/05/f63/NEPA%20Community%20Guide%202019.pdf>

From: Christy Willey <christy.willey@wilsoncountyttn.gov>
Sent: Monday, July 24, 2023 2:36 PM
To: Smalley, Colin C CIV USARMY CELRC (USA) <Colin.C.Smalley@usace.army.mil>
Subject: [URL Verdict: Neutral][Non-DoD Source] FW: Public Notice - U.S. Army Corps of Engineers, Section 408 Regional Categorical Permission

Good afternoon, Mr. Smalley.

Could you tell me in lamens terms what this public notice is about? Does it affect anything in our area?

Thank you!

<image001.jpg>

Smalley, Colin C CIV USARMY CELRC (USA)

From: Christy Willey <christy.willey@wilsoncountyttn.gov>
Sent: Tuesday, July 25, 2023 5:10 AM
To: Smalley, Colin C CIV USARMY CELRC (USA)
Cc: Jennings, Bonnie F CIV (USA); CELRD-408; Mcintosh, Mark G CIV USARMY CELRN (USA); Osgood, Autumn T CIV LRN
Subject: [URL Verdict: Neutral][Non-DoD Source] Re: Public Notice - U.S. Army Corps of Engineers, Section 408 Regional Categorical Permission

Thank you for your explanation, Colin! I understand it now.

Have a wonderful day.
Christy

On Jul 24, 2023, at 8:01 PM, Smalley, Colin C CIV USARMY CELRC (USA)
<Colin.C.Smalley@usace.army.mil> wrote:

You don't often get email from colin.c.smalley@usace.army.mil. [Learn why this is important](#)

Hi Christy,

The Army Corps of Engineers has a permit program for when folks other than the Corps are wanting to build on (or in some other way change) a civil works project that Congress had us build. Those projects may be for flood control, navigation, or ecosystem restoration, or several other purposes. Our permit program called "Section 408" is how we protect the taxpayer's investment in the project we built. A classic example is someone wanting to put a park bench on top of a levee – maybe not a problem, but we have engineering rules about how to do it so we can operate the levee safely – and so the levee will do its job in a flood.

What we're doing now is setting up an easier way to do the paperwork for the common types of requests we get. It won't apply to every Corps project or every type of work folks will want to do, but it will cover a lot.

In Wilson County, it looks like the nearby Corps projects that I see in a quick look at my map are Old Hickory Lake and J. Percy Priest Lake, and the Cumberland River navigation channel. If those are the only three Corps projects in your county, then the navigation channel may be the only connection you have to this program we are setting up. Our "categorical permission" (the easier way to do the Section 408 permitting) excludes flood control lake projects because usually the US Government owns the land under and around our lakes, and so instead of Section 408, requests to build on or alter the project would go through our real estate office instead. It does apply in navigation channels though, and so if someone wanted to build something in the channel (for example – a group of wooden poles to protect a bridge from barges running into it, or a utility line being tunneled under the river) this easier paperwork program might apply to that. If there are other types of Corps projects in your area that I may have missed, then this categorical permission may apply to them as well.

I've copied some of my colleagues from Nashville District in case they're more familiar with Wilson County in particular and have anything to add.

1

From: Benjamin Rhodd <Benjamin.Rhodd@fcp-nsn.gov>
Sent: Wednesday, July 19, 2023 9:49 AM
To: Jennings, Bonnie F CIV (USA) <Bonnie.F.Jennings@usace.army.mil>
Subject: [URL Verdict: Neutral][Non-DoD Source] RE: Consultation Letter - U.S. Army Corps Of Engineers, Section 408 Regional Categorical Permission

Ms. Jennings,

Pursuant to consultation under Section 106 of the National Historic Preservation Act (1966 as amended) the Forest County Potawatomi Community (FCPC), a Federally Recognized Native American Tribe, reserves the right to comment on Federal undertakings, as defined under the act.

1

The Tribal Historic Preservation Office (THPO) staff has reviewed the information you provided for this initiative of the USACE. Upon review of proposed changes to the review process per minimal disturbance projects and the creation of FONSI's for those projects, the FCPC THPO has concerns. While streamlining of the process is welcomed, the FCPC THPO still requests notification of those projects that disturbs ground to depth. The statement from our Tribe listed below is why we would request continuance of notification even though it is a minimal effect project. Sites of significance to the FCPC may be deeply buried at, particularly, river/lake side areas and this prompts this request for notification. Other projects involving sheds, levees, directional drilling, etc. are not of great concern to the FCPC THPO, but ground disturbance to depth is.

As a standard caveat sent with each proposed project reviewed by the FCPC THPO, the following applies. In the event an Inadvertent Discovery (ID) occurs at any phase of a project or undertaking as defined, and human remains or archaeologically significant materials are exposed as a result of project activities, work should cease immediately. The Tribe(s) must be included with the SHPO in any consultation regarding treatment and disposition of an ID find.

Thank you for protecting cultural and historic properties and if you have any questions or concerns, please contact me at the email or number listed below.

Respectfully,

Ben Rhodd, MS, RPA, Tribal Historic Preservation Officer
Forest County Potawatomi
Historic Preservation Office
8130 Mish ko Swen Drive, P.O. Box 340, Crandon, Wisconsin 54520
P: 715-478-7354 C: 715-889-0202 Main: 715-478-7474
Email: Benjamin.Rhodd@fcp-nsn.gov
www.fcpotawatomi.com

From: Douglas Taylor <Douglas.Taylor@nhbp-nsn.gov>
Sent: Tuesday, June 20, 2023 11:03 AM
To: Jennings, Bonnie F CIV (USA) <Bonnie.F.Jennings@usace.army.mil>
Subject: [URL Verdict: Neutral][Non-DoD Source] RE: Consultation Letter - U.S. Army Corps Of Engineers, Section 408 Regional Categorical Permission

Greetings,

Ref: Consultation Letter - U.S. Army Corps Of Engineers, Section 408 Regional Categorical Permission

Thank you for including the Nottawaseppi Huron Band of the Potawatomi (NHBP) in your consultation process. From the description of your proposed project, it does not appear as if any cultural or religious concerns of the Tribe's will be affected. We therefore have no objection to the project. Of course, if the project scope is significantly changed or inadvertent findings are discovered during the course of the project, please contact us for further consultation.

Very Respectfully
Douglas R. Taylor

Douglas R. Taylor | Tribal Historic Preservation Officer (THPO) & NAGPRA Representative Pine Creek Indian Reservation
1301 T Drive S, Fulton, MI 49052
o: 269-704-8347 | c: 269-419-9434 | f: 269-729-5920 Douglas.Taylor@nhbp-nsn.gov | Blockedwww.nhbp-nsn.gov

Please consider the environment before printing this email. This message has been prepared on resources owned by the Nottawaseppi Huron Band of the Potawatomi located in the State of Michigan. It is subject to the Electronic Communications Policy of Nottawaseppi Huron Band of the Potawatomi. This communication may contain confidential (including "protected health information" as defined by HIPAA) or legally privileged information intended for the sole use of the designated recipient(s). If you are not the intended recipient, please notify the sender immediately by reply e-mail and delete all copies of this communication and attachments without reading or saving them. If you are not the named addressee you are notified that disclosing, disseminating, copying, distributing or taking any action in reliance on the contents of this information is strictly prohibited

From: Sunshine Bear <sunshine.bear@winnebagoTribe.com>
Sent: Wednesday, June 28, 2023 5:29 PM
To: Jennings, Bonnie F CIV (USA) <Bonnie.F.Jennings@usace.army.mil>
Subject: [Non-DoD Source] Re: Consultation Letter - U.S. Army Corps Of Engineers, Section 408 Regional Categorical Permission

Thank you for your Section 106 correspondence regarding this project. The location is land our ancestors have lived on or passed through. Please include the Winnebago Tribe of Nebraska in any consultation going forward. During ground disturbance activities we are aware that if the ground has already been disturbed, that findings may be minimal to zero. In any case if anything is found please contact me immediately. My information is below. Let me know if you have any questions.

Respectfully,

Sunshine Thomas-Bear

Wihokiri Wiga

Cultural Preservation Director

THPO Office/Angel De Cora Museum

Little Priest Tribal College - Thunder Clan Building

601 E. College Road

Winnebago, NE 68071

(402) 922-2631 Cell

sunshine.bear@winnebagoTribe.com

Smalley, Colin C CIV USARMY CELRC (USA)

From: Carissa Speck <cspeck@delawarenation-nsn.gov>
Sent: Friday, September 8, 2023 11:33 AM
To: Smalley, Colin C CIV USARMY CELRC (USA)
Cc: CELRD-408; Sedlacek, Curtis H CIV USARMY CELRE (USA); Jennings, Bonnie F CIV CEHQS
Subject: [Non-DoD Source] RE: Tribal Consultation

Thank you so much for the response. That does clarify my question. I don't have any input and feel confident so long as the other Tribal Nations comments were included in the final program. Thank you again.

Wanishi,

Carissa Speck
Delaware Nation
Historic Preservation Director
405-247-2448 Ext. 1403
cspeck@delawarenation-nsn.gov



From: Smalley, Colin C CIV USARMY CELRC (USA) <Colin.C.Smalley@usace.army.mil>
Sent: Friday, September 8, 2023 10:50 AM
To: Carissa Speck <cspeck@delawarenation-nsn.gov>
Cc: CELRD-408 <CELRD-408@usace.army.mil>; Sedlacek, Curtis H CIV USARMY CELRE (USA) <Curtis.H.Sedlacek@usace.army.mil>; Jennings, Bonnie F CIV CEHQS <Bonnie.F.Jennings@usace.army.mil>
Subject: RE: Tribal Consultation

Hi Ms. Speck,

I hope you're well. I just wanted to see if you had any other questions or comments for us. I don't want to move on without making sure we've heard any input your tribal nation has, but we are nearing the end of our process of developing this program.

Sincerely,
-Colin

From: Smalley, Colin C CIV USARMY CELRC (USA)
Sent: Thursday, August 24, 2023 1:26 PM
To: Carissa Speck <cspeck@delawarenation-nsn.gov>
Cc: CELRD-408 <CELRD-408@usace.army.mil>; Sedlacek, Curtis H CIV USARMY CELRE (USA) <Curtis.H.Sedlacek@usace.army.mil>; Jennings, Bonnie F CIV (USA) <Bonnie.F.Jennings@usace.army.mil>
Subject: RE: Tribal Consultation

1

Good afternoon,

I understand your question now, thank you for clarifying. We did meet on July 29, 2023 with the THPOs from the Miami Tribe of Oklahoma, the Osage Nation, and the Pokagon Band of Potawatomi Indians.

Our agenda was as follows:

1. USACE Brief on NEPA Cat Permission and Section 408 Program
 - a. Section 408 program
 - b. NEPA Categorical Permission
 - c. Status of Development
2. Open for Tribal Comments/Questions

From that meeting, we took back some comments, such as a need for requesters using this program to disclose borrow sites from when the levees (currently proposed to be altered) were built, so that tribal nations could properly assess whether they might have cultural interest in that material. We incorporated this suggestion, along with other written tribal comments, into our final product.

Please let me know whether that satisfactorily answers your question, and if you have any other questions, comments, or concerns.

Sincerely,
-Colin

From: Carissa Speck <cspeck@delawarenation-nsn.gov>
Sent: Tuesday, August 22, 2023 2:52 PM
To: Smalley, Colin C CIV USARMY CELRC (USA) <Colin.C.Smalley@usace.army.mil>
Cc: CELRD-408 <CELRD-408@usace.army.mil>; Sedlacek, Curtis H CIV USARMY CELRE (USA) <Curtis.H.Sedlacek@usace.army.mil>; Jennings, Bonnie F CIV (USA) <Bonnie.F.Jennings@usace.army.mil>
Subject: [Non-DoD Source] RE: Tribal Consultation

Hey Colin,

I received your voicemail. Thank you for reaching back out. I had to look back to what I was referring to. It would be the responses attached to the Draft PEA Document. Specifically from the Miami Tribe of Oklahoma requesting a meeting with all interested tribes. So I was following up to see if there was a meeting based on those requests.

Wanishi,

Carissa Speck
Delaware Nation
Historic Preservation Director
405-247-2448 Ext. 1403
cspeck@delawarenation-nsn.gov

From: Smalley, Colin C CIV USARMY CELRC (USA) <Colin.C.Smalley@usace.army.mil>
Sent: Friday, August 11, 2023 11:37 AM
To: Carissa Speck <cspeck@delawarenation-nsn.gov>
Cc: CELRD-408 <CELRD-408@usace.army.mil>; Sedlacek, Curtis H CIV USARMY CELRE (USA) <Curtis.H.Sedlacek@usace.army.mil>; Jennings, Bonnie F CIV (USA) <Bonnie.F.Jennings@usace.army.mil>
Subject: RE: Tribal Consultation

Hello Ms. Speck:

My name is Colin Smalley, and I'm one of the USACE staff working on developing this Regional Categorical Permission. I left you a voicemail earlier this week, but I wanted to follow up with an email in case that's more convenient for you.

To answer your question, we did not receive any other requests for a consultation meeting from other Tribal Nations in response to this round of consultation letters. We did receive comments from three Tribal Nations requesting notification of inadvertent discoveries, and to be consulted on case-by-case reviews by the USACE districts. Both of these requests are part of our proposed document, and so we concur with and intend to honor these requests.

If the Delaware Nation has any other questions or would like to arrange a consultation meeting, please let me know and I will be happy to help arrange it.

Sincerely,
-Colin

Colin C. Smalley, PG [he/him/his]
Section 408 Coordinator and Regulatory Project Manager
US Army Corps of Engineers, Chicago District
231 South La Salle Street, Suite 1500
Chicago, Illinois 60604
312-846-5538 (office)
312-560-4276 (mobile)
312-353-4110 (fax)
<http://www.lrc.usace.army.mil/Missions/Regulatory.aspx>

From: Carissa Speck <cspeck@delawarenation-nsn.gov>
Sent: Monday, July 31, 2023 3:33 PM
To: CELRD-408 <CELRD-408@usace.army.mil>
Subject: [Non-DoD Source] Tribal Consultation

In regards to group consultation meetings with other federally recognized tribes as requested, will those be scheduled after the comment period ends or have those already occurred?

Wanishi,

Carissa Speck
Delaware Nation
Historic Preservation Director
405-247-2448 Ext. 1403
cspeck@delawarenation-nsn.gov

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